# HOW TO BUILD A GEOGRAPHER:

# CONTINUITY, PROGRESSION, AND TRANSITION

# BETWEEN SCHOOL GEOGRAPHY AND ACADEMIC GEOGRAPHY

by

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**ABSTRACT**

This thesis examines continuity, progression, and transition between school geography and academic geography by exploring the geography curricula of these two educational spaces, and the different ways in which stakeholders experience the transition between the two. Prior research has suggested that the transition between the school geography curriculum and the academic discipline as experienced at university can be problematic for learners. Transition, particularly the 16-19 transition, has been a focus of prior research in this area, with less attention on the earlier stages of geography education. There is little research identifying where continuity and progression can be found in the geography curriculum being delivered in schools and universities. Prior research has tended to be situated in the academy, with little co-construction or dialogue from stakeholders working elsewhere in the subject community. This research contributes to knowledge by addressing those under-researched areas, and by establishing a focus on what the research describes as the 'geography education journey', starting from the primary geography curriculum and concluding with academic geography.

The research used multiple methods to examine continuity and progression as two aspects of an effective transition, and to explore stakeholders' views on the potential benefits and limitations of strengthening the transition between school geography and academic geography. Written curriculum documents were analysed thematically, using a framework developed from a recently published curriculum framework, to establish where continuity and progression in disciplinary knowledge and substantive knowledge could be found. Through the document analysis it was found that aspects of disciplinary identity were also in evidence as elements of continuity and progression between school geography and academic geography. A questionnaire completed by 66 participants, followed by phenomenographic interviews with seven of these participants, were the methods used to explore the different ways in which stakeholders viewed the transition between school geography and academic geography. The questionnaire and interview data were analysed thematically using the same framework that was applied to the document analysis. In revealing the different ways in which the participants experienced the transition between

school geography and academic geography, the research identified a collective experience of the transition that could be categorised into five themes. These themes were: the role of the subject community; geography's identity; the application of disciplinary knowledge; the 16-19 transition; continuity and progression in geographical knowledge. In relation to each theme, participants were able to identify limitations and challenges, but also to propose benefits or opportunities, exemplified by their own experiences. From this data, three proposals are made for how a more connected geography curriculum can be achieved. Firstly, that co-construction with high-quality geography initial teacher training and education (ITTE) has a role to play in strengthening the transition between school geography and academic geography. Secondly, that collaboration across the subject community is required. Thirdly, that curriculum-making is a tool for developing the continuity and progression revealed by the research as being part of a successful transition.

The findings have practical applications not only for geographers and geography educators working in schools and universities, but elsewhere in the subject community and at all stages of the geography education journey. The research argues for greater boundary-crossing in the subject community as a whole.

**DEDICATION**

This work is dedicated to all who find a sense of belonging in the geography community; past, present, and future.

With particular thanks to

Charlie, Cole, Corran, Duncan, Juniper, Marie, and Philip,

and to my 'critical friends',

for their wisdom, encouragement, and kindness.

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**LIST OF KEY TERMS AND ABBREVIATIONS**

| | |
|---|---|
| A-level | Advanced level, a post-16 qualification in England |
| Advance HE | A higher education sector charity, formerly the Higher Education Academy (HEA) |
| ALCAB | A-level Content Advisory Board |
| BEd | Batchelor of Education |
| CAH | Common Aggregation Hierarchy |
| Continuity | A key term for the research: the concepts, processes, and theories which run throughout the discipline of geography at every level of study |
| CPD | Continuing Professional Development |
| DfE | Department for Education |
| EBacc | English Baccalaureate |
| ECT | Early Career Teacher (in use since September 2021; formerly Newly Qualified Teacher, or NQT) |
| Educational spaces | For example: primary schools; secondary schools; further education colleges; universities |
| EEF | Education Endowment Foundation |
| ES3 | Earth sciences, environmental sciences, and environmental studies |
| EYFS | Early Years Foundation Stage |
| FE | Further Education |
| GA | Geographical Association, the subject association for teachers of geography in the UK |
| GACF | Geographical Association Curriculum Framework (GA, 2022a) |
| GCSE | General Certificate of Secondary Education, in England |
| GEES | Geography, Earth and Environmental Sciences: used in two contexts: i) in relation to a group of subjects (see also ES3) and ii) in relation to the name of an academic School |
| Geography education journey | A key term for the research: developed in Collins (2020), a description of the geography education experienced from primary geography through to academic geography |
| GIS | Geographical Information Systems: 'Geographers study how digital worlds are created and analysed through the study of geographic information science (GISci) and apply that knowledge through the use of geographic information systems (GIS) and remote sensing.' (QAA, 2022b, p. 12) |
| GNC | Geography National Curriculum: referring in general terms to a geography national curriculum, unless followed by a specified year (for example GNC2104) to refer to a particular iteration of the GNC |
| GSci | Geographical Information Science: Geographers study how digital worlds are created and analysed through the study of geographic information science (GISci) and apply that knowledge through the use of geographic information systems (GIS) and remote sensing.' (QAA, 2022b, p. 12) |
| HE | Higher Education |
| HECoS | Higher Education Classification of Subjects |

| | |
|---|---|
| HEI | Higher Education Institution |
| HESA | The Higher Education Statistics Agency |
| IGUCGE | International Geographical Union Commission on Geographical Education |
| ISI | Independent Schools Inspectorate |
| ITTE | Initial Teacher Training and Education: influenced by Brooks (2017, p. 44), the term ITTE is used unless quoting directly from sources that use other terms such as Initial Teacher Training (ITT) or Initial Teacher Education (ITE) |
| KS1 | Key Stage 1, in England, typically ages 5-7 |
| KS2 | Key Stage 2, in England, typically ages 7-11 |
| KS3 | Key Stage 3, in England, typically ages 11-14 |
| KS4 | Key Stage 4, in England, typically ages 14-16 |
| KS5 | Key Stage 5, in England, typically ages 16-18 |
| MAT | Multi-academy trust |
| NC | National Curriculum |
| NEA | Non-examined assessment |
| NFER | National Foundation for Educational Research |
| Ofsted | Office for Standards in Education |
| PCK | Pedagogical Content Knowledge |
| PGCE | Postgraduate Certificate in Education |
| PK | Powerful knowledge |
| PoS | Programmes of Study |
| Progression | A key term for the research: the ways in which understanding of geographical concepts, process, and theories is developed throughout a period of study |
| QAA | The Quality Assurance Agency for Higher Education |
| RGS-IBG | Royal Geographical Society (with the Institute of British Geographers), the learned society for the discipline of geography in the UK |
| RQ | Research Question |
| SoW | Schemes of Work |
| STEM | Science, technology, engineering and mathematics |
| Transition | A key term for the research: in this context, the transitions in geographical learning that occur across all stages of education and teacher education, including the broad transition between school geography and academic geography. Transition, in this research, is viewed through continuity and progression, and often set in the context of the geography curriculum |
| UCAS | Universities and Colleges Admissions Service |
| UK | United Kingdom |
| UoB | University of Birmingham, the home institution for the research |

# CHAPTER 1: INTRODUCTION

## 1.1 Introduction

Throughout a young person's educational journey, they will typically experience a number and variety of educational spaces. As a geography education researcher, my work crosses the boundaries of many of these spaces, but is principally concerned with school geography and academic geography, and the transitions that occur between the two. The focus of this research is on better understanding the relationship between geography education as experienced in schools and geography as an academic discipline in higher education (HE) through examining the transitions that take place between the educational spaces of schools and universities. This chapter presents the rationale for the research (section 1.2), followed by the research aim and the research questions (section 1.3). The research is situated in particular spatial and temporal contexts and these are addressed in section 1.4. I outline and reflect on my positionality in section 1.5, although positionality is also considered more theoretically in Chapter 3. The significance of the research is outlined (section 1.6), along with the contribution it makes to the field of knowledge. Finally, the structure for the thesis is presented in section 1.7 and the chapter is concluded.

## 1.2 Rationale for the research

This research began in 2010 at the start of my own journey as a teacher educator at the University of Birmingham (UoB). Over the first few years in this role, I engaged in frequent and regular discussions with members of the geography education community, the teacher

education community, teachers and leaders in secondary schools, and student teachers. Through these discussions I had become aware that central considerations of *what* we teach and *how* it is taught remained of benefit to educators in all phases of education. In the opening statement of the introduction to their edited book *What Should Schools Teach?*, Standish and Cuthbert (2017, p. xvii) stated that '[t]he nature of disciplinary knowledge in the curriculum is important to address in 2017 because its content, value and purpose have waned in schools and even in some university departments.' In concluding the book, the authors proceeded to suggest that: 'While established educational research has contributed, inter alia, to developing theories of learning and pupil motivation, to date it has not addressed the vital question of what knowledge should be selected for educational purposes' (Standish and Cuthbert, 2017, p. 139). This research is a small-scale attempt to begin to address the *what* in *what knowledge should be taught*, but additionally to look at where continuity and progression can be found in that knowledge.

Some years after I had commenced this research, two particular incidents further clarified the rationale; the reception of a conference paper I presented in 2019, and the response to a keynote lecture that I delivered in 2020. The conference paper, entitled *Connecting Geography: Developing links between schools and universities* (Collins, 2019) outlined a variety of mechanisms by which I had been attempting to bridge the gap between school geography and academic geography through my work as a geography teacher educator at UoB, initially through establishing links with academic geographers in the School of Geography, Earth and Environmental Sciences (GEES), and increasingly, over time, through contributing to the outreach and engagement activities of GEES. As is evident from the

name, the work of GEES spans the academic discipline of geography, but also the group of academic disciplines – earth sciences, environmental sciences, and environmental studies – that is sometimes described as ES3 (QAA, 2022a). A year after the conference paper (Collins, 2019) I was invited to deliver the Rex Walford Memorial Lecture at the Geographical Association (GA) annual conference in 2020. The lecture, *How To Build A Geographer* (Collins, 2020), focused on the transitions in geographical learning that occur across all stages of education and teacher education, and included some practical recommendations for how these transitions might be strengthened. Although reported here anecdotally, the reception of these two outputs and the subsequent conversations that took place with members of the subject community reasserted the positive and timely contribution of this research project to the community's understanding of a more 'connected' geography curriculum, and to improving student experiences of the transitions from learning geography in school to learning geography in the academy. The full lecture presentation can be found in Appendix 1. One of the strongest visual representations used in the lecture was that of the full 'journey' that an individual might follow, from their first experiences of geography education at primary school, through the remainder of their school geography experiences and into academic geography, and finally – for the target audience of the lecture, student teachers and early career teachers (ECTs) – graduating from HE and returning to school geography as a teacher. At the time of the lecture, I expressed to the audience my discomfort with colloquial language that often describes this process as a 'pipeline' by which we generate geography teachers. I favoured the more geographical notion of a journey through which an individual might navigate; consequently *geography education journey* is the term that is applied throughout this research. The way in which the geography education journey was conceptualised in Collins (2020) can be seen in Figure 1.1.

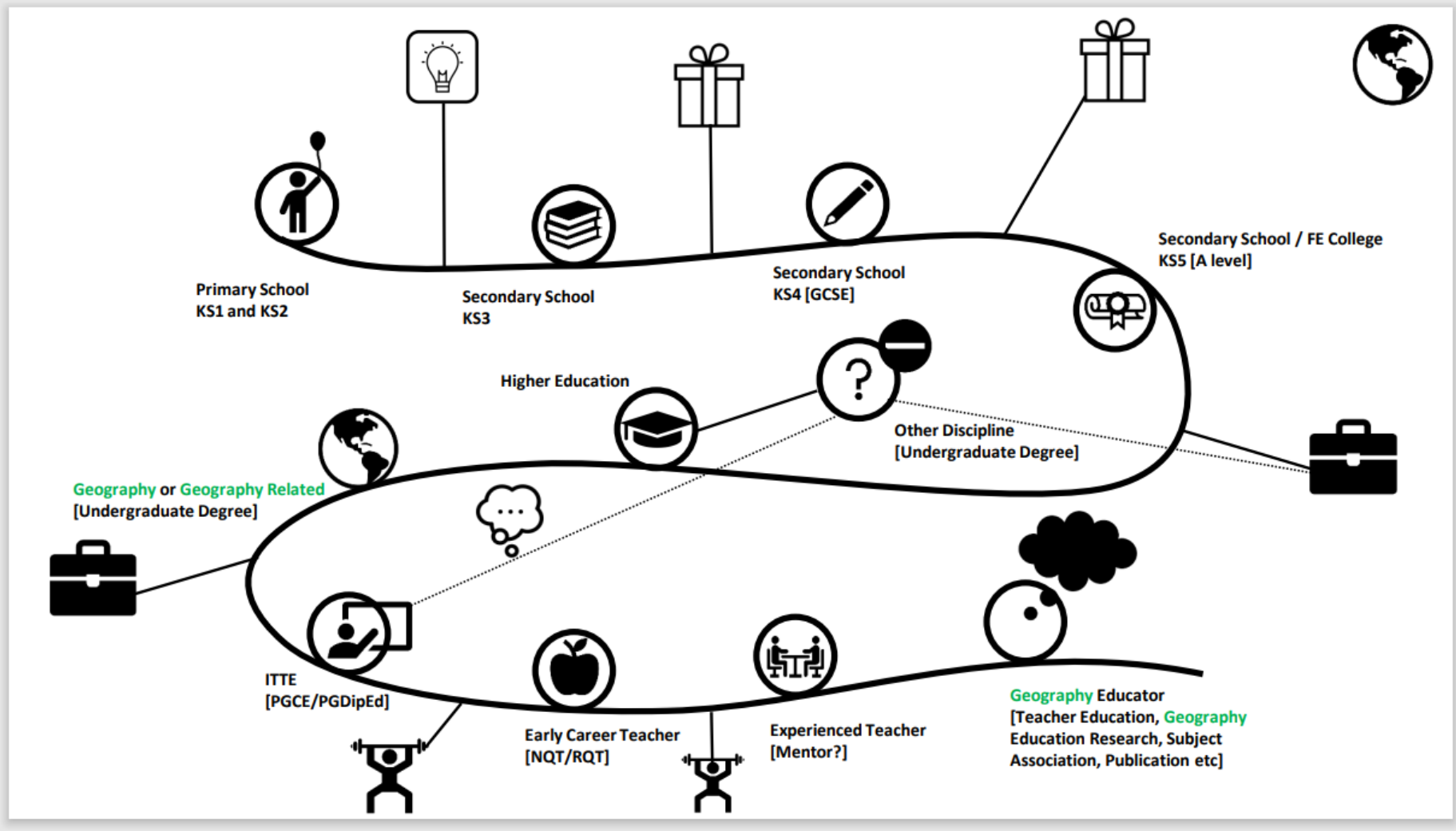



Figure 1.1: The geography education journey, as conceptualised in *How To Build A Geographer* (Collins, 2020).

The rationale for the research was, therefore, strongly influenced by my work across different educational spaces: as a geography teacher educator; my work with UoB and GEES on outreach and engagement; and with qualified geography teachers and student geography teachers in local secondary schools. For over ten years, I observed differences between the school geography curriculum and the academic discipline as studied at HE. It seemed that, to some extent, these differences were necessary for progression, but that a lack of continuity also caused difficulties for learners as they transitioned from the 11-18 geography curriculum to reading for an undergraduate degree in geography or a geography-related (cognate) discipline. It was my observation that similar difficulties were often experienced by student geography teachers, when they were required to recontextualise their academic knowledge in order to teach the school geography curriculum; previous research has reached similar conclusions (Puttick, 2015; Brooks, 2017; Puttick, 2017; Gong, Brooks and Duan, 2021).

It was this deep personal interest and curiosity in the geography curriculum across these boundaries and transitions – from school geography to academic geography, and from academic geography back into the school geography curriculum – that informed not only the research questions (RQs – section 1.3) but also the theoretical and methodological choices that led to the research design (Chapter 3) focusing on the transition between the formal geography curricula of school geography and academic geography as the phenomenon of interest (RQ1 and RQ3), and the conceptions that different stakeholders hold about the transitions between those educational spaces (RQ2).

## 1.3 Research aim and research questions

The research explores the relationship between the school geography curriculum in England and the academic discipline of geography at HE in the United Kingdom (UK). The literature review in Chapter 2 demonstrates that this relationship has been of interest to researchers for some time. There is a general consensus in the literature that there is a divide or disconnection between school geography and academic geography. Many authors are in agreement that elements of this divide are necessary; schools and universities are different educational spaces with varying educational ideologies. Additionally, geography is a discipline with breadth and depth, and diversity and variation in the geography that is taught within these educational spaces is to be expected. However, several researchers have suggested that disconnection between school geography and academic geography can be detrimental to learning and progression, and a potential barrier for some in continuing their geography education in HE. It is therefore in the interest of the subject community to find out more about the relationship between school geography and academic geography, as well as to look for ways to strength the connections between them.

Themes of continuity (the concepts, processes, and theories which run throughout the discipline at every level of study) and progression (the ways in which understanding of these concepts, process, and theories is developed throughout the period of study) are central to the relationship between school and HE curricula (Rawling, 2016; GA, 2022a). The research aim is to some extent as much a pedagogical aim as it is a philosophical one, as it was intended that the outcomes would include some practical suggestions that could inform curriculum design in school geography departments and, potentially, in HE departments of

geography. However, it was also intended that the research project would shed light on participants' perceptions and experiences of the geography curriculum, including similarities and differences between those subjective perceptions and the more objective authoritative source and authorised conceptions (Stolz, 2020) of formal geography curricula.

The research questions are:

**RQ1: What are the elements of continuity and progression between the school geography curriculum and the academic discipline of geography?**

**RQ2: What do stakeholders perceive to be the benefits and limitations of more closely connecting school geography and academic geography?**

**RQ3: What might a more connected geography curriculum look like in practice?**

The significance and contribution of the knowledge generated by answering these RQs is further addressed in section 1.6. The intention of asking and answering these RQs is to better understand where continuity and progression can be found in the transitions *within* school geography, and *between* school geography and academic geography. An improved understanding can contribute to policy and practice that might strengthen the connections between them, and this is further addressed in Chapter 7.

## 1.4 Spatial and temporal contexts for the research

Chapter 2 engages in the wider context of published work from international settings, but the spatial context for this research is broadly the UK and often, where possible, more

specifically in England. The education system in the UK was subject to the 'event' of devolution between 1997 and 1999 (Parliament. House of Commons, 2019) and education policy and practice in the UK has since continued to shift as the process of devolution continues to the present day (Parliament. House of Commons, 2019). While some sources of data used in this research apply to the UK as a whole – for example, data from the Higher Education Statistics Agency (HESA) – other data, policy and literature applies only to England, particularly in relation to the curriculum and examinations system, both of which vary between the home nations of the UK. Every effort has been made to rationalise the use of data pertaining to either the UK or England, as relevant to the context.

The RQs are also timely, taking into consideration the school reforms proposed in the Department for Education (DfE) White Paper *Opportunity for all: strong schools with great teachers for your child* (DfE, 2022a), recent consultation and revision of Subject Benchmark Statements for geography and ES3 published by the Quality Assurance Agency for Higher Education (QAA, 2021a; 2021b; 2022a; 2022b), the market review of Initial Teacher Training and Education (ITTE) in England (DfE, 2021a) and subsequent development of a new *Initial Teacher Training and Early Career Framework* (DfE, 2024a). Adopting the term ITTE has been prompted by Brooks (2017, p. 44) who discusses the important distinctions to be made between ITE (Initial Teacher Education) and ITT (Initial Teacher Training), with the former favoured by education researchers and the latter most often found in policy discourse. Throughout this thesis, the term ITTE is used, regardless of route into teaching or nature of provider, unless quoting directly from sources that use other terms such as ITT or ITE. Shifts in ITTE present a challenge to what has previously been a significant source of curriculum-

making in practice articulated in Chapter 2 as the production of 'professional curriculum knowledge' (after Shulman, 1986). The continued expansion of the multi-academy trust (MAT) model in England (Baxter and Floyd, 2019) and the emergence of alternative (to government) sources of central curriculum-making such as the Oak National Academy (2023; 2024) may benefit from accessible research into the mechanisms of curriculum-making, a view which is implicitly voiced by Smith (2023) through the suggestion that the idea of a national curriculum in England is due for a substantial overhaul in favour of what Heikkilä (2021), writing about the education system in Finland, described as a part-local curriculum. Smith goes on to propose that such an undertaking 'should involve a spectrum of educational experts' in part to address the criticisms of the current national curriculum in England (NC) that it was 'devised with only token consultation of the people who would end up teaching it' (Smith, 2023, n.p.). I argue that this recommendation should be extended to recognise the importance of the transitions experienced by the learner (those learning the subject curriculum in question, in any setting) and should acknowledge that those who may end up teaching an alternative or revised NC are often working in differing educational spaces (including primary schools, secondary schools, further education colleges, universities, schools which follow a national curriculum and those which do not) and phases (those who go on to teach learners beyond the scope of the NC, such as Key Stage 4, post-16 education, and HE). This reinforces the notion that for effective transition between curricula in different phases of education there needs to be some element of 'boundary-crossing', in order for learners and educators to develop an understanding of continuity and progression within and between those curricula.

Another temporal context for the research is related to my positionality as the researcher. As a part-time postgraduate researcher who was also working full-time as a geography teacher educator for the majority of the research project's duration, I did not hold a fixed identity throughout the (lengthy) research process. At various times, I positioned myself as an insider researching 'my' people and an outsider researching 'other' people (after Philo, Boyle and Lucherini, 2021), and I occupied multiple positions in the social and political hierarchy of the research context, dependent on the participants and/or data with which I found myself interacting. For example, devising and circulating the questionnaire among the geography subject community felt very much like it stemmed from an 'insider' status (Roulston and Choi, 2018, p. 237) as I had been a member of that community for twenty years. However, during the subsequent interviews with individual participants my 'situatedness' (Horton, 2021) shifted from interview to interview dependent on variables such as any pre-existing relationships, the interview setting, and the method of recruitment. I had a degree of familiarity with some of the interview participants, and therefore I took measures throughout the research process to protect my primary identity as a researcher, whilst acknowledging any secondary identity that might have arisen from any pre-existing relationships. I was also familiar with the topics addressed by the questionnaire and interview schedule, although preparing for the research with this kind of 'insider-status' involved 'reflecting and thinking about one's preconceptions about a topic, what one already knows, or one's own experiences' (Roulston and Choi, 2018, p. 238). It was necessary to shift identity from geography teacher educator to geography education researcher, which in turn was a shift from 'familiarity' to 'strangeness' (Flick, 2002, p. 59). I elaborate further on this positionality in Chapter 3.

The field of geography education research has been described as one with 'modest' outputs (Butt, 2020, p. 3) and one particularly vulnerable to the civic-academic tension experienced by education as a discipline (Furlong, 2013). This tension has also been articulated as a 'theory-practice divide' (Butt, 2020, p. 42) between geography education research that tends towards 'practical and utilitarian applications', and the more theoretical research conducted elsewhere in the field of education. The main criticism of this 'what works' approach (Butt, 2020) is that findings – or 'fuzzy predictions' (Bassey, 2001) – often have limited transferability beyond the narrow context in which the research took place, with Butt highlighting the problem with this: 'The dangers are that non generalisable research may neither add much to our knowledge, nor help us to solve more persistent educational problems' (Butt, 2020, p. 61). This research addresses that danger by offering practical applications for the research outcomes that contribute towards problem-solving, but ensures that they are generated from robust theoretical and methodological frameworks that improve generalisability and allow for original contributions to the field of knowledge.

There has been a recent reinvigoration of research at the borders of geography and education (Finn *et al*., 2022) identifying the need for increased collaboration between researchers occupying discrete yet related spaces in the 'geography and education nexus' (Finn *et al*., 2022, p. 2). This thesis is therefore a timely opportunity for such 'border-crossing' (Finn *et al*., 2022, p. 2) and a direct response to the 'call to arms' for geography education researchers to strengthen the mutual understanding between academic geographers and those teaching the subject in schools (Butt, 2020, p. 223).

## 1.5 Positionality

I was actively employed in the education sector from 2003 to 2023. Variously in those twenty years I had, at one time or another and often concurrently, been: a teacher of geography in a secondary school; head of a geography department in a secondary school; a mentor to student geography teachers, both in secondary schools and in a higher education institution (HEI); a geography teacher educator in an HEI; a geography education researcher; a postgraduate researcher; a lecturer in geography education in an HEI. This shifting identity is recognised by Finn *et al.* (2022, p. 43), who – citing work of which I am myself an author - acknowledges '…individuals and groups who work across different educational settings and communities of practice occupying multifaceted identities and roles (Butt & [sic] Collins, 2018).'

An understanding of positionality, situatedness, and my own world view as a geography education researcher aids not only in understanding myself as *researcher* in relation to the *researched* – the participants and data through which the RQs have been explored – but also my situatedness in relation to the 'spaces of exchange between communities of practice' (Finn *et al.*, 2022) arising from the interaction between the two disciplinary fields of geography and education. I propose that this research project contributes original knowledge through this very positionality and situatedness, and that boundary-crossing between disciplines (the broad disciplines of geography and ES3 in the academy, and school geography) and phases (research and HE in the academy, and education particularly in the 16-19 secondary phase in schools) will be a necessary mechanism by which continuity,

progression, and transition can be strengthened for learners of geography. The significance and contribution of the research is now examined in further detail.

## 1.6 Significance and contribution

The review of literature presented in Chapter 2 demonstrates that the research aim and RQs are pertinent and relevant to the subject community of geography, having highlighted an absence in current research which bridges the spaces of the school and the academy. Beyond the field of geography education, researchers have focused on the affective impact of the transition on children and young people in various phases (for example, Galton and McLellan, 2018; Packer *et al.*, 2021). Prior geography education research has been focused more narrowly within specific phases; for example, the state of primary geography (Catling and Martin, 2011; Catling, 2013; Catling and Morley, 2013; Eaude *et al*., 2017), or aspects of secondary geography (for example: Butt, 2011; Lambert and Morgan, 2010; Lambert and Jones, 2013; Jones and Lambert, 2018). Beyond geography education research, there is a wealth of contemporary academic literature exploring curriculum, pedagogy, assessment and subject content in geography in HE (for example: Fritzsche, 2021; Rød and Nubdal, 2021; Simm, Marvell and Mellor, 2021). While other edited collections from geography education researchers (Butt, 2011; Lambert and Jones, 2013; Brooks, Butt and Fargher, 2017; Jones and Lambert, 2018; Hammond *et al*., 2022) undertake a similar 'scene setting' and broad review of different phases of geography education, little specific attention is focused on the transitions between these phases. The most extensively researched transition in geography education appears to be that from post-16 study to HE (Hill and Jones, 2010; Tate and Swords, 2013; Ferreira, 2018; Finn, 2018; Hammond and Healy, 2022) with significantly less

research into the transitions from primary to secondary, within secondary, and the transition – and accompanying recontextualization of subject knowledge and identity – experienced from undergraduate study to postgraduate ITTE.

Notably, the research into the post-16 to HE transition is authored predominantly by those situated in the academy (Hill and Jones, 2010; Tate and Swords, 2013; Ferreira, 2018; Finn, 2018) with little dialogue or co-construction taking place between academic geographers and teachers of geography in schools. Promising attempts to address this – for example the introduction of the peer-reviewed geography education journal *Routes* with an intended authorship from post-16 geography students and undergraduates from GEES subjects, and an editorial board and peer-reviewers from both the academic and school contexts (Routes, 2021) – are still in their infancy, although the more recent work of Oakes and Rawlings Smith (2022) has given voice to geography teachers' views of the 16-19 experience. The transitions between other phases of geography education seem to have been of great professional interest to master's-level teacher-researchers (for example the unpublished work of Sutheran, 2020; Proctor-Williams, 2021) but there currently remains very little robust academic research into continuity and progression in relation to transition in geography education. This thesis is original in its recognition of the need to strengthen continuity and progression at all transition points across phases of geography education; in its integration of voices from a breadth of the discipline's community, whether from the academy, schools, or geography teacher education; and in its proposal of co-construction, collaboration, and curriculum-making as effective mechanisms to strengthen the state of the discipline.

This research contributes to the field of knowledge by broadening the focus on transition to include all stages of a young person's geography education journey, from primary geography to secondary and post-16 geography, and to the study of geography as an academic discipline in HEIs. This broad educational journey encompasses a number of potential transitions within school geography and between school geography and academic geography, and this research asserts that continuity and progression can be aspects of successful transition between these educational spaces. This research is significant as it examines what the geography curricula of those two educational spaces allow for in terms of continuity and progression, as well as seeking the views of the subject community regarding the benefits and limitations of more closely connecting school geography and academic geography.

## 1.7 Structure of the thesis

The remainder of the thesis commences with a review of relevant literature, presented in Chapter 2. This literature review explores definitions of geographical knowledge, and sets out the boundaries of the two educational spaces – school geography and academic geography – that are the focus of the research, as well as examines previous work that has researched transition in geography education. Three potential mechanisms for more closely connecting school geography and academic geography were identified from the literature, and an outline of these concludes Chapter 2.

The research design is presented in Chapter 3. Positionality is considered more theoretically in Chapter 3 as, in parallel with my personal positionality, this will have influenced the methodological decisions made for the research design. The research methodology is fully described and justified in Chapter 3, and processes for data gathering and data analysis are outlined. Chapter 3 concludes with the ethical considerations that were made for the research.

Each of the RQs is explored and answered in turn, in Chapter 4 (RQ1), Chapter 5 (RQ2), and Chapter 6 (RQ3). These three chapters blend findings and discussion and each chapter addresses a specific RQ. The answer to RQ3 is generated through synthesis of the findings of RQ1 and RQ2, and captures clearly the original contribution that the research makes to the field of knowledge by proposing a set of recommendations – described in Chapter 6 as 'road maps' – that can support continuity and progression between school geography and academic geography. The thesis concludes with Chapter 7 which makes recommendations for dissemination and further research, as well as presenting an overall conclusion to the thesis.

# CHAPTER 2: LITERATURE REVIEW

## 2.1 Introduction

This literature review focuses on the nature of geographical knowledge in two main educational contexts – school geography and academic geography – and on the nature of, and transitions between phases, of the geography education journey, from primary through to the study of geography in HE. The chapter begins with an examination of the ways in which geographical knowledge can be defined, then explores the subject's disciplinary knowledge and substantive knowledge in section 2.2. The broad contexts of school geography and academic geography are examined in sections 2.3 and 2.4 respectively, with a particular focus on what the literature suggests regarding where continuity and progression might be found in the transitions between different phases of the geography education journey. The existing literature relating to three different mechanisms used to connect school geography and academic geography are considered in section 2.5, before the chapter concludes with an outline of the RQs in section 2.6.

### 2.1.1 Selecting the literature

The methods used to identify the literature reviewed in this chapter are outlined in Table 2.1, below. The breadth and depth of geography as a discipline is mirrored in the breadth and depth of available literature. For a research study of fixed scope, and for a researcher with limited resources and capacity, it was important to set clear and appropriate parameters for a scholastic literature review that would deepen my understanding of the

research topic (Hart, 2018) as well as contribute to the development of an appropriate methodology through which further research could be conducted. That the selected literature should be contributory (to advancing knowledge) and rigorous (in conduct) were guiding principles taken from Northcote (2012, cited in Hart, 2018) and applied to the search. The research aim had evolved from my previous work (Butt and Collins, 2013; 2018; Collins, 2020) and from over a decade of engagement with ongoing debates in the field of geography education regarding the connection between school geography and academic geography. This engagement included the teaching and assessment (from 2010 to 2022) of an assignment entitled *Connecting Geography* that required students to examine the relationship between school geography and academic geography. Through my work as a teacher educator, and from my own previously published work, I therefore had a prior degree of familiarity with relevant academic literature and with the sources of robust, peer-reviewed, academic discourse that should be consulted. This informed the approach to the literature review outlined below in Table 2.1.

| **Stage of the Literature Review** | **Examples** | **Exemplar notes** |
|---|---|---|
| Stage 1: Audit current familiarity with literature, and read relevant outputs | Which authors have previously worked in this area? Which authors have continued working in this area? How has their work developed? What themes have remained, and what themes have been resolved? What new themes have emerged? What events have occurred recently that might have informed subsequent literature? | Between Butt and Collins (2013) and Butt and Collins (2018), the following works were published: Lambert, Solem and Tani, 2015; Mitchell and Lambert, 2015; Maude, 2016; Vernon, 2016.<br><br>Finn (2018) presented a conference paper on the relationship between schools and universities, and has continued working in this area (Finn, 2022; Finn *et al*., 2022). In a similar timeframe, Ferreira (2018) |

| | | |
|---|---|---|
| | | published work examining the 16-19 transition.<br><br>The launch of the RGS-IBG *Geography and Education Research Group* in 2019 prompted a special issue of *Area* (2022; 54 (1)) which contained several pertinent articles and helped to identify 'new' voices that have joined the debate. |
| Stage 2: Develop an initial list of recurrent themes and begin to categorise the literature by theme | Disconnection / gap / chasm / divide<br><br>Contested views of geographical knowledge<br><br>Increased focus on powerful knowledge in geography<br><br>16-19 transition | Awareness of these themes originated from the reading conducted in Stage 1. Categorising the literature by theme allowed for a more focused subsequent reading of relevant literature, and from this, the definition of search terms outlined in Stage 3. |
| Stage 3: Define the search terms | Disciplinary knowledge<br>Substantive knowledge<br>Procedural knowledge<br>Content knowledge<br>Pedagogical knowledge<br>Pedagogical content knowledge<br>Powerful knowledge<br>Powerful disciplinary knowledge<br>Transition<br>Continuity<br>Progression | These search terms were developed from the initial review of literature (and the accompanied reading) in Stage 1 and from the list of recurrent themes identified in Stage 2 (and the accompanied subsequent reading). |
| Stage 4: Conduct a search of relevant databases<br><br>(For example: University of Birmingham library catalogue; Google Scholar; specialist journals) | Google Scholar (July 2024):<br><br>"disciplinary knowledge" AND "geography" → 22,700 results, with c. 8,750 results published in the last five years (2019 to 2024).<br><br>"disciplinary knowledge" AND "geography education" → 873 results, of which 445 were published between 2019 and 2024. | The focus of this thesis is on the nature of the discipline across a range of contexts, not only on the field of geography education. Therefore searches were conducted using the broad context of 'geography' in addition to the narrower context of 'geography education', acknowledging that the former would identify some literature that was less relevant to the research aim and would need to |

| | | |
|---|---|---|
| | | be set aside in order to retain a manageable quantity of literature and a focus on the research aim. |
| | *International Research in Geographical and Environmental Education* (*IRGEE*): | |
| | "disciplinary knowledge" → 55 articles, of which 42 articles have been published within the last ten years (2014 to 2024). | Disciplinary knowledge is of interest to researchers globally, as revealed for example by the prevalence of the key term in publications from the journal *International Research in Geographical and Environmental Education* (*IRGEE*). |
| | "powerful knowledge" → 31 articles (2019 to 2024) | |
| | "powerful disciplinary knowledge" → 17 articles (2019 to 2024) | This journal was selected as a particularly appropriate source, as it is the flagship journal of the International Geographical Union Commission on Geographical Education (IGUCGE), a research organisation with a global reach. |
| | Library Catalogue: | |
| | "key stage 4" AND "geography" → 37 results, of which eight have been published in the last ten years (2014 to 2024) | Of these eight outputs, five were published in the GA's professional journal *Teaching Geography*, and one is an article published in the *Times Educational Supplement* and relates to a three-year GCSE (General Certificate in Secondary Education) and only briefly mentions geography. |
| | "GCSE" AND "geography" → 75 results (2014 to 2024), of which 32 have been published in the last five years (2019 to 2024) | Again there is a high proportion of professional rather than academic outputs. |

Table 2.1: The process for the literature review.

Following this process allowed for a thematic literature review to take place whilst retaining a focus on the research aim. The research aim also dictated that the scope of the literature must extend across the full educational experience, drawing on literature pertaining to every

stage of the geography education journey from primary phases to secondary and post-16 phases of school education, and to HE. The literature review drew not only from academically rigorous sources such as theoretical and conceptual work and empirical research published in peer-reviewed journals, but also from other pertinent sources. These sources included: practitioner research conducted by and/or for teachers; reports; relevant policies and statutory guidance (for example in relation to the curriculum); and materials published online, such as those from professional and subject associations. The types of research drawn on for the literature review are summarised in Table 2.2, in which a selection of references for each type of literature, published within the last five years, are included as examples. A full categorisation of the sources drawn on for the literature review (n=220) can be found in Appendix 2.

| **Type of research/literature** | **Examples of references in the literature review** |
|---|---|
| Theoretical, conceptual, explanatory | Watson (2020); Béneker and van der Vaart (2020); Bladh (2020); Bagoly-Simó (2022); Finn *et al.* (2022); Muller (2022); Pownall, Harris, and Blundell-Birtill (2022); Roberts (2022); McPhail, Ormond, and Siteine (2023); Huckle (2024) |
| Systematic reviews | Perry *et al.* (2019); Bendl *et al.* (2024) |
| Empirical | Skouen (2019); Virranmäki, Valta-Hulkkonen, and Rusanen (2019); Biddulph *et al.* (2020); Kim *et al.* (2020); Pratt and Atkinson (2020); Roald *et al.* (2020); Caldwell *et al.* (2021); Goldfarb Cohen and Tabak (2021); Hubbard (2021); Hammond (2022); Hammond and Healy (2022); Mitchell (2022); Winter (2022); Clarke and Pike (2023); Lee and Kriewaldt (2024); Oakes and Rawlings Smith (2024) |
| Books and book chapters | Mitchell (2020); Biddulph, Lambert, and Balderstone (2021); Collins (2022); Lorimer and Hodgetts (2024); Rawlings Smith and Collins (2024) |
| Practitioner | Holbrey (2019); Peppin (2020); Trolley (2020); Finn (2022); Hunt (2022) |
| Report | Worth and Van den Brande (2019); Worth (2020); DfE (2021a); Holmes and Burgess (2021); Ofsted (2021); Worth and Faulkner-Ellis (2021); GA (2022a); Owens *et al.* (2022); Worth and Faulkner-Ellis (2022); McLean, Worth, and Smith (2023); Ofsted (2023); McLean, Worth, and Faulkner-Ellis (2024) |

| | |
|---|---|
| Policy, legislation, statutory guidance | DfE (2019b; 2021b; 2023a; 2024a); ISI (2019); Ofsted (2022); QAA (2019a; 2019b; 2019c; 2022a; 2022b; 2022c; 2023) |
| Conference proceedings; conference papers | Collins (2019; 2020) |
| Doctoral theses | Rawlings Smith (2020); Healy (2024) |
| Secondary data | HESA (2022); HM Government (2024a; 2024b; 2024c; 2024d; 2024e); HESA (2024); JCQ (2024a; 2024b) |
| Other sources, including professional and subject association materials | DfE (2019a); Advance HE (2020a); DfE (2020); Freeland (2021); Geocapabilities (2021); Morgan (2021); Nayeri and Rushton (2021); RGS-IBG (2021a; 2021b); Decolonising Geography (2022); Gapminder (2022); GA (2022b; 2022c); Harris and Jones (2022); HM Government (2022); RGS-IBG (2022a; 2022b); UCAS (2022); Butlin (2023); DfE (2023b); GA (2024a; 2024b; 2024c; 2024d; 2024e; 2024f); NFER (2024); Phillipson (2024a; 2024b) |

Table 2.2: A summary of the main types of research drawn on for the literature review.

The thematic outcomes of this literature review are now presented.

## 2.2 Defining geographical knowledge

Definitions and categorisations of knowledge are contested, and there are a variety of approaches that could be taken towards determining where continuity and progression in knowledge can be found. Any scrutiny of the subject of geography – whether at school level or academic level – requires an understanding of the nature of knowledge in the subject. Throughout this chapter, the terms ‘school geography’ and ‘academic geography’ are used as a simplified shorthand to describe two main educational spaces in which the subject of geography can be learned, and henceforth the quotation marks are dispensed with. The focus of this research – broadly, on the connections between school geography and academic geography – must inherently include some consideration of the nature of knowledge in these educational spaces. References to knowledge are found throughout school geography curriculum documents for use across the 5-19 age range (DfE, 2013a; 2014a; 2014b) and, for academic geography, in the Subject Benchmark Statement for

Geography (QAA, 2022b). The academic view of geographical knowledge often differs from the use of the term in curriculum documentation, other policy documents, and most professional rather than academic sources, and these different conceptions of knowledge are discussed in this chapter. However, continuity and progression can be exemplified in ways other than solely through types of knowledge, so this literature review also focuses in later sections on outlining the curricula of school geography and academic geography, and the issues that have been identified as impacting (both positively and negatively) the transition between them.

Recent attempts have been made to define and categorise knowledge in school geography. The GA – a subject association for geography teachers, and one of the two main subject bodies relevant to geography in the UK, with the other being the learned society and professional body the Royal Geographical Society with the Institute of British Geographers (RGS-IBG) – has attempted most recently to develop a framework for school geography which identifies '…key concepts, significant features and distinctive approaches in the discipline of geography…' (GA, 2022a, p. 3). In this GA Curriculum Framework (GACF), disciplinary knowledge is categorised by three main classifications: key concepts, organising concepts, and geographical practice (the application of geographical skills, including those related to fieldwork). Four key concepts are defined as place, space, earth systems, and environment; five organising concepts are identified as scale, time, diversity, interconnection, and interpretation. Geographical practice is outlined as the aspects of disciplinary knowledge that help learners 'know how' and 'know how to apply', or '…the

activities characteristic of working like a geographer…how geographers find out, and how they construct propositions and claims (make sense of the world)' (GA, 2022a, p. 9).

Prior to the publication of the GACF, the Office for Standards in Education, Children's Services and Skills (Ofsted) published a research review for geography (Ofsted, 2021) in which they also offered a categorisation of geographical knowledge. Ofsted (2021) used similar terminology to that set out in the government's (DfE, 2013a) geography national curriculum (GNC2014) currently delivered in schools in England. Early in their research review, Ofsted (2021) stated that geographical knowledge can be organised into two forms – disciplinary knowledge and substantive knowledge – which is, as can be seen from this chapter, a simplified interpretation of a much more complex body of knowledge. The research review specified that a 'combined appreciation of both substantive and disciplinary knowledge can be described as geographical understanding' (Ofsted, 2021, n.p.). Elsewhere in the research review, Ofsted (2021) further categorised substantive knowledge into locational knowledge, place knowledge, human and physical processes, environmental processes, and geographical skills.

It should be noted that Ofsted's (2021) research review was subject to critique at its time of publication from many quarters of the geography education community. These critiques included an organisation-level response from the GA (2021) and an individual-level response from the 2021 President of the GA (Parkinson, 2021), the editorial board of the geography education journal *Routes* (Nayeri and Rushton, 2021), and Morgan (2021). The GA (2021) and Nayeri and Rushton (2021) recognised that the propositions made by Ofsted (2021)

regarding geographical knowledge and understanding were likely to be accessed by teachers of geography and academic geographers. However, Morgan (2021, n.p.) described the research review as being 'woefully thin' in its attempts to encapsulate the discipline's identity and its disciplinary knowledge, attempts which Morgan suggested were oversimplified. It was also noted by critics that Ofsted (2021) failed to address issues of racialised knowledge production in the discipline, with Nayeri and Rushton (2021) highlighting the increased attention being given to these matters elsewhere in the subject community, particularly in academic geography. Morgan (2021, n.p.) was in agreement, noting that the review failed to consider '…the production and distribution of knowledge – whose knowledge is it? Who selected it? Why is it organized and taught in this way?'.

Other key themes were identified as being omitted from Ofsted (2021), which Nayeri and Rushton (2021, n.p.) seemed to suggest were missed opportunities:

> Within geography's disciplinary purview - or what the report terms 'substantive knowledge'- are arguably our biggest strengths to make geography relevant in the twenty first century. These include the capacity for the discipline to explore and interrogate ideas of race, ethnicity and LGBT+ geographies, the inequalities and opportunities caused by COVID-19, climate change and biodiversity crises.

The criticisms of Ofsted (2021) were instrumental in the development of the framework which informed the research design, for example, through the generation of additional themes for coding, relating to disciplinary identity, power, diversity, and community. These revisions are discussed more fully in Chapter 3.

The GA (2021) response to the publication of Ofsted (2021) made reference to their (at that time) ongoing work to develop what, the following year, became the GACF (GA, 2022a). The GA positioned their own work as intending 'not only to review the current research, but to provide an influential contribution to future thinking by identifying the underpinning principles and components of a high-quality geography curriculum' (GA, 2021, n.p.). In 2021, therefore, the GA were seemingly suggesting their imminent GACF as a companion (or perhaps implicitly, an alternative) source of curriculum thinking to Ofsted (2021). Recent critique of the GACF by Huckle (2024) has suggested that, certainly in the author's view, this endeavour is to be recommended, although in the context of Huckle's research into how a curriculum framework might support the key stage 4 (KS4) and key stage 5 (KS5) teaching of a global crisis, they suggest that:

> …the GA's framework does not equip teachers to address the crisis, since its account of how geographers think about the world ignores what makes and remakes place, space, Earth systems and environment. It risks serving as ideology obscuring the real nature of the world and preventing older students (i.e. 14–18 year-olds) from understanding the causes of the current crisis that is affecting their well-being and their capabilities to live the lives they choose to live (Huckle, 2024, p. 20).

As Healy (2024) noted, although GA (2022a) contributes to the debate regarding geography's disciplinary and substantive knowledge, as a very recent publication it is (as yet) unlikely to be widely applied by teachers. It is intended that this thesis adds to an initial body of academic work that critiques the GACF.

The GA (2022a) and Ofsted (2021) both described their outputs as research-informed. However, the range of sources alluded to in both publications is more narrow than has been engaged with in academic debates around the nature of geographical knowledge, as is

demonstrated in this chapter, and as a result both are open to criticisms of oversimplification. It would be possible, for the purposes of this thesis, to broadly categorise types of knowledge in several different ways; for example, disciplinary knowledge and substantive knowledge. In turn, substantive knowledge can be categorised as locational and place knowledge, human and physical processes, environmental processes, and geographical skills. However, none of these categorisations are definitive and several of them are overlapping. The terminology around knowledge is complex and at times contradictory, and particularly challenging for geography as a discipline whose knowledge structures can be described as horizontal rather than hierarchical (Bernstein, 2000; Vernon, 2016). Maton (2010, p. 154) refers to Bernstein's view of *hierarchical* knowledge structures as having 'explicit, coherent, systematically principled and hierarchical organizations of knowledge which develop through the *integration* and *subsumption* of knowledge' (emphasis in the original), but challenges Bernstein's assertion that *horizontal* knowledge structures, such as those found in geography, lack this verticality. Maton (2010, p. 155) also notes that '[f]or Bernstein, the arts and humanities are characterized by a weaker grammar which removes a crucial resource for cumulative knowledge-building: the ability to compare competing explanations with consensually agreed upon evidence.' Frameworks such as the GACF offer an opportunity to further tackle the perception that geography, as a discipline with horizontal knowledge structures, must also have weak verticality and weak grammar, and this thesis also contributes to that debate.

The work of Bernstein (1996; 2000) presents knowledge through the lens of social realism and outlines the process of recontextualization as a feature of knowledge transformation,

for example in the practices of teachers. Bernstein's pedagogical device proposes that knowledge production (i.e. in the academic discipline) and knowledge reproduction (i.e. in the school subject) are bridged by the process of recontextualization. Bernstein's pedagogic device offers a useful framework – one of many possible theoretical frameworks – through which the nature of the transition of knowledge, continuity, and progression between school geography and academic geography could be considered. Whilst recent academic work in the field of geography education has been framed very effectively by the work of Bernstein (Rawlings Smith, 2020; Healy, 2024) these authors have a shared focus on the recontextualisation of knowledge by a variety of actors, including textbook writers (Rawlings Smith, 2020) and teachers (Healy, 2024). This thesis differs in that the research focus is not on the nature of the knowledge as recontextualised or transmitted in either of the spaces of 'school' or 'academy', but the focus is rather on what the written curricula for those learning and teaching in those spaces allows for in terms of continuity and progression in geographical knowledge, and how that geographical knowledge is articulated in those written curricula.

It was not the aim nor intention of this literature review to provide a comprehensive overview of, or engagement with, the debates around 'the knowledge turn' in geography. Rather, the aim is to consider what the literature tells us about the ways in which key stakeholders in the subject community might view and engage with geographical knowledge, particularly in the contexts of school geography and academic geography, as this relates explicitly to the research aim and RQs stated in section 2.6. The intention for this chapter is, therefore, to review relevant and sufficient literature in order to develop a clear

theoretical framework for geographical knowledge that could be applied to the research. That framework needs to be recognisable to the discipline's stakeholders, justifying its application whilst acknowledging from the outset that any such framework will remain contestable by others and open to critique. Therefore, with full acknowledgment of the limitations of doing so, geographical knowledge is now considered in two broad aspects: disciplinary knowledge, including powerful (disciplinary) knowledge; and curriculum knowledge, which is frequently articulated in other documents (including by Ofsted (2021) and the GA (2022a) as substantive knowledge.

### 2.2.1 Disciplinary knowledge, and powerful disciplinary knowledge

Disciplinary knowledge appears to be a current focus for much geography education research, as revealed by the literature search. Recent research into disciplinary knowledge in geography education has been published within the last five years in relation to a range of international contexts. For example, powerful disciplinary knowledge in secondary geography teaching in Finland (Virranmäki, Valta-Hulkkonen and Rusanen, 2019), the positioning of disciplinary knowledge on the authors' theoretical 'knowledge curve' in the Netherlands (Béneker and van der Vaart, 2020), disciplinary knowledge and education for sustainable development (ESD) in Germany (Bagoly-Simó, 2022) and powerful knowledge, disciplinary knowledge, and pedagogical content knowledge in Australia (Lee and Kriewaldt, 2024).

It can be noted that many of the publications focused on disciplinary knowledge also refer to 'powerful knowledge' (PK). This thesis does not actively seek to contribute to the debate regarding which aspects of geography's disciplinary knowledge might be powerful. However, it is deeply relevant to consider in this chapter the nature of PK as embedded in the school geography curriculum and the extent to which the transition between school geography and academic geography allows for continuity and progression in PK. PK has roots in the work of Young (2009), and in its simplest form can be articulated as the knowledge that takes us beyond our everyday experiences and that is distinct from our everyday knowledge. Maude (2016) proposed that PK could be defined by the characteristics that make it powerful, and by the power that it enables. Maude also identified the complexity around the relationship between PK in school geography and academic geography; highlighting that these educational spaces differ, as does the knowledge selected from the latter to be taught in the former. It is noted by Muller (2022, p. 22) that '…the notion of 'powerful knowledge' has its roots partly in Bernstein's vertical discourse', hence the use of Bernstein's pedagogic device by other researchers (Rawlings Smith, 2020; Healy, 2024) in their explorations of the recontextualisation of geographical knowledge. For the last decade, a number of researchers across a range of (predominantly European) countries have been engaged with the GeoCapabilities project, a curriculum-making project underpinned by the concept of PK. The project website (GeoCapabilities, 2021, n.p.) introduces 'geocapabilities' and its links to disciplinary knowledge very succinctly, replicated in Figure 2.1.

A capabilities approach repositions the contribution of the discipline (geography) to the education of young people within a capabilities framework. It derives from the original work of Amatya Sen and Martha Nussbaum on welfare economics and is an attempt to take capability principles and locate them within a geography education context.

Powerful disciplinary knowledge (PDK) is fundamental to the GeoCapabilities approach, yet teachers in more challenging schools have been found to be constrained in their ability to enact a 'powerful' curriculum which may transform young people's lives (see Mitchell, 2015).

The intention of GeoCapabilities 3 is to support teachers in developing their curriculum making capacity and in so doing enable them to engage with important curriculum questions such as what kinds of geographical knowledge are taught in schools, who decides and why, and what kinds of pedagogies are needed to teach powerful disciplinary knowledge (PDK) to students.

Figure 2.1: Geocapabilities and disciplinary knowledge (from the GeoCapabilities project website (2021, n.p.).

GeoCapabilities began as an EU-funded programme which ran initially from 2013-2017 (GeoCapabilities, 2021) but which has since continued, with the most recent published work reporting the outcomes of the third phase of the project, or 'GeoCapabilities 3' (Biddulph *et al.*, 2020; Mitchell, 2022). The GeoCapabilities approach has also been applied in Japan, with the research of Kim *et al*. (2020) furthering the international debates around PDK in geography, and in the same era, Bladh (2020) has used GeoCapabilities as a lens through which to explore curriculum-making. There has also been recent research into the connections between disciplinary knowledge and curriculum design in New Zealand (McPhail, Ormond and Siteine, 2023) in which, in addition to considering PK, the authors make the distinction between 'knowledge-that' and 'know-how-to'. This distinction is echoed in GA (2022a) in the categorisation of disciplinary knowledge as comprising not only key concepts and organising concepts (which could be equated to 'knowledge-that') but also geographical application (which could be equated to 'know-how-to'). A notable omission in GNC2014, having been a stronger feature of GNC2000 (DfEE/QCA (1999), outlined over 49

pages) and GNC2007 (DCSF/QCA, 2007) is the inclusion of values, attitudes and *geographical* competences/capabilities. Given that the ongoing work around geocapabilities (GeoCapabilities, 2021; Mitchell, 2022) and powerful geographical knowledge (Stoltman, Lidstone and Kidman, 2014; Maude, 2016) suggests that geography contributes directly to the development of young people as well-rounded, global citizens, the lack of explicit reference to values, attitudes and capabilities leaves GNC2014 at risk, particularly when being interpreted by non-specialist teachers. Indeed, when reflecting on curriculum intent, the potential for marginalising subject-specialist teaching of geography remained – understandably at the forefront of the GA's concerns:

> For the major discoveries, insights and innovations that took genius and social cooperation to be condensed into the constrained time available within the school curriculum, we need specialists (including teachers of geography) to spend time working out what the 'baseline requirements' are for children and young people to step out into an increasingly complex world (GA, 2022b, n.p.).

There seems to be a consensus, certainly within the geography education community in England, that a high-quality geography education at secondary school level requires deep disciplinary thinking, sound disciplinary knowledge, and a strong engagement with the curriculum-making process. This might be achieved by engaging a specialist geography teaching workforce with the epistemological and pedagogical underpinnings of the curriculum (section 2.5.1).

The wide acceptance of PK as an important facet of geography education – and evidence that PK has crossed the academic (theory) and professional (practice) divide – can perhaps be seen by the inclusion of PK in the GA's extensive, open-access, online support materials

for student teachers and ECTs (GA, 2024b). There are also references to PK in Ofsted (2021), and in the core initial geography teacher education textbook *Learning to Teach Geography in the Secondary School*. In the latter, the authors (Biddulph, Lambert and Balderstone, 2021, p. 13) take care to point out that knowledge is 'socially constructed', but also that 'PK has particular qualities that arise from the academic communities that produce (and continually revise) it'. It is this connection between PK and the academic discipline from which that knowledge is produced that gives it some relevance to this thesis, particularly in relation to how forms of knowledge are understood and applied by stakeholders including, to briefly revisit and apply Bernstein's (1996; 2000) pedagogic device, those in the field of knowledge production (for example, academic geographers) and those in the field of knowledge reproduction (for example, geography teachers).

As with all definitions and typologies of knowledge, PK is a contested concept. Muller (2022, p. 21) described it as '…a term that arose in English curriculum studies to serve a particular clarificatory purpose but has since been adopted and adapted for a wide range of purposes, not all of them necessarily congruent' and adds a note of caution that '…it might not apply to all disciplines in the same way' (Muller, 2022, p. 21). Young's work on PK has generated debate among other geography education researchers, for example Firth (2011), Roberts (2014; 2022) and Maude (2016; 2017). Young has often engaged directly in those debates, notably with Roberts in a seminar hosted by the Institute of Education (now part of University College London) in 2013, recordings of which were published on YouTube (Lambert, 2013a and 2013b). The debate between Young and Roberts further reinforced that an understanding of knowledge necessarily transcends the theory/practice divide, but that

the focus taken by educational theorists will often differ to that taken by practitioners and educators. Notwithstanding these debates, and Muller's (2022, p. 21) words of caution, PK has evidently captured the attention of the geography education community, as demonstrated by a growing body of academic and professional literature on the matter, and therefore can be argued as representing an important dimension of geography's disciplinary knowledge.

### 2.2.2 Substantive knowledge, and curriculum knowledge

In contrast to disciplinary knowledge, from the review of academic literature and policy documentation there seems to be a greater consensus in the geography education community regarding the substantive knowledge that comprises the content – or curriculum knowledge – of school geography in England. That consensus is not universal, however, and there are limitations to the categorisation of substantive knowledge employed most commonly in policy documents such as GNC2014 (DfE, 2013a) and by Ofsted (2021; 2023). GA (2022a) also makes reference to substantive knowledge, whilst acknowledging the complexities involved in any attempt to define this kind of knowledge and the limitations arising from other attempts to do so:

> Misunderstandings have also been caused by confusion over what is meant by content, and about the terms 'disciplinary' and 'substantive'… Previous attempts in the UK at outlining a national geography curriculum have represented content as mainly a list of substantive topics without clarifying the disciplinary structure that lies behind them (1991 English National Curriculum), or itemised key concepts, enquiry and expectations but with no guidance on content selection (2007 English National Curriculum; 2022 Welsh Curriculum) (GA, 2022a, p. 11).

In an attempt for clarity, GA (2022a, p. 4) defines substantive knowledge as 'knowing about' and 'knowing where things are', but offers additional context for the term throughout the curriculum framework, suggesting that substantive knowledge underpins all aspects of disciplinary knowledge, and highlighting the 'varied and conflicting' nature of definitions of knowledge (GA, 2022a, p. 4). For geography, the breadth of knowledge about the world around us encompasses both disciplinary knowledge *and* substantive knowledge, with GA (2022a, pp. 5-6) proposing that locational knowledge – 'knowing where things are' – is a characteristic of the substantive knowledge of geography in the same way that a chronological knowledge of the past is a characteristic of history. GA (2022a, p. 6) also raises the need for a minimum entitlement of substantive knowledge to ensure consistency at the national level, whilst advocating for flexibility in the selection of substantive content at appropriate levels by those developing the curriculum.

The substantive knowledge seen in the curriculum documentation underpinning school geography (DfE, 2013a) comprises locational knowledge and place knowledge, human and physical processes, and geographical skills. Geographical skills (and more broadly, geographical practice, or 'being a geographer') can be seen as a form of procedural knowledge GA (2024a) and therefore as part of the disciplinary knowledge of geography relating to geographical application, rather than as substantive knowledge. Components of substantive knowledge, as defined by GNC2014 (DfE, 2013a) are now briefly considered in turn, with the exclusion therefore of geographical skills.

*2.2.2.1 Locational knowledge and place knowledge*

That geography is concerned with location will seem obvious to most, and especially to those who have an understanding of geography as 'the science of relations in space or as the science of spatial distributions' (Holt-Jensen, 2018, p. 264). A popular view of geography is that it is about 'where things can be found', whether towns and cities, rivers and mountains, seas and oceans. Navigating these human and physical locational features is often seen as a skill to be acquired through the study of geography, and this aspect of the subject is closely related, certainly in the public view, to globes, maps, and atlases. However, location is also an associated concept of the key geographical concept of space, and differs from the concept of location as a point that can be found on a map, relating instead to patterns, interactions and distribution. Locational knowledge in school geography tends towards facts and figures – the subject's 'vocabulary' (Lambert, 2017) – and can be associated with a transmission approach to pedagogy, although pedagogically skilful teachers will ensure that locational knowledge is woven throughout the curriculum and evident in every geography lesson.

In the same way that locational knowledge is related but not equivalent to location as a geographical concept, place knowledge is related but not equivalent to place as a geographical concept. Place knowledge as a form of substantive knowledge focuses on the characteristics of places, and the processes that lead to those characteristics. It can often be seen in lessons and curriculum materials as case studies – placing geographical concepts in a real-world setting – and continent and country studies, including those continents, countries and regions that might be specified by the formal curriculum. The conflation of *places*

(substantive place knowledge) and *place* (disciplinary concept) is often identified as a common misconception, observed for example by Ofsted (2023) in its most recent geography subject report, in which the terms *places* and *place* (used as geographical, not generic terms) feature 99 times. However, there seems to be a potential misconception of the distinction between *place*s and *place* within the report itself; at times, when writing about *place*, the report goes on to reflect on *place knowledge* and *places*, and even locational knowledge, rather than the geographical understanding of the *concept of place*. One such example can be found in Ofsted (2023, point 89) where it is stated: 'However, place was a less well-planned aspect of the curriculum in some [secondary] schools. At times, pupils did not understand location well, which resulted in them struggling to understand the processes occurring in different places.' This misconception was also observed by Nayeri and Rushton (2021) in their response to the Ofsted (2021) research review, in which they noted the 'imprecise' nature of parts of the report in relation to place and locational knowledge. This issue exemplifies the need, in high-quality geography education, for a nuanced understanding of substantive and disciplinary knowledge, and of the need for professionals (for example teachers, inspectors, curriculum-makers, textbook writers) to make clear distinctions between substantive and disciplinary concepts when writing and teaching about location, locational knowledge, place, and place knowledge, in order to avoid perpetuating learners' misconceptions.

It may seem obvious to suggest that a geography lesson should include an element of locational and place knowledge, however Roberts (2010) found that this was not always the case in the lessons that the author was observing as a geography teacher educator and

external examiner. Roberts observed that geography lessons were often missing at least one of the three components that she later went on to identify as essential in a 'good geography lesson' (Roberts, 2011): geographical data, geographical concepts, and locational contexts. In relation to the latter, Roberts (2011, p. 4) stated:

> I think that what is studied in geography lessons should be located and placed within a wider context. Places, regions, countries and continents do not exist in isolation but are interconnected; the location of what is studied in relation to other places is significant.

Without substantive locational and place knowledge (geography's 'vocabulary') there is a risk of geographical concepts and processes (geography's 'grammar') being studied in isolation from the contexts in which they occur, thereby limiting the learner's geographical understanding of those concepts and processes.

*2.2.2.2 Human and physical processes*

Geography is frequently categorised as having human and physical components, often with a third category of environmental components being added (Ofsted, 2021). Human processes commonly taught in school geography include those relating to population and urbanisation, economic activity, and development. These often relate closely to recognisable sub-disciplines of geography, such as demography and economic geography, with some more contemporary sub-disciplines having begun to feature in KS5, for example cultural geography (DfE, 2014b). Physical processes commonly taught in school geography include tectonic activity, weather and climate, and landscape systems. Again, there are close connections with academic geography, particularly with earth sciences, and some recognisable sub-

disciplines such as meteorology and geomorphology. Although GNC2014 does not specify environmental processes as a discrete aspect of substantive knowledge, geographers will recognise the study of resource management, biodiversity, and sustainable development, for example, as key aspects of environmental geography that require an understanding of the interactions between human and physical processes. Environmental processes differ from environment as a key concept in geography's disciplinary knowledge, although as with locational and place knowledge and the concepts of location and place, there are a range of conceptions of environment that require a nuanced approach. Lambert and Morgan (2010, p. 139) highlight that 'For many "environment" is synonymous with nature' and go on to state that the concepts of environment and nature are approached in different ways by physical and human geographers. More recently, there is a growing view that the teaching of *environmental processes* (substantive knowledge) and *environment* (as a key concept of disciplinary knowledge) now also requires a serious engagement with climate change and the Anthropocene, with the latter being a concept that is '…profoundly geographical, linking humanity to the non-human world at all scales from local to global, breaking down the barriers between the world of nature and the world of people' (Rawding, 2018, p. 243). In the academy, this view is reflected in the growing sub-discipline of more-than-human-geographies (Lorimer and Hodgetts, 2024).

## 2.3 School geography

Geography is currently a statutory subject at Key Stage 1 (KS1, ages 5-7), Key Stage 2 (KS2, ages 7-11) and Key Stage 3 (KS3, ages 11-14), part of the NC in England. Geography is also likely to underpin the theme 'understanding the world' in the early years foundation stage

(EYFS) curriculum (DfE, 2023a, p. 11). In considering where the geography education journey begins, it should be remembered that 'children are naturally inclined to be geographers from an early age' (Owens *et al*., 2022, p. 20). At the time of writing, the delivery of the NC in England applies only to maintained schools, following the *Academies Act* in 2010 which devolved power to academies and free schools to set their own curriculum on the proviso that the curriculum is broad and balanced (*Academies Act 2010*). More recently, Ofsted (inspecting a range of educational institutions including maintained schools in England) has reinforced this, by stating that 'academies are expected to offer all pupils a broad curriculum that should be similar in breadth and ambition to the national curriculum, and must include English, mathematics, science and religious education' (Ofsted, 2022, point 226). However, the major school inspectorates appointed by the DfE – Ofsted and ISI (the Independent Schools Inspectorate, inspecting association independent schools in England) – must employ some basis for judging the quality of curriculum, whether nationally or more locally devised, and under the current inspection frameworks for both inspectorates, these judgments are made on ambition, breadth, and depth, and in terms of intent, implementation, and impact (ISI, 2019; Ofsted, 2022). What is meant by a 'national curriculum', how and where the curriculum is enacted, and how schools judge – and are judged on – their curriculum are all pertinent to this thesis, and contribute to setting the context for the broad concept of school geography in relation to this research.

GNC2014 is structured around Programmes of Study (PoS) which set out the core knowledge to be covered by the curriculum. A review, not simply of content but even length, of previous iterations of the GNC demonstrates clearly how curriculum content has been scaled back

since the NC was first published in 1988. For example, the original GNC (Department of Education and Science, (1991), taught from 1991 to 1995) was published as one of ten hard copy subject booklets forming the entire NC, with the GNC1991 booklet setting out in greater detail the geographical skills, places and themes against which attainment should be assessed at the end of each key stage. By GNC2007 (DCSF/QCA, 2007) NC documents had been shifted to largely online (rather than hard copy) access, but the scope of the documents remained more extensive and prescriptive; a now ten-page GNC2007 outlined the key concepts, key processes, range and content, and curriculum opportunities that learners should access, along with detailed descriptors of 'attainment targets'. Further detail about these previous iterations of the GNC, along with the timeline for the curriculum reform leading to GNC2014, is set out in Table 2.3.

| **GNC** | **Key Features (Kinder, 2013, p. 98)** |
|---|---|
| 1991 | The first national curriculum for geography →<br>A detailed document with five attainment targets, 114 key stage 3 statements of attainment and prescriptive programmes. Widely seen as content-heavy and unworkable. |
| 1995 | The 'Dearing review' →<br>A slimmer document which identified skills, places and themes.<br>More inviting to teachers but still emphasised content rather than concepts and skills. |
| 1999 | 'Curriculum 2000' →<br>Greater distinction between concepts, skills and content.<br>The 'breadth of study' overemphasised by many schools (and publishers). |
| 2007 | Key stage 3 only (primary phase not revised) →<br>Emphasised key concepts and processes, providing only a minimal framework for content selection. |
| 2014 | 'Core' curriculum →<br>Place knowledge, geographical processes and technical procedures (such as map skills) all given greater emphasis.<br>Skeletal document. |

Table 2.3: Adapted from Kinder (2013, p. 98), 'A very brief history of the geography national curriculum'.

By the time GNC2014 was published (DfE, 2013a) for first teaching from September 2014 (which, a decade on from its publication, remains the current GNC at the time of writing) the curriculum documentation exists principally online and, in PDF form takes no more than seven A4 pages to set out the GNC2014 across KS1-3. The content addresses only the core locational and place knowledge, human and physical geography, and geographical skills and fieldwork that learners are expected to know, apply and understand. GNC2014 does not specify the pedagogical approaches best suited to delivering that core knowledge, or give any indication of how learning can be sequenced in order to achieve continuity or progression across the key stages and in any further study of geography beyond GNC2014. A lack of reference to pedagogical approaches is not to be seen as a deficit in GNC2014; Lambert and Hopkin (2014) argue that a focus simply on 'what to teach' rather than 'how to teach it' *is* the purpose of the curriculum. The focus in GNC2014 on the *what* and not the *how* leaves pedagogical decisions to individual teachers, although as suggested by Lane (2015, p. 55):

> Further research is, however, required to investigate…the epistemological beliefs of geography teachers and to explore the ways in which experienced geography teachers use their knowledge of students' ideas to shape their planning and classroom practice (i.e. the enactment of PCK).

That call for further research was, to some extent, answered the following year by Reitano and Harte (2016) who found that, whilst even pre-service geography teachers can demonstrate the use of PCK (pedagogical content knowledge, after Shulman, 1986; 1987) there were implications for the ways in which teacher educators engage pre-service teachers in PCK. The authors highlighted a need for teacher educators to model PCK effectively (Reitano and Harte, 2016, p. 288) and so it might be concluded that the lack of pedagogical recommendations in GNC2014 should be addressed by adequate initial geography teacher

education (see also section 2.5.1). There is a role too for subsequent high-quality, subject-specific teacher CPD (continuing professional development) that enables geography teachers, including teachers delivering geography in the primary phase, to make links between pedagogical theory and practice, and between the written curriculum, the hidden curriculum, and the enacted curriculum (Cotton, Winter and Bailey, 2013). The GA (2024c, n.p.) advises that:

> a core curriculum is not all that students should be taught. A process of interpretation and localisation of the National Curriculum is essential to ensure that students are engaged with innovative and ambitious learning that has relevance to their lives and challenged to think about 'real world' issues.

This view reinforces that while an ‘essential core’ might be defined, the curriculum of individual schools can (and should) extend beyond that essential core and that there is a need for the curriculum to be situated – what the GA (2024c, n.p.) describes as ‘interpreted and localised’ – further demonstrating the role that geography departments and individual teachers play in curriculum-making, and calling into question the more recent moves towards centralised curriculum-making, for example in MATs and through national organisations such as Oak National Academy (Oak National Academy, 2023).

What follows is a brief, descriptive summary of the characteristics of, and learner profiles at, key stages of the school geography curriculum. This is presented in linear form and covers the period of statutory study of geography in schools in England (KS1-3) as well as optional phases of study across KS4 and KS5. Post-19 study of academic geography in HE is addressed in section 2.4.

### 2.3.1 KS1 and KS2, and the transition to KS3

In England, compulsory education begins in the school year in which a child turns 5 years old, in accordance with *Education Act 1996,* c.56. In exploring geography's place in the primary school curriculum, Martin (2013) examines three themes: geography's status; the nature of geography; and geography's relevance to the education of primary school students. In many respects, these themes are central also to the KS3 curriculum which follows primary geography education, but a persistent process of subject marginalisation in the primary curriculum, especially for foundation subjects (Barnes and Scoffham, 2017; Caldwell *et al.*, 2021) and a lack of teacher preparation and confidence, particularly around geography subject knowledge (Catling, 2011; Duncombe, Cale and Harris, 2018; Clarke and Pike, 2023) prevents the transition of geography's status, nature and relevance from being a smooth progression from primary (KS1 and KS2) to secondary (KS3) geography education. These two particular barriers to the KS1/KS2 to KS3 transition in the geography education journey – subject marginalisation in the primary curriculum, and teacher preparation and confidence to deliver geography subject knowledge – are now considered in turn.

#### *2.3.1.1 Subject marginalisation in the primary curriculum*

Curriculum narrowing persists in some primary schools, as suggested in the findings of Pratt and Atkinson (2020) from a recent small-scale exploratory study of eight primary schools. The authors observed a 'tremendous variety' of approaches to the organisation and implementation of a broad curriculum in some schools which often resulted in the marginalisation of foundation subjects, including the humanities, delivered through topic or

theme work, on themed days, or through a collapsed curriculum (Pratt and Atkinson, 2020, pp. 361-362). It seems therefore that little has changed since Martin (2013, p. 21, after Galton *et al*., 2002) reported geography's status in primary schools as a proportion of curriculum time; at KS1 the percentage of curriculum time devoted to geography was only 3.9%, and at KS2 geography formed just 4.5% of the curriculum (Table 2.4). The contrasting curriculum time for the core subjects of English and mathematics demonstrates clearly the scale of this subject marginalisation, seen across arts and humanities subjects.

| | % of curriculum time at KS1 | % of curriculum time at KS2 |
|---|---|---|
| English | 25 | 26 |
| Maths | 21.5 | 22.5 |
| Science | 8.6 | 9.3 |
| Geography | 3.9 | 4.5 |
| Music | 3.5 | 3.4 |

Table 2.4: Curriculum time in selected subjects in primary schools (%) (Martin, 2013, p. 21).

More recently, Ofsted (2023, n.p.) reported similar findings relating to the time given to geography in the primary school curriculum, stating:

> There was huge variation in this. Some schools had as little as one hour a week for half the year, amounting to around 18 hours. Others had as much as 2 hours a week throughout the year, amounting to around 72 hours. Most fell in the middle of these extremes.

A significant barrier to continuity and progression in the KS2 to KS3 transition in geography therefore remains the limited proportion of the primary curriculum time available for the foundation subjects. The curriculum time for foundation subjects – with geography being just one of those subjects – has been reported as being as low as less than 20% of the overall primary curriculum (Pratt and Atkinson, 2020, p. 361). This narrowing of the curriculum in favour of a focus on the core subjects of English and mathematics remains one

of the principal concerns regarding the transition from primary to secondary geography education in England (Barnes and Scoffham, 2017). The findings of Ofsted's (2023) most recent geography subject report (based on research visits to 50 schools in England between December 2022 and May 2023) suggest that, although there were noted improvements since the previous subject report twelve years earlier (Ofsted, 2011), this issue persists: 'Schools varied widely in the amount of time given to the study of geography, particularly primary schools … When schools combined history and geography into a topic, history usually took precedence, and little geography was taught' (Ofsted, 2023, n.p.). Ofsted continue: 'In primary schools that give very little time to geography, teachers are more likely to teach the subject in superficial ways' (Ofsted, 2023, n.p.) and describe this marginalised curriculum time in primary schools as a 'significant barrier' to high-quality geography lessons taking place. It could be argued that the value of what little curriculum time is available for geography education in the primary phase must be maximised through building primary practitioners' confidence in their delivery of a high-quality, engaging geography curriculum at KS1 and KS2, something that Clarke and Pike (2023) suggested might be achieved through well-designed CPD opportunities. Ofsted (2023, n.p.) note that such opportunities for subject-specific CPD were rarely found in schools in England, finding that:

> Teachers of all phases received very little subject-specific continuing professional development (CPD). The areas where there was the greatest need for this were planning effective fieldwork, using GIS and teaching procedural knowledge.

The use of geographical information systems (GIS) and the teaching of procedural knowledge were found by Ofsted (2023) to be issues more pertinent to KS3, and are addressed in this context in greater depth in section 2.3.2 of this chapter. However, Ofsted's findings regarding the need for CPD around planning effective fieldwork are in agreement with those of Clarke

and Pike (2023) who also found that fieldwork, or use of the locality and outdoor learning, was an aspect of primary geography teaching in Ireland that could be impacted positively through engagement with CPD that developed communities of practice and provided opportunities for collaborative planning.

Although a lack of curriculum time remains the most prevalent barrier leading to the marginalisation of geography in the primary curriculum, it seems that *over*-delivery of the primary geography curriculum in some schools is also an issue, and a potential barrier to an effective KS2 to KS3 transition. Ofsted found that some of the primary schools that they visited were going beyond curriculum requirements at KS2, especially in their coverage of place knowledge, but that this had (doubtless unintended) implications for learners' subsequent experiences at KS3:

> When schools went beyond the scope of the primary national curriculum, there was little thought about the impact this would have on transition between primary and secondary school. For example, leaders did not consider how the content pupils learned about African and Asian regions related to the national curriculum content for key stage 3. This can lead to teachers in key stage 3 spending time repeating content that some pupils in their class have covered in key stage 2. Given the variation in what was covered in primary schools, and the depth in which it was covered, it was difficult for leaders in secondary schools to build on pupils' geographical knowledge (Ofsted, 2023, n.p.).

A lack of communication between primary teachers and secondary geography teachers is likely to exacerbate this, and Ofsted (2023) also found that teachers in the primary schools that they had visited were rarely consulting other stakeholders in the subject community, for example subject associations, for guidance on their geography curriculum. Clarke and Pike (2023, p. 922) found that some of the participants in their research reported feeling

‘“isolated” as teachers of geography’ but that developing communities of practice through CPD might help to address these feelings of isolation. One of the aims of *this* research was to further explore the extent to which stakeholders see the subject community as being important in strengthening transitions at all stages of the geography education journey. There are potential benefits here specifically for the KS2 to KS3 transition, given the body of research that indicates that subject marginalisation remains a barrier in primary schools and that primary teachers might therefore benefit from co-construction and collaboration in order to make the most of what curriculum time is available for the delivery of GNC2014 at KS1 and KS2. These themes are addressed in greater depth in section 2.5.

*2.3.1.2 Teacher preparation and confidence in delivering geography subject knowledge*

GNC2014 sets out a Purpose of Study (DfE, 2013a, n.p.) which is common across the three key stages, and demonstrates an expectation of progression in subject knowledge from KS1 to KS3 (Table 2.5). Closer inspection of GNC2014 for KS1 and KS2 (DfE, 2013a) reveals an additional level of challenge inherent in the quantity of subject content, which is often at odds with the pedagogical approaches advocated for high-quality geography education in the primary phase, for example ‘…the use of children’s ‘ethno’ or everyday geographies, enquiry-based stances and strategies and the use of the locality’, as proposed by Clarke and Pike (2023, p. 913).

| **The Geography National Curriculum: Purpose of Study (KS1-3)**<br>A high-quality geography education should inspire in pupils a curiosity and fascination about the world and its people that will remain with them for the rest of their lives. Teaching should equip pupils with knowledge about diverse places, people, resources and natural and human environments, together with a deep understanding of the Earth's key physical and human processes. As pupils progress, their growing knowledge about the world should help them to deepen their understanding of the interaction between physical and human processes, and of the formation and use of landscapes and environments. Geographical knowledge, understanding and skills provide the framework and approaches that explain how the Earth's features at different scales are shaped, interconnected and change over time. | | |
|---|---|---|
| **KS1**<br>Pupils should develop knowledge about the world, the United Kingdom and their locality. They should understand basic subject-specific vocabulary relating to human and physical geography and begin to use geographical skills, including first-hand observation, to enhance their locational awareness. | **KS2**<br>Pupils should extend their knowledge and understanding beyond the local area to include the United Kingdom and Europe, North and South America. This will include the location and characteristics of a range of the world's most significant human and physical features. They should develop their use of geographical knowledge, understanding and skills to enhance their locational and place knowledge. | **KS3**<br>Pupils should consolidate and extend their knowledge of the world's major countries and their physical and human features. They should understand how geographical processes interact to create distinctive human and physical landscapes that change over time. In doing so, they should become aware of increasingly complex geographical systems in the world around them. They should develop greater competence in using geographical knowledge, approaches and concepts [such as models and theories] and geographical skills in analysing and interpreting different data sources. In this way pupils will continue to enrich their locational knowledge and spatial and environmental understanding. |
| **Locational Knowledge** | | |
| **KS1**<br>name and locate the world's 7 continents and 5 oceans<br><br>name, locate and identify characteristics of the 4 countries and capital cities of the United Kingdom and its surrounding seas | **KS2**<br>locate the world's countries, using maps to focus on Europe (including the location of Russia) and North and South America, concentrating on their environmental regions, key physical and human characteristics, countries, and major cities<br><br>name and locate counties and cities of the United Kingdom, | **KS3**<br>extend their locational knowledge and deepen their spatial awareness of the world's countries, using maps of the world to focus on Africa, Russia, Asia (including China and India), and the Middle East, focusing on their environmental regions, including polar and hot deserts, key physical and |

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| | geographical regions and their identifying human and physical characteristics, key topographical features (including hills, mountains, coasts and rivers), and land-use patterns; and understand how some of these aspects have changed over time<br><br>identify the position and significance of latitude, longitude, Equator, Northern Hemisphere, Southern Hemisphere, the Tropics of Cancer and Capricorn, Arctic and Antarctic Circle, the Prime/Greenwich Meridian and time zones (including day and night) | human characteristics, countries and major cities |
| **Place Knowledge** | | |
| **KS1**<br>understand geographical similarities and differences through studying the human and physical geography of a small area of the United Kingdom, and of a small area in a contrasting non-European country | **KS2**<br>understand geographical similarities and differences through the study of human and physical geography of a region of the United Kingdom, a region in a European country, and a region in North or South America | **KS3**<br>understand geographical similarities, differences and links between places through the study of the human and physical geography of a region in Africa and a region in Asia |
| **Human and Physical Geography** | | |
| **KS1**<br>identify seasonal and daily weather patterns in the United Kingdom and the location of hot and cold areas of the world in relation to the Equator and the North and South Poles<br><br>use basic geographical vocabulary to refer to:<br>key physical features, including: beach, cliff, coast, forest, hill, mountain, sea, ocean, river, soil, valley, vegetation, season and weather | **KS2**<br>describe and understand key aspects of:<br><br>physical geography, including: climate zones, biomes and vegetation belts, rivers, mountains, volcanoes and earthquakes, and the water cycle<br><br>human geography, including: types of settlement and land use, economic activity including trade links, and the distribution of natural resources including energy, food, minerals and water | **KS3**<br>understand, through the use of detailed place-based exemplars at a variety of scales, the key processes in:<br><br>physical geography relating to: geological timescales and plate tectonics; rocks, weathering and soils; weather and climate, including the change in climate from the Ice Age to the present; and glaciation, hydrology and coasts<br><br>human geography relating to: population and urbanisation; international development; |

| | | |
|---|---|---|
| key human features, including: city, town, village, factory, farm, house, office, port, harbour and shop | | economic activity in the primary, secondary, tertiary and quaternary sectors; and the use of natural resources<br><br>understand how human and physical processes interact to influence and change landscapes, environments and the climate; and how human activity relies on the effective functioning of natural systems |
| **Geographical Skills and Fieldwork** | | |
| **KS1**<br>use world maps, atlases and globes to identify the United Kingdom and its countries, as well as the countries, continents and oceans studied at this key stage<br><br>use simple compass directions (north, south, east and west) and locational and directional language [for example, near and far, left and right], to describe the location of features and routes on a map<br><br>use aerial photographs and plan perspectives to recognise landmarks and basic human and physical features; devise a simple map; and use and construct basic symbols in a key<br><br>use simple fieldwork and observational skills to study the geography of their school and its grounds and the key human and physical features of its surrounding environment | **KS2**<br>use maps, atlases, globes and digital/computer mapping to locate countries and describe features studied<br><br>use the 8 points of a compass, 4- and 6-figure grid references, symbols and key (including the use of Ordnance Survey maps) to build their knowledge of the United Kingdom and the wider world<br><br>use fieldwork to observe, measure record and present the human and physical features in the local area using a range of methods, including sketch maps, plans and graphs, and digital technologies | **KS3**<br>build on their knowledge of globes, maps and atlases, and apply and develop this knowledge routinely in the classroom and in the field<br><br>interpret Ordnance Survey maps in the classroom and the field, including using grid references and scale, topographical and other thematic mapping, and aerial and satellite photographs<br><br>use Geographical Information Systems (GIS) to view, analyse and interpret places and data<br><br>use fieldwork in contrasting locations to collect, analyse and draw conclusions from geographical data, using multiple sources of increasingly complex information |

Table 2.5: The geography national curriculum (DfE, 2013a): an overview of the KS1/2 to KS3 transition.

Previous to the introduction of GNC2014, Catling (2011, p. 26) had described the 'challenging marriage' to be made, on the one hand, between the need for national curricula which prescribe the subject content which must be studied – including now, in the case of GNC2014, the expectation that students by KS2 must '…extend their knowledge and understanding beyond the local area…' (DfE, 2013a, n.p.) – and on the other hand, a children's geographies approach which values children's geographical experiences and enables them to be active participants in their own geographical learning (Catling, 2011). Compounding this tension between subject content and subject pedagogy, Catling also highlighted the barriers of '[a] lack of teacher confidence in their understanding of geography, their awareness of their children's geographies, and limited experience in planning and developing their curriculum' (Catling, 2011, p. 26). Though Catling (2011) was writing before the curriculum reforms (DfE, 2013b) which led to the current iteration of the GNC (DfE, 2013a), the more recent findings of Pratt and Atkinson (2020), Caldwell *et al.* (2021) and Clarke and Pike (2023) suggest that little has occurred since to resolve the barriers which limit a smooth transition from KS1/2 to KS3 geography. These are barriers which continue to lead to the disparity in children and young people's experiences of high-quality geography education in primary schools in England (Ofsted, 2011; Ofsted, 2021; Freeland, 2021; Ofsted, 2023) and which have in the past led to progression in geographical learning stalling at KS3 (Ofsted, 2015).

Data on the qualifications of primary school teachers can be difficult to determine, at least in relation to subject specialism. HM Government (2024a) data on the highest qualification held by teachers in England shows that of the 529,193 FTE (full time equivalent) teachers

working in primary settings in 2023/24, 473,207 held a degree or higher qualification, whether a Batchelor in Education (BEd) degree or Postgraduate Certificate in Education (PGCE). While the content of each BEd programme will vary, this level 6 qualification – usually a three- or four-year programme in UK universities – often includes qualified teacher status on successful completion. The content of a BEd is more broadly education-focused than [school] subject specific, and it has also been suggested that this lack of subject-specific focus could be a barrier in primary ITE (Perry *et al*., 2019). In their review of the literature relating to the ITE curriculum, Perry *et al*. (2019, p. 14) suggested that, in primary ITE in England, 'an excessive focus on delivery of the school curriculum and preparation to be generalised, multi-subject teachers…may be to the detriment of gaining understanding of key issues for primary education such as the relationship between subject knowledge and pedagogic knowledge'. It could be argued that primary teachers who have completed a BEd will be well versed in matters of curriculum planning, given the subject content for education studies (as specified by the QAA Subject Benchmark Statement for that discipline) should 'provide students with a broad and balanced knowledge and understanding of the principal features of education in a wide range of contexts' (QAA, 2019c, p. 6). However, the central importance of teachers' subject specialist knowledge should not be underestimated, with Martin (2008, pp. 12-13) noting that, in relation to teacher effectiveness:

> the beliefs held about a subject, the assumptions made about how it operates as a means of understanding the world, and the extent to which this is explicit are important considerations. In primary geography, this is further complicated by the fact that the majority of primary school teachers are non-geographers.

Given the role Martin (2008) found was played by beliefs and assumptions, this aspect of teacher effectiveness therefore, particularly in relation to subject-specialism in the primary phrase, appears to be deeply personal and individual. More recently, Clarke and Pike (2023,

p. 918) have similarly found that teachers' own personal experiences of the subject influenced their practice, highlighting that this influence can be positive, even when the teachers' own experiences of learning the subject had been negative: 'As a result of these experiences, these participants illustrated that they tried to avoid teaching in this way by trying to make teaching geography more engaging and making it as interesting'. In this work, Clarke and Pike (2023) found that, when teachers had enjoyed learning geography themselves, they often replicated the ways in which they had been taught and incorporated into their practice similar learning practices that had 'worked' for them as learners. There are clearly implications here for teachers' pedagogical knowledge, but also for teachers' subject knowledge. This largely 'non-geographer' (Martin, 2008) primary teaching workforce is required to deliver a GNC at KS1 and KS2 that includes locational and place knowledge, core concepts of human and physical geography, and geographical skills and fieldwork (DfE, 2013a). Hopkin and Martin (2018, p. 27) highlighted lack of subject expertise, therefore, as another potential barrier to the delivery of high-quality geography education at KS1 and KS2, in that:

> Whereas in secondary schools geography is often (but not always) led and taught by geography specialists with high levels of subject and pedagogic knowledge founded in the discipline, the reverse is true in primary schools where geography is often (but not always) led and taught by teachers with limited training or specialist expertise.

More recently, Ofsted (2023) reported that some leaders in primary schools in England expressed frustration that, although GNC2014 aids them in deciding which topics to teach, there is no guidance on what content should be taught in relation to those topics. Ofsted (2023) also found that there seemed to be a limited understanding of the importance of geographical concepts in primary geography, and that improving this might also help to address the difficulties that leaders had in selecting content to be taught, suggesting that 'An

understanding of concepts would help leaders who are responsible for curriculum planning to decide what to teach about the topics in their curriculum' (Ofsted, 2023, n.p.).

Primary teachers' conceptions of geography have been the subject of extensive research over a time period spanning more than one version of the GNC for England (for example: Catling *et al.*, 2007; Catling, 2011; Catling and Martin, 2011; Catling, 2013; Catling and Morley, 2013; Puttick, Paramore and Gee, 2018). Research by Morley (2012) drew on a wide range of studies carried out in a variety of education systems and contexts (including Calderhead, 1988; Marton, Dall'alba and Beaty, 1993; Barratt Hacking, 1996; Walford, 1996; Martin, 2000; Bradbeer, Healey and Kneale, 2004; Catling, 2004; Walshe, 2007; Alkis, 2009, all cited in Morley, 2012) to highlight that 'students' perceptions of the nature and purpose of primary geography' are nuanced, but found in their own research that overall the participants '…had an information-orientated perception of geography and did not appear to fully appreciate the breadth of the subject' (Morley, 2012, p. 123). However, the findings of Ofsted's (2023) geography subject report challenges the view that primary geography teachers lack the subject knowledge to teach geography confidently, stating that:

> In most primary and secondary school lessons, teachers had the subject knowledge necessary to be able to teach effectively. In most cases, they could use this knowledge to plan for, spot and address misconceptions, as well as to provide rich examples and anecdotes to help bring abstract ideas to life (Ofsted, 2023, n.p.).

Reporting on the outcomes of 23 geography subject inspections of primary schools between January and March 2020, Freeland (2021) specifically identified a lack of focus on the KS1/2 to KS3 transition as being an area for development in the ways in which schools in primary

and secondary phases worked together, suggesting that greater support from secondary geography teachers for primary teachers – few of whom '…had actually been trained in teaching geography, although some could remember a brief session as part of their initial teacher training' (Freeland, 2021, n.p.) – might strengthen the transition between KS1/2 and KS3. This further supports the aim of this thesis, in encouraging greater co-construction and collaboration between different phases of geography education, and in seeing geography teacher educators and geography education researchers as ideally placed mediators of such curriculum co-construction and collaboration. This is discussed in greater depth in section 2.5.

### 2.3.2 KS3, and the transition to KS4

Most learners in England begin KS3 at the age of 11, concurrent with a move from primary school to secondary school, with the exception of learners who are enrolled in a small but growing number of 'through schools' or 'all-through schools' (HM Government, 2024b). All-through schools remove the requirement for an individual child to move school setting at all during their education, thereby removing the physical transition that most learners will experience between KS2 and KS3. Harris and Jones (2022, p. 231) explicitly raise 'continuity, progression, and relevance of the curriculum' as opportunities presented in all-through schools, whilst at the same time highlighting the lack of a 'critical mass of robust empirical studies' (Harris and Jones, 2022, p. 231) into these kinds of schools, particularly into the complexities faced by school leaders in these settings. One such challenge which has relevance to this thesis is the increased demand placed on teachers' practices, and indeed teachers' identities, in all-through schools:

> For staff joining an All-Through school, whether with a primary or secondary background, there is the inevitable sense of loss when moving from a school where their expertise was congruent and shared, to a larger, more diverse, unfamiliar school setting where they may be required to teach across phases for the first time (Harris and Jones, 2022, p. 233).

It should not therefore be assumed that an all-through model will result in a smoother KS2 to KS3 transition for learners, and in fact this remains an under-researched area of the English education system (Harris and Jones, 2022); this is discussed further in Chapter 7. However, the authors do offer eight potential benefits relating to transition, summarised in Table 2.6.

| **From Harris and Jones (2022)** |
|---|
| Children follow the same educational/pedagogical journey offered by the school, over time. |
| Teachers know pupils over a longer period, thus offering young people greater stability and more personalised learning opportunities. |
| There are no disruptive transition phases for learners, so the anxiety associated with transition is removed. |
| Primary-age pupils have access to state-of-the-art specialist subject facilities used by secondary schools e.g. science labs, sports halls. |
| Primary and secondary specialists work together and there is teaching across phases offering opportunities for rich professional learning and growth. |
| Secondary pupils can mentor and support primary age pupils in the same school. |
| Links with the community are deeper because children stay in one school, so links with parents, families and carers become very well established. |
| Leadership teams tend to reflect a mix of expertise that covers all stages or phases of learning. |

Table 2.6: Typical characteristics of all-through schools (adapted from Harris and Jones, 2022, pp. 231-232).

For the majority of learners in England, the move from primary school to secondary school also marks the transition from KS2 to KS3. Although there was a brief move towards a condensed, two-year KS3 (to accommodate for a three-year GCSE) in some schools c. 2010, in the majority of secondary schools in England, KS3 forms the first three years of secondary education. In 2023/24, there were 1,977,197 learners in KS3, in mainstream secondary

education (including all-through schools) in England (HM Government, 2024c). The total teaching workforce in the secondary sector in 2023/24 was 610,602 FTE (HM Government, 2024d). The government reported that in 2023/24, in secondary schools in England, although 12.9% of geography teaching hours were taught by teachers with no relevant post A-level qualification, 73.6% of geography teaching hours were taught by teachers with a degree or higher qualification in geography (HM Government, 2024e). The extent to which the methodology for this dataset takes into consideration qualifications in cognate disciplines such as ES3 (earth sciences, environment sciences, environmental studies) is not known, but the metric 'any *relevant* post A-level qualification' (emphasis added) can be perhaps interpreted to more broadly include related disciplines; if a teacher holding a relevant post A-level qualification is used as a measure of subject-specialist teaching, 87.1% of geography teaching hours in 2023/24 were taught by teachers with a specialist disciplinary grounding (HM Government, 2024e). This partially reinforces the earlier claims of Hopkin and Martin (2018, p. 27) that – in contrast to primary schools – in secondary schools, geography is more often taught by subject-specialists. The caveat 'partially' arises when considering that Hopkin and Martin (2018, p. 27) described these subject-specialists as having 'high levels of subject and pedagogic knowledge founded in the discipline' but it cannot be assumed that having a degree in geography (indicating a standard of academic *subject* knowledge, in itself of great breadth and diversity and having varying connections to the school subject) means that an individual will possess the *pedagogic* knowledge alluded to by Hopkin and Martin. Some five years later, it was observed by Ofsted (2023) that non-subject-specialist teachers are still often deployed in KS3, in part due to continued difficulties with recruiting specialist geography teachers. The degree to which this was happening

varied, with Ofsted (2023, n.p.) noting that in most schools, 'at least some lessons are taught by non-specialists'. Of greater concern was the finding that:

> In a few schools, the majority of key stage 3 lessons are taught by non-specialists. These teachers are often not supported well enough to teach geography. They are not able to provide the same kind of rich explanations as their specialist colleagues, and are less able to identify and address misconceptions (Ofsted, 2023, n.p.).

In the six years since Hopkin and Martin (2018) published their work, the teacher recruitment crisis has worsened significantly, with the most recent forecasts from the National Foundation for Educational Research (NFER) suggesting that:

> just 23,000 [people] are likely to enter postgraduate ITT in September, which is lower than both the 29,000 recruited in the year before the pandemic and far below the combined target of more than 33,000… Eleven out of 17 secondary subjects [including geography] are highly likely to be below target… Primary postgraduate recruitment, which is usually at or above target, is on course to be around 15 per cent below target (NFER, 2024, n.p.).

Therefore it is unsurprising that the Ofsted (2023) report highlights a lack of subject-specialist teachers as a specific barrier to the delivery of high-quality lessons; NFER report similar issues in the core subjects of English, mathematics and science, all of which have seen a drop in the percentage of lessons being taught by subject-specialists (NFER, 2024). NFER (2024, n.p.) attributes this to a period of 'sustained under-recruitment' and flags that 'unfilled vacancies and temporarily-filled posts are the highest since 2010 when comparable records began'. Although the recruitment crisis appears, therefore, to be hitting all phases (primary and secondary) and subjects, the number of subject-specialist geography teachers has been particularly impacted by a more sustained period of under-recruitment in comparison to recruitment in some other secondary subjects. The current state of geography teacher recruitment can be seen from the latest *Teacher Labour Market in*

*England Annual Report 2024* in which the postgraduate ITT recruitment against target for 2023/24 is presented (McLean, Worth and Smith, 2024, p. 11). This data reveals that whilst the recruitment of geography teachers in 2023/24 fell short of target (56% of the target was met), history was one of three secondary subjects to exceed the target (119%) along with physical education (181%) and classics (196%), suggesting that the crisis of teacher recruitment is having a greater impact on the geography teaching workforce than in some other subject areas. Similar data for the last five years shows that recruitment targets for geography teachers had previously been missed and have often fallen below 100% (Worth and Van den Brande, 2019; Worth and Faulkner-Ellis, 2022; McLean, Worth and Faulkner-Ellis, 2023; McLean, Worth and Smith, 2024) with only temporary uplifts for geography teacher recruitment (seen across many secondary subjects, and in the primary phase) during and immediately after the Covid-19 pandemic (Worth, 2020; Worth and Faulkner-Ellis, 2021), suggested by the authors to be a result of the Covid-19 induced recession (Worth and Faulkner-Ellis, 2021, p. 14).

The study of the NC in England ends with the completion of KS3, at which point learners select a smaller number of subjects for further study at KS4 in addition to the continuation of their compulsory education in the core subjects of English, mathematics, and science. For the majority of learners in schools in England, the transition from KS3 to KS4 occurs between 13 and 14 years of age, meaning that many of those learners will not have a formal geographical education beyond this age. The KS3 to KS4 transition is therefore a crucial one, if the subject community wishes for greater numbers of learners to continue their geography education journey. Most schools operate a system of 'options' selection for learners as they

progress from KS3 to KS4, a system whereby the optional, non-core subjects available for study at KS4 – usually through the completion of a GCSE – are grouped into 'option blocks' that correspond to a school's teaching capacity and timetabling constraints. Secondary school teachers in England will be familiar with the process of KS3 learners 'choosing their options', and for teachers of non-core subjects such as those in the humanities, languages, and arts, this transition is recognised as being relatively high-stakes as these subject communities aim at retaining or building uptake of their subjects at GCSE level. This 'competition' between optional subjects has been compounded by metrics such as the English Baccalaureate (EBacc). The EBacc is 'a set of subjects at GCSE that keeps young people's options open for further study and future careers' (DfE, 2019a, Introduction), achieved by obtaining qualifications in English language and literature, mathematics, the sciences, a humanities subject (either geography or history, with religious studies being excluded entirely from the EBacc) and a language. It has been suggested by Marsh (2016) that secondary school accountability measures – such as the EBacc, although the argument could also be applied to measures such as Attainment 8 and Progress 8 in England (DfE, 2020) – encourage and reward learners, or perhaps more accurately the schools that influence those learners, for the selection of particular combinations of subjects for further study. The potential impact of the introduction of the EBacc has been under consideration for some time; Ofsted's (2015) report into KS3 considered the findings of approximately 1,600 routine inspections between September 2013 and March 2015, along with monitoring inspections, interviews with senior leaders, questionnaire responses from students in KS3, and 14 'good practice' visits (Ofsted, 2015, p. 4). Crucially, the report also drew on the outcomes of 55 school inspections in 2015 into the EBacc subjects with the fewest entry numbers, comprising modern languages, history and geography, so it can be determined

that the weaknesses identified in KS3 provision by Ofsted (2015) were particularly prevalent in geography education. These weaknesses included 'teaching that failed to challenge and engage pupils' (Ofsted, 2015, p. 5) and consequently achievement that was found to be 'not good enough in…one third of the geography classes' (Ofsted, 2015, p. 5). The impact on the KS3 to KS4 transition was explicitly highlighted as an issue of concern:

> It is no surprise, therefore, that there is low take-up in these subjects at GCSE. Some pupils told inspectors that they were not taking these EBacc subjects at Key Stage 4 because they did not enjoy them or had found them difficult at Key Stage 3... A small number made an explicit link between their choices and the quality of teaching that they had received at Key Stage 3 (Ofsted, 2015, p. 5).

It is suggested therefore that the main contributing factor to low uptake at KS4 (GCSE) is a lack of enjoyment, rather than the quality of teaching which is given as a secondary factor by a smaller number of those students questioned (Ofsted, 2015). This indicates that little progress had been made since the similar findings, over a decade previously, of Adey and Biddulph (2001) and Biddulph and Adey (2003; 2004) whose research covered student perception at both KS3 and KS4. In the recent geography subject report conducted by Ofsted (2023, n.p.) it is noted that:

> The improvements in geography education in secondary schools since the previous Ofsted subject report have been significant. This is especially true in key stage 3, a key stage which was previously highlighted as being of particular concern for this subject.

The issues impacting the transition between KS3 and KS4 which were raised so starkly in Ofsted (2015) seem to have been sufficiently addressed by secondary schools, or at least were not observed in the 50 schools in England that were visited in order to generate Ofsted's (2023) geography subject report. Even though some secondary schools appeared to be suffering from the same subject marginalisation as observed in primary schools, there

was still evidence that in some, an ambitious geography curriculum was being offered to learners, and that took into account transition between different phases of geography education:

> However, a few schools with limited time in key stage 3 still created a highly ambitious curriculum. In these cases, they ensured that they built on what pupils had learned in key stage 2, rather than repeating it. They also had a very clear plan that set out how pupils' knowledge would build across key stages 3 to 5 (Ofsted, 2023, point 82).

Elsewhere in the report, there was evidence of transition being planned for: 'For example, one school knew that they wanted to study the Nepal earthquake in key stage 4, so they ensured that they had studied the region in different contexts throughout key stage 3' (Ofsted, 2023, point 88). These can be viewed as signs of progress, even in turbulent times; in the eight years since the publication of Ofsted's (2015) review of KS3, and in the twelve years between the publication of Ofsted's geography subject reports in 2011 and 2023, substantial events have impacted the education system in England, including large-scale curriculum reform (c. 2010-2014) and reforms to assessment across a similar time period, and a global Covid-19 pandemic. However, caution should be applied to the findings of reports generated from small samples; in the case of the most recent report in 2023, the 50 schools visited represent a small proportion of the students and teacher workforce quantified elsewhere in this chapter.

At the time of writing, the education system in England is subject to a change in UK government. Impacts on education policy in the coming months and years as a result of this change will likely further influence the position of subjects in the school curriculum in

England, including geography. In July 2024 the Secretary of State for Education announced a review of curriculum and assessment across KS1-KS5 (Phillipson, 2024a), with recommendations to be published in 2025. Therefore, subject departments in schools will continue to face the need to 'market' their subject to learners who can, at KS4 and beyond, choose the subjects with which they continue to engage. It can be argued that geography benefits from any ongoing incentivisation related to the EBacc, as one of the central EBacc subjects; indeed, geography departments have often anecdotally attributed the EBacc to a growth in student uptake at KS4, even in its early existence in the English education system (Lambert, 2013c). However, geography's place in an increasingly 'market-ised' and 'consumer-led' educational climate leaves the school subject susceptible to curriculum-making not grounded in the conceptual approach extolled by Lambert and Morgan (2010) but instead designed to attract higher numbers of learners that cannot be supported by current levels of practising geography teachers with a strong foundation in curriculum-making nor the deep, disciplinary knowledge required to help learners excel in the subject. The GA (2016a, p. 5) stated:

> The large increase in the number of geography GCSE candidates … is of course to be welcomed. But more candidates require more classes, and more specialist teachers…it seems self-evident that without sufficient specialist teachers the ambition for all pupils underpinning the EBacc risks being undermined. Deploying non-specialists to teach Key Stage 3 geography will be counter-productive in the longer term.

Additionally, in the same publication, the GA (2016a, p. 6) recognise the specific role that universities – in particular, HEI-led geography teacher education – can play in supporting high-quality geography curriculum-making, by adding a recommendation that '…allocations [of student teachers] to universities are sufficient to safeguard their role in professional development, curriculum innovation and research in geography education' (see also section

2.5). It is clear that the adoption and expansion of initiatives such as the EBacc has the potential for both positive *and* negative impacts on the geography education journey, with no clear consensus in the literature on one or the other; more recently, it has been suggested that a continued focus on the EBacc is putting pressure on a subject-specific workforce with historically low but concerningly rising rates of leaving the teaching profession (GA, 2015; Tapsfield, 2018; Worth and De Lazzari, 2017; cited in Holbrey, 2019) attributed to 'increasing student populations and the introduction of the EBacc' (Holbrey, 2019, p. 56), and a continued geography teacher recruitment crisis (Worth and Faulkner-Ellis, 2022) is likely to perpetuate these pressures.

Students' perceptions of subjects have been found to influence the KS3 to KS4 transition. Burnett and Crowe (2016) used a mixed methods approach to exploring students' perceptions of geography at school and examine continuity and progression between KS3 and KS4. One of the main findings of Burnett and Crowe (2016, p. i) resonated strongly with Martin (2013), in that 'students' perceptions of geography at school are focused on the everyday study of the world and its relevance to their daily lives'. Crucially, Burnett and Crowe saw teachers as influential in these perceptions, centralising again the role of the teacher as the vehicle through which students experience the geography curriculum, and highlighting the necessity for subject-specialist teaching:

> The influence teachers have on students' perceptions of geography was also clear through the teacher interviews. Both teachers agreed that it is better for geography to be taught by teachers with a specialist background in geography as this has a direct influence on students' perceptions of the discipline as a whole (Burnett and Crowe, 2016, p. 17).

This suggests that Catling's (2011) earlier concerns regarding lack of teacher confidence in subject knowledge at the primary phase is not only an issue pertinent to the KS1/2 to KS3 transition, but also has potentially detrimental impacts on the KS3 to KS4 transition. This was further supported by Ofsted (2015) as being a problem for secondary geography education, but to some extent has since been challenged as being a current barrier by the findings of Ofsted (2023, 'discussion of findings') that 'Most geography lessons are taught well. At their best, teachers have the subject knowledge to provide explanations containing examples and anecdotes that help bring places, processes and geographical issues to life'. However, elsewhere in the report, Ofsted (2023, point 38) do suggest that '…there were occasions when misconceptions were passed on to pupils by their teachers. Sometimes this was because of the teacher's own lack of subject knowledge…', suggesting that – at least in the 50 research visits on which Ofsted (2023) based their report – there were varied levels of teacher confidence with subject knowledge, and lingering issues with non-specialists teaching geography at KS3 (Ofsted, 2023, point 121).

### 2.3.3 KS4, and the transition to KS5

In England in 2023, 279,082 students were entered for GCSE Geography (JCQ, 2024a), an increase from 211,721 in 2015 (JCQ, 2015) when Ofsted's damning report *Key Stage 3: The Wasted Years?* was published (Ofsted, 2015). In 2023, geography was the sixth most popular subject studied at GCSE in England (JCQ, 2024a). Geography appears therefore to be in 'good health' at KS4 in schools in England; this is perhaps an explanation for the apparent lack of research into this key stage of geography education, with the majority of related literature focusing specifically on the transition from KS3 to KS4 (Adey and Biddulph, 2001; Biddulph

and Adey, 2003; 2004; Burnett and Crowe, 2016) rather than the nature of the subject at KS4. Although the research by Burnett and Crowe (2016) has some relevance as it was carried out subsequent to the GCSE reforms of 2014, it is now approaching a decade old. More recent work focusing on KS4 in geography is more pedagogical in nature (Peppin, 2020; Hunt, 2022) and published in a professional, rather than academic, journal. There are interesting pieces of academic research that gathered data from KS4 learners as participants, for example a timely and important investigation of geography's 'whiteness', by Winter (2022) or from KS4 teachers as participants, for example Dunn and Darlington's (2016) research into how classroom teachers approached differentiation in their delivery of GCSE Geography. There were no publications relating to the focus of this thesis, i.e. on the relationship between the nature of the subject at this key stage and the implications for continuity and progression in the transition to KS5, suggesting that this is an under-researched phase of the geography education journey.

The primary (KS2) to secondary (KS3) transition is a significant one, and one with whole-school implications as it (usually) involves the physical movement of learners from one educational setting to another. The 16-19 transition, similarly, is characterised by a physical movement between educational settings, and is also of great interest to HEIs because of its strong financial implications and potential impact on student satisfaction metrics such as the National Student Survey (NSS, n.d.). That the KS4 to KS5 transition is under-researched by comparison can perhaps be explained by its comparatively low-stakes status for schools. Ofsted (2023) did, however, find that exam specifications were often being used as a 'de-facto curriculum' for KS4 (Ofsted, 2023, point 83). Elaborating further on this, Ofsted (2023,

n.p.) suggested that '[l]eaders had not taken the same deliberate approach to curriculum design as they had at key stage 3. As a result, the curriculum in key stage 3 was sometimes more ambitious than the curriculum in key stage 4'. It appears possible, therefore, that the lack of published work focusing on KS4 is mirrored by a lack of attention on this key stage in schools. Other KS4 concerns highlighted by Ofsted (2023) related to poor sequencing of learning in the KS4 geography curriculum (point 102) and a lack of synopticity (point 103), and the tensions between heavy content and limited curriculum time (points 125, 141, and 142). The issues found by Ofsted in 2023 relating to sequencing were also raised two years previously in their research review (Ofsted, 2021, n.p.), specifically that, in relation to progress tracking, '…knowledge of complexity is often not reached until pupils are nearing the end of the key stage. In fact, many concepts are not properly appreciated until key stage 4 or even sixth-form study'. No further elaboration is given regarding which concepts were observed to be most susceptible to this lack of appreciation, and KS4 in general is only referenced three times throughout the research review, most often (two of the three references) in relation to GCSE uptake. Of the seven references to GCSE in Ofsted (2021), six relate to examination specifications or criteria or GCSE uptake, with the remaining reference reporting the proportion of GCSE hours taught by subject-specialists (reported as 'approximately 80% for the least deprived schools and 70% for the most deprived schools').

Huckle (2024) proposed a curriculum framework for KS4 geography – underpinned by the same GA Curriculum Framework (GA, 2022a) that has been applied to this thesis – that the author believes addresses the 'global crisis' (Huckle defines this as including crises of economy, nature, place, space, and governance) through which young people are currently

living. Huckle (2024, p. 20) chooses to focus attention on the needs of 'older students (14-18 year-olds)' although does not provide an explicit rationale for this specific age range. The research by Huckle is a promising indication that there may be a renewed focus on KS4 geography in the future.

### 2.3.4 KS5, and the transition to HE (the 16-19 transition)

The most common form of post-16 geography education in England is the A-level (advanced level), with A-level and AS-levels (advanced subsidiary levels, usually a one-year course of study) being decoupled in as part of the curriculum reforms of 2015 (Ofqual, 2015; 2018a; 2018b). AS-levels are therefore disregarded in this discussion. In 2023, there were 38,264 examination entries for A-level geography across the UK, an increase from 34,960 in 2019 (JCQ, 2024b). Of these 2023 entries 34,700 were in England, an increase from 31,768 in 2019 (JCQ, 2024b). Less explicitly clear from the available data is the state of geography's cognate disciplines, with subjects such as A-level Geology and A-level Environmental Science represented in the data as 'other sciences'. In 2023, there were 2,409 examination entries in the UK for these 'other sciences', with 1,436 of these being in England. As stated by JCQ (2024b, n.p.), 'Other sciences includes all science subjects except Biology, Chemistry and Physics'; analysis of the qualifications offered by the main awarding bodies in England suggests that the only 'other science' subjects examined at A-level in England are earth and environmental sciences (Table 2.7).

| **Awarding Body** | **Science related subject(s) offered** | **Subjects not listed independently by JCQ (2024b)** |
|---|---|---|
| AQA (formerly Assessment and Qualifications Alliance) | Biology<br>Chemistry<br>Computer Science<br>**Environmental Science**<br>**Physics**<br>Psychology | **Environmental Science** |
| OCR (Oxford Cambridge and RSA) | Biology A<br>Biology B (Advancing Biology)<br>Chemistry A<br>Chemistry B (Salters)<br>Computer Science<br>**Geology**<br>Physics<br>Physics B (Advancing Physics)<br>Psychology | **Geology** |
| Pearson Education Ltd | Biology A<br>Biology B<br>Chemistry<br>Physics<br>Psychology | |
| Eduqas (part of WJEC, formerly Welsh Joint Education Committee) | Biology<br>Chemistry<br>Computer Science<br>Biology<br>Chemistry<br>Computer Science<br>**Geology**<br>Psychology | **Geology** |

Table 2.7: 'Other science' subjects examined at A level in England (AQA, 2022; OCR, 2022; Pearson Education Ltd, 2022; Eduqas, 2022).

In much of the academic literature in this area, the language used is often 'post-16 to HE transition' or 'school to university transition', and other options might include the 'A-level to undergraduate transition', but where possible in this thesis, for consistency, the term '16-19

transition' is used. The 16-19 transition has long been a focus for geography education researchers and academic geographers, with concerns regarding the 'chasm' (Goudie, 1993) between the school subject and academic discipline lingering for decades. The term 'concern' is used intentionally because there is a consensus that this 'great divide' (Goudie, 1993) is detrimental to the overall state of the discipline, leading to the use of emotive language by those writing in the field; indeed, other authors have described the school subject and the academic discipline as occupying 'distant worlds' (Pykett and Smith, 2009), characterising school and academic geography as 'distant relations' (Castree, Fuller and Lambert, 2007, p. 130) and have examined the 'gap' (Tate and Swords, 2013) between those worlds. In comparison, others acknowledge the necessity of the divide but advocate – with a degree of optimism – a greater 'connection' (Hill and Jones, 2010), facilitation of 'transition' (Ferreira, 2018), and 'collaboration' (Finn, 2018) across the 16-19 phase, with Finn *et al.* (2022) proposing 'spaces of exchange' as a future development. In Butt and Collins (2018, p. 267) it was suggested that the main issues around this 16-19 transition – from the post-16 study of geography in schools and further education (FE) colleges, to the study of geography at universities – are persistent and requiring of further dialogue, and in part this thesis responds directly to that suggestion by opening up a shared dialogue across a wide range of stakeholders; perhaps creating the 'spaces of exchange between communities of practice' proposed by Finn *et al.* (2022), although neither 'spaces of exchange' nor 'communities of practice' are used formally as frameworks for this research.

*2.3.4.1 Post-16 geography education as preparation for the academic discipline*

In this section of the literature review, the work of Tate and Swords (2013) has been selected to frame the debates around the 16-19 transition in geography. There are three aspects of this work that have led to its selection as a framing tool here. The first aspect is the timing of publication; it was published in 2013 amidst the education reforms that were triggered by the White Paper *The Importance of Teaching* (DfE, 2010) three years prior, but before wholesale reforms to the school geography curriculum and the delivery of what remains (at the time of writing) the current A-level in geography that emerged from these reforms. This therefore provides an opportunity to capture (through the findings of Tate and Swords in 2013) a snapshot of the 'state of play' in post-19 geography education in an English university just before the impacts of curriculum and assessment reform would begin to be seen, and therefore to review (against the findings of Tate and Swords and through the application of subsequent research) the extent to which debates around the 16-19 transition have since moved on. The second aspect pertains to the methodology employed by Tate and Swords (2013), in that they themselves drew on literature from international contexts and across time periods to rigorously explore the transition to university, but their empirical work was based in the context of the English education system, and so is directly applicable to the context for this research. The third aspect also relates to methodology: Tate and Swords (2013, p. 231) felt that 'too often the voices of the students themselves are absent from both these academic debates and practical initiatives'. It was this final aspect that generated the distinctive findings of Tate and Swords (2013) in that although previous literature had focused on the challenges of the 16-19 transition in relation to subject knowledge, students themselves did not perceive that to be the main obstacle to their

transition, instead identifying practical and cognitive skills gaps that impeded their progress. Although subsequent academic work has provided additional opportunities for student voice to be heard, most notably the recent work of Hammond and Healy (2022) and Rawlings Smith and Collins (2024), the work of Tate and Swords (2013) was distinctive in its approach, which involved gathering student views through student assignments and focus groups over a two-year period, with two cohorts of first-year undergraduate students.

Tate and Swords (2013) suggested that there were two distinct aspects of academic geography for which post-16 geography education failed to adequately prepare students; they categorised these as the *practical skills gap* and the *cognitive skills gap*. These two categories are adopted here, with a review of preceding and subsequent literature to establish consensus and comparison. This review is essential not least because since Tate and Swords published their work in 2013, there has been substantial curriculum reform at A-level in England (Ofqual, 2015; 2018a). There has also been further development of the academic discipline in universities in the UK, as indicated by the 2021 consultation on, and 2022 publication of, the fifth edition of the QAA Subject Benchmark Statements for ES3 (QAA, 2022a) and for Geography (2022b). The 'gaps' between schools and universities highlighted by Tate and Swords (2013) have therefore, to varying degrees, shifted during the last decade.

The *practical* skills gap identified by Tate and Swords' participants can be summarised as three main concerns: i) lack of preparation at school for the academic writing and academic literacy skills required at university; ii) lack of skill in applying academic literature to

undergraduate work; iii) lack of practical skills relating to fieldwork, laboratory work, and GIS. The *cognitive* skills gap identified by the participants can be summarised as two main concerns: i) differences in pedagogical experiences between school and university; ii) lack of exposure at school to disciplinary literacy and breadth of literature with which students are required to engage at university.

#### *2.3.4.2 Practical skills gap*

At the time of publication, Tate and Swords' (2013) findings regarding the nature of assessment of post-16 geography would have resonated with almost every secondary school geography teacher or recent post-16 geography student; from the 'Curriculum 2000' reform (Tait *et al.*, 2002) until the most recent A-level reforms of 2015 (Ofqual, 2018a) the 'more structured and shorter exams, in contrast to older essay-style A-level exams' (Tate and Swords, 2013, p. 234) were a recognisable and oft-criticised feature of post-16 assessment (Fisher, 2007). One of the outcomes of the ALCAB (A-level Content Advisory Board) panel on geography (ALCAB, 2014) was a change to the style of assessment, to reintroduce longer essay style questions (Ofqual, 2015). To some extent, therefore, Tate and Swords' (2013) concerns about the shortcomings of undergraduates' writing skills should have been addressed by this action. However, seven years after these concerns were expressed by Tate and Swords (2013), issues with academic literacy appeared to persist in at least some disciplines and in some contexts; the literature reviewed by Roald *et al*. (2020, p. 759) led them to suggest that '[i]t has been shown that students do not feel prepared for academic writing and express frustration and anxiety because the standards of academic writing seem difficult to understand and live up to'. Although their own empirical research was conducted

with students in a Norwegian university, Roald *et al.* (2020) drew on the previous work, in an English context, of Elliott *et al.* (2018), which used an exploratory approach to researching first-year undergraduates' (n=44) experiences of academic writing and of the strategies used to support them in their academic writing. These first-year undergraduates were studying at a university in England and came from diverse backgrounds, including 35 participants who were first in their family to attend university. The sample researched by Elliott *et al.* (2018) also included students enrolled on joint honours courses who were therefore experiencing varying disciplinary literacies in each subject area being studied. This varied experience may also be applicable to undergraduates on geography and geography-related courses where academic literacies vary between different sub-disciplines, for example between broadly physical geography or earth sciences modules and broadly human geography modules. It can be inferred from work including that of Elliott *et al.* (2018) and Roald *et al.* (2020) that generic issues with spelling, punctuation and grammar persist in undergraduate students, often articulated as issues with academic literacy. It should be noted that that issues with academic literacy occur across disciplines, and remain a prevalent feature of the 16-19 transition particularly following the Covid-19 pandemic (Pownall, Harris, and Blundell-Birtill, 2022).

Inherent in the quality of academic writing is also the skill of drawing on literature and the ability to accurately reference that literature within one's own work, and this was found to be a skill largely absent in the post-16 geography curricula that had been experienced by the undergraduate sample in Tate and Swords' (2013) study. It was suggested by the authors that 'referencing was highlighted as a useful skill that should be introduced at A-level, not

least because it was seen as a first step towards encouraging students to reflect critically upon the subjective nature of what they were reading' (Tate and Swords, 2013, p. 234). Tate and Swords (2013) suggest that the removal (at that time) of coursework from A-level syllabi was a contributing factor to the lack of writing skills observed in the undergraduate population, as well as a missed opportunity to develop students' referencing skills. Subsequent to Tate and Swords (2013), in 2016, a non-examined assessment (NEA) was introduced to A-level geography with the rationale that such a mode of assessment can help students to 'become geographers' (GA, 2022c). In doing so it was recognised that students need 'considerable skills in researching and report writing, with the outcome a written report of several thousand words. Developing these skills throughout the secondary phase, not waiting until A level to do so, will be essential' (GA, 2022c, n.p.).

Engagement with literature, and geographical literacy more generally, is not an explicit feature of the current fifth edition (QAA, 2022b) Subject Benchmark Statement. Rather, the range of 'skills, abilities and attributes' that a geography graduate should develop – including, for the first time in the fifth edition, reference to 'geocapabilities' – focus on distinctive features of the discipline:

> Fieldwork and experiential learning in the development of knowledge and understanding are essential aspects of Geography. Laboratory study, spatial data analysis, modelling, information and communication technologies (ICT), geographic information science (GISci) and remote sensing are also key components of the subject's teaching, learning and research strategies. These approaches are underpinned by knowledge of, and skills in, the ethical, methodological and theoretical frameworks that inform their conduct (QAA, 2022b, p. 3).

These distinctive features relate directly to some of the practical skills that the participants of Tate and Swords (2013) reported they felt ill-equipped with as first-year undergraduates. Since these student views were reported by Tate and Swords (2013), there has been some movement in relation to these practical skills in both school geography and academic geography. Oakes and Rawlings Smith (2022) gathered data from teachers to establish what they believed constituted a 'good A-level geography education' and found it striking that:

> teachers mostly ranked skills and competences as the most important outcomes of an A level geography education, ahead of the 'mastery' of certain bodies of specialist subject knowledge, with several respondents making the insightful point that what constitutes 'core' knowledge is in any case highly contestable given geography's vast academic breadth (Oakes and Rawlings Smith, 2022, p. 35).

In the context of academic geography, as described by the QAA Subject Benchmark Statement for the discipline, the change in language from GIS (geographical information systems) in the fourth edition (QAA, 2019b) to GISci (geographic information science) in the fifth edition (QAA, 2022b) is likely to be linked to the prominent statement that 'Geography is a STEM subject' (QAA, 2022b, p. 3). This adds to longstanding claims for geography's STEM (science, technology, engineering and mathematics) status by the RGS-IBG (2011), and the heightened public sector status of geography following the establishment in 2018 of the Government Geography Profession (HM Government, 2022). It remains to be seen whether a renewed claim for geography's STEM status addresses the issue raised a decade earlier by Cotton, Winter and Bailey (2013, p. 201) of the 'variable funding status' of geography, an issue which the authors suggested had implications for teaching, staff-student ratios, and the HE geography curriculum.

The use of GIS in school geography, however, has moved on significantly since the suggestion from Tate and Swords that '[m]uch of the equipment for field mapping, Geographical Information Systems (GIS), recording accurate weather data, etc. also remains out of the financial reach of schools' (Tate and Swords, 2013, p. 232). GIS became a feature of GNC2014 (DfE, 2013a) and should therefore now be evident in the school geography curriculum in state schools in England, although Ofsted (2023, n.p.) recently found that GIS remains missing from the geography curriculum in 'most' schools. Even applying a degree of caution that the Ofsted (2023) report was based on research visits to just 50 schools, that GIS was missing from a sufficient majority of these schools is somewhat concerning given that ten years have passed since GIS was made statutory in GNC2014 (DfE, 2013a). GIS is more than a curriculum component, but should be seen as a facet of geography's disciplinary knowledge (section 2.2). Esri is a leading organisation in the implementation of GIS in schools and has a particularly strong educational offering, with regular CPD sessions for geography teachers, free to access online resources for 'Teaching with GIS', and free online access (through any browser, without the need for software) to its ArcGIS tools. It can be hoped that geography undergraduates will be increasingly familiar with GIS/GISci as they begin their degrees, although it is possible that they may have limited experience of personal use and likely still that there is some variability of access and use due to the 'digital poverty' still experienced in some parts of the UK (Holmes and Burgess, 2021). Tate and Swords' (2013) assertion that the equipment needed to implement GIS remained out of reach of schools may therefore hold true in some cases, and improving and facilitating access for local geography departments to campus-based facilities – particularly for laboratory work – is a practical example of how the 'gap' between schools and universities might be bridged, further explored in this thesis.

Fieldwork is generally accepted as an 'essential part of the discipline' (QAA, 2022b, p. 6) and an aspect of school geography which has long been protected by the subject's 'gatekeepers', including the subject associations of the GA and the RGS-IBG. In an era where equality, diversity and inclusion are such prominent facets of education, it is noteworthy that, in addition to recognising fieldwork as an important 'experiential form of learning' (QAA, 2022b, p. 10) it is also recognised that fieldwork 'provides opportunities for Geographers to engage ethically, sustainably and respectfully with places that are familiar and unfamiliar to them, gaining critical insights on the dynamics that shape differences and commonalities, local and global practices, the connections in between, and civic/planetary responsibilities' (QAA, 2022b, p. 10).

An inclusive approach to fieldwork has been evident in schools in England for some time, particularly the era subsequent to that in which Tate and Swords' participants would have been learning geography in schools. Fieldwork is featured as a statutory component of GNC2014 (DfE, 2013a) and is mandatory at KS4 (DfE, 2014a) and KS5 (DfE, 2014b). Geography departments are required to consider cost and accessibility in order to meet the requirements of special educational needs and disability (SEND) legislation (DfE/DoH, 2014) and the subject community continues to make grants and bursaries available to those in particular need (see, for example, the RGS-IBG's Frederick Soddy Awards (RGS-IBG, 2022a)). The funding of fieldwork and other educational visits is often an aspect of schools' use of Pupil Premium funding – a UK government scheme that provides '…extra money for schools to help disadvantaged pupils of all abilities achieve their full potential' (DfE, 2023b, n.p.) –

although care should be taken to distinguish between educational visits and truly geographical fieldwork. The most recent Ofsted subject report for geography (Ofsted, 2023, n.p.) highlighted this as an ongoing issue, particularly in primary schools where '…fieldwork is often conflated with field trips. Pupils may go out of school on a visit, but they are rarely learning how to carry out geographical work when they do so'.

*2.3.4.3 Cognitive skills gap*

Methods of, and approaches to, learning and teaching vary greatly between schools and universities, and this was noted in the experiences of the participants of Tate and Swords (2013). Geography education researchers have explored common and very subject-specific pedagogical approaches to school geography – Maude (2016, p. 70), for example, noted that pedagogy has been a greater focus of attention, even in geography education research relating to subject knowledge, rather than the nature of the knowledge itself – and the most commonly applied pedagogical approaches in geography education include enquiry learning (Roberts, 2003; 2013) and children's geographies (Firth and Biddulph, 2009; Firth, 2018; Hammond, 2022). Themes central to the ways in which children and young people learn geography are evident from primary geography through to the post-16 phase; the status of geography, the nature of geography, and geography's relevance to the education of those learning it (Martin, 2013).

Tate and Swords (2013, p. 235) found that students experienced notable differences in 'learning styles and expectations' at university. Although there is little robust evidence to

suggest that students *have* different learning styles (Pashler *et al.*, 2008; Deans for Impact, 2015) it is reasonable to infer that the students in Tate and Swords' (2013) sample might have meant they had experienced different pedagogical approaches in their school education to those experienced in HE. Similarly, and five years after the work of Tate and Swords, Ferreira (2018, p. 373) recognised that 'the transition between learning in a school and a university environment is seen by many as a significant challenge for many reasons'. However, as Ferreira continued: 'The importance of understanding the experience of transition between school and university is key for all subjects, as the process presents academic challenges, personal and social challenges, administrative challenges' (Ferreira, 2018, p. 373). This suggests it is still the responsibility of those supporting the 16-19 transition to equip students with the skills required to thrive and make progress as they continue their geography education (see Ferreira, 2018, for further discussion). The findings of Tate and Swords (2013) and Ferreira (2018) were in agreement that greater collaboration was needed between school geography teachers and academic geographers, and such collaboration and exchange seems to have been further encouraged in subsequent work by Finn (2018) and Finn *et al.* (2022).

A lack of preparedness for the high expectations for academic literacy in a generic sense was highlighted by Tate and Swords (2013) as a *practical* skills gap (section 2.3.4.2). However, their participants also identified a *cognitive* skills gap in the form of a lack of preparedness for the high expectations of disciplinary literacy, particularly in relation to the breadth of literature with which students are expected to engage at university. In this more narrow disciplinary sense, geographical literacy, reasoning, and articulation are central to the

communication of disciplinary knowledge in geography (QAA, 2022b) but the move to include longer essay style questions in post-16 assessment of geography is not in itself likely to improve students' geographical disciplinary literacy. Disciplinary literacy in the HE context has been a focus of recent academic work in history (Goldfarb Cohen and Tabak, 2021) and in STEM subjects (Hubbard, 2021) but has become acknowledged at the school level too more recently; Butlin (2023, n.p.), writing for the Education Endowment Foundation (EEF) in a blog post with the intended audience of school leaders and teachers, describes disciplinary literacy as 'the idea that "each subject has its own unique language, ways of knowing, doing, and communicating"' and positions it as central to teachers' practice. Prior to this, and in the context of geography education, Lambert (2017) had written of geography's vocabulary (core knowledge, or geography's factual basis) and grammar (geography's conceptual and theoretical frameworks) as an important form of disciplinary literacy in geography. While Tate and Swords (2013) found that undergraduates had not been encouraged to read around the subject during their A-level studies, it was clear that undergraduates recognised this engagement with wider literature as a distinctive feature of learning at university. Students were beginning to grasp the concept of 'reading' for a degree, something which was latterly explored by Finn (2022) almost a decade later.

It is clear that the skill (or lack of) of academic reading has been an issue with the 16-19 transition for some time; Bryson (1997, in Ferreira, 2018, p. 374) articulated the 'A-level effect' and described the use of first-year tutorials to address students' overreliance on a single text. More recently, it has been suggested that immersion in a broader body of literature is an appropriate distinction between post-16 and undergraduate levels (Finn,

2022), and again QAA (2022b, p. 21) outlines that a benchmark subject specific skill for a 'typical' geography graduate should be to 'communicate and compare different views about geographical issues', with 'excellent' geography graduates being able to 'critically reflect on a range of views about geographical issues and come to a reasoned evaluation' (QAA, 2022b, p. 21). That the *threshold* for this subject-specific skill by the point of graduation is described as the ability to 'communicate personal views about geographical issues' suggests that to expect post-16 students to arrive at university already with developed skills of synthesis and a knowledge of a body of disciplinary literature may be unreasonable, and that it can therefore reasonably be expected that learning and teaching at university should focus on the development of these skills throughout the duration of a geography degree. In the fifth edition of the QAA Subject Benchmark Statement for Geography (2022b) there was a subtle change to what was previously (QAA, 2019b, p. 15) described as the ability for a typical geography graduate to '[r]elate material appropriately to the intended audience', with this 'generic skill' being revised to '[s]ynthesize material appropriately to support the presentation of a reasoned argument to the intended audience' (QAA, 2022b, p. 22). This could be considered an indication that the academy's expectations for undergraduates to enter HE with a benchmark level of literacy and academic fluency have increased in recent years. It remains to be determined by empirical research whether the introduction of the NEA in 2016 has since equipped students with improved literacy – whether generic academic literacy or geography-specific disciplinary literacy – or has encouraged a scholarly engagement by students with geographical literature before they begin their degree.

Barriers to an effective 16-19 transition are not exclusive to geography, but there is sufficient evidence in prior academic work to suggest that there are particular issues with the transition in geography, related to the themes outlined thus far in this chapter. While the focus of this thesis is not solely on the 16-19 transition – indeed, its original contribution to the field is a broader focus on all transition points across the geography education journey as a way of more closely connecting school geography and academic geography – it will be important to ascertain whether the barriers to transition identified by Tate and Swords (2013) are still evident today, whether these practical and cognitive skills gaps are also found at other transition points in the geography education journey, and whether stakeholders are able to propose potential strategies to address any limitations arising from those practical and cognitive skills gaps.

## 2.4 Academic geography

Open data from HESA reports each year what subjects students are studying in HEIs in the UK. These statistics are not simple, not least because defining 'subjects' is rather more complex in HE than in schools. HESA (2024, n.p.) start from the definition that '[s]ubjects are persistent areas or branches of knowledge or learning that are studied in higher education' but make use of two different forms of subject classification in their data. The purpose of these classifications is to allow for consistent analysis across different groupings, datasets, and coding frames, and between organisations such as HESA and QAA. The Higher Education Classification of Subjects (HECoS) was introduced in 2019/20, and is used in conjunction with the Common Aggregation Hierarchy (CAH). Each of these classifications provides different categorisations of geography and geography-related subjects, which in itself is pertinent to

the debates around geography's identity that follow, both in relation to 'what geography is' and 'who geographers are'. Data using both classifications are therefore provided in Table 2.8, focusing on first-year undergraduate enrolment as the primary focus of the school/academic transition.

| CAH Level 1 | | CAH Level 3 | | HECoS | |
|---|---|---|---|---|---|
| Geography, earth and environmental studies (natural sciences) | 8,105 | Geography (non-specific) | 1,225 | Geographical information systems | 60 |
| Geography, earth and environmental studies (social sciences) | 2,770 | Physical geographical sciences | 2,695 | Environmental geoscience | 145 |
| | | Others in geographical studies | 60 | Geology | 600 |
| | | Human geography | 2,770 | Geophysics | 65 |
| | | Ecology and environmental biology | 1,870 | Environmental geography | 470 |
| | | Environmental sciences | 2,340 | Geography | 1,225 |
| | | Earth sciences | 1,785 | Physical geography | 2,055 |
| | | | | Geotechnical engineering | 10 |
| | | | | Maritime geography | 90 |
| | | | | Geological hazards | 5 |
| | | | | Geochemistry | 5 |
| | | | | Geological oceanography | 5 |
| | | | | Exploration geology | 10 |
| | | | | Applied geology | 10 |
| | | | | Engineering geology | 10 |
| | | | | Human geography | 2,395 |
| | | | | Exploration geophysics<br>Petroleum geology<br>Cultural geography<br>Agricultural geography | 0 |
| | | | | Environmental biology | 70 |
| | | | | Environmental sciences | 2,290 |
| | | | | Environmental risk | 10 |
| | | | | Applied environmental sciences | 50 |

| | | | | | |
|---|---|---|---|---|---|
| | | | | Environmental management | 375 |
| | | | | Environmental chemistry | 0 |
| | | | | Earth sciences | 485 |
| **Total** | **10,875** | | **12,745** | | **10,440** |
| *Appeared in search terms (geo-, env-, earth-) but determined not to be closely related enough to be cognate* | | | | | |
| | | *Environmental and public health* | *765* | *Construction and the built environment* | *350* |
| | | | | *Environmental engineering* | *215* |
| | | | | *Environmental and public health* | *715* |

Table 2.8: First-year undergraduate student enrolments by classification, academic year 2021/22 (HESA, 2024).

Using the most simple classification, CAH Level 1, it can be summarised that at the start of the academic year 2021/22, a total of 10,875 first-year undergraduate enrolments were made onto geography, earth and environmental studies undergraduate courses in HEIs in the UK (HESA, 2022 – data for the academic year 2022/23 is not due for release until August 2024). CAH Level 1 distinguishes geography, earth and environmental studies undergraduate courses as either natural sciences or social sciences, and of the 10,875 first-year enrolments in 2021/22 there were 8,105 and 2,770 in these fields respectively (HESA, 2022). The classifications CAH Level 3 and HECoS present a more complex, nuanced picture of geography, geography-related, and cognate disciplines being studied in HEIs (Table 2.8) and the data contribute to the debates around geography's identity in the academy. For example, when populating Table 2.8 it was observed that some subject codes in CAH Level 3 and HECoS were only loosely related to the CAH Level 1 classification of geography, earth and environmental studies, for example 'environmental and public health,' and 'construction and the built environment'. Any subject codes considered to be too loosely related to geography can be found at the bottom of Table 2.8, as it was felt to remove the data altogether would be a subjective decision and one on which there may not be a clear consensus among the subject community. However, these subject codes were cross-referenced with a geography-specialist critical friend (CF1 – see Chapter 3) who did reach the same conclusions regarding those that were deemed too loosely related to geography.

The RGS-IBG lists in its *Directory of geography courses* (RGS-IBG, 2021a) a total of 85 HEIs across the UK who offered geography and geography-related courses, although in the

process of scrutinising this directory in relation to geography's academic identity (see section 2.4.1) it was established that five of these HEIs no longer (in 2024) offer undergraduate geography or geography-related courses. An examination of the structure of these HEIs to ascertain in which departments, schools, faculties or colleges these geography courses are based revealed a varied identity for the discipline in the academy (Table 2.9). A review of literature pertaining to this identity crisis is now presented.

### 2.4.1 Geography's identity crisis

The review of literature reveals that one of the most persistent challenges in facilitating the 16-19 transition in the discipline is the identity of the discipline itself; this identity crisis can be seen in debates around 'what geography is' and 'who geographers are', and – as alluded to above – in the place in which geography is situated in the academy. Table 2.9 lists the 80 HEIs who had been accredited by the RGS-IBG (2021a) and who still offer undergraduate programmes in geography and geography-related subjects.

| HEI | Department/School | School/Faculty/College |
|---|---|---|
| University of Aberdeen | Department of Geography and Environment | School of Geosciences |
| Aberystwyth University | Department of Geography and Earth Sciences | Faculty of Earth and Life Sciences |
| Bangor University | Geography | School of Environmental and Natural Sciences |
| Bath Spa University | Geography and Environmental Sciences | School of Sciences |
| University of Birmingham | School of Geography, Earth and Environmental Sciences | College of Life and Environmental Sciences |
| Bishop Grosseteste University | *No longer offers UG geography programmes* | |
| Bournemouth University | Department of Life and Environmental Sciences | Faculty of Science and Technology |
| University of Brighton | Geography, the Earth and Environment | School of Applied Sciences |
| Brunel University London | Geography | College of Business, Arts and Social Sciences |
| | Global Challenges | |
| | Environmental Sciences | College of College of Health, Medicine and Life Sciences |
| Cardiff University | School of Geography and Planning | College of Arts, Humanities and Social Sciences |
| | School of Earth and Environmental Sciences | College of Physical Sciences and Engineering |
| University of Central Lancashire | *No longer offers UG geography programmes* | |
| University of Chester | School of Humanities and Social Sciences | Faculty of Arts, Humanities and Social Sciences |
| Coventry University | Energy, Construction and Environment | College of Engineering, Environment and Science |

| | | |
|---|---|---|
| University of Derby | School of Science | College of Science and Engineering |
| University of East Anglia | School of Environmental Sciences | Faculty of Science |
| | School of Global Development | Faculty of Social Sciences |
| Edge Hill University | History, Geography and Social Sciences | Faculty of Arts and Sciences |
| University of Edinburgh | School of Geosciences | |
| University of Glasgow | School of Geographical and Earth Sciences | College of Science and Engineering |
| University of Gloucestershire | School of Education and Science | |
| Harper Adams University | *No longer offers UG geography programmes* | |
| University of Hertfordshire | Department of Psychology, Sport and Geography | School of Life and Medical Sciences |
| University of Huddersfield | *No longer offers UG geography programmes* | |
| University of Hull | School of Environmental Sciences | Faculty of Science and Engineering |
| Keele University | School of Geography, Geology and the Environment | Faculty of Natural Sciences |
| Kings College London | School of Global Affairs | Faculty of Social Science and Public Policy |
| Kington University London | Faculty of Engineering, Computing and the Environment | |
| Lancaster University | Lancaster Environment Centre | Faculty of Science and Technology |
| University of Leeds | School of Geography | Faculty of Environment |
| | School of Earth and Environment | |
| University of Leicester | School of Geography, Geology and the Environment | College of Science and Engineering |
| University of Lincoln | School of Life and Environmental Sciences | College of Health and Science |
| University of Liverpool | Department of Geography and Planning | School of Environmental Sciences |

| | | |
|---|---|---|
| Liverpool Hope University | Department of Geography and Environmental Science | |
| Liverpool John Moores University | School of Biological and Environmental Sciences | Faculty of Science |
| Loughborough University | Department of Geography and Environment | School of Social Sciences and Humanities |
| Manchester Metropolitan University | Geography and the Environment | Faculty of Science and Engineering |
| Newcastle University | School of Natural and Environmental Sciences | Faculty of Science, Agriculture and Engineering |
| | School of Geography, Politics and Sociology | Faculty of Humanities and Social Sciences |
| University of Northampton | Faculty of Arts, Science and Technology | |
| Northumbria University | Department of Geography and Environmental Sciences | |
| University of Nottingham | School of Geography | Faculty of Social Sciences |
| Nottingham Trent University | Geography and Environmental Science | School of Animal, Rural and Environmental Sciences |
| Oxford Brookes University | Social Sciences, Geography, Anthropology and Psychology | School of Law and Social Sciences |
| University of Portsmouth | School of the Environment, Geography and Geosciences | Faculty of Science and Health |
| University of Plymouth | School of Geography, Earth and Environmental Sciences | Faculty of Science and Engineering |
| Queen Mary University London | School of Geography | Faculty of Humanities and Social Sciences |
| Queen's University Belfast | School of Natural and Built Environment | Faculty of Engineering and Physical Sciences |
| University of Reading | Department of Geography and Environmental Science | |
| Royal Holloway University of London | Department of Geography | |

| | | |
|---|---|---|
| | Department of Earth Sciences | |
| University of Salford | School of Science, Engineering and Environment | |
| Sheffield Hallam University | Department of Natural and Build Environment | College of Social Sciences and Arts |
| University of Sheffield | School of Geography and Planning | Faculty of Social Sciences |
| University of Southampton | School of Geography and Environmental Science | Faculty of Environmental and Life Sciences |
| | School of Ocean and Earth Science | |
| University of South Wales | *No longer offers UG geography programmes* | |
| University of St Andrews | Geography | Faculty of Arts |
| | | Faculty of Science |
| Swansea University | School of Biosciences, Geography and Physics | Faculty of Science and Engineering |
| Ulster University | School of Geography and Environmental Sciences | Faculty of Life and Health Sciences |
| University of the West of England, Bristol | School of Applied Sciences | College of Health, Science and Society |
| University of Winchester | Department of Social Sciences | Faculty of Humanities and Social Sciences |
| University of Worcester | School of Science and the Environment | |
| York St John University | School of Humanities | |

Table 2.9: Geography's place in the academic structure of 80 HEIs in the UK who deliver undergraduate geography courses accredited by the RGS-IBG (2021a).

The information in Table 2.9 seems to reveal a variety of conceptions of 'what geography is' – there is a broad division between sciences and arts, but also greater complexity in geography's place in the academy, particularly emerging in settings where interdisciplinary research is becoming more popular.

#### *2.4.1.1 'What geography is'*

Ferreira's (2018) research found that 95% of respondents (of a sample of 92 undergraduate geographers, drawn from 12 universities) identified a common theme associated with geography's identity; that 'geography as a subject became much broader at university, expanding into a wealth of topics, many of which they weren't aware of when at school, or would not necessarily have associated with geography' (Ferreira, 2018, p. 376). Post-16 students in the United Kingdom are predominantly learning *geography* (38,264 A-level examination entries in the UK in 2023) with a smaller number (2,409 in the UK in 2023) studying *cognate disciplines* such as geology and environmental science, represented in the available data as 'other sciences' (JCQ, 2024b). At first glance, this range of cognate disciplines aligns coherently with the disciplinary identity of GEES in HE, with the QAA offering Subject Benchmark Statements for ES3 (QAA, 2022a) and Geography (QAA, 2022b) and the CAH Level 1 classification using the same broad term of 'geography, earth and environmental sciences' (HESA, 2024). Taking into account the low number of examination entries for these cognate disciplines at A-level and the available census data from sources such as JCQ and HESA, this would suggest that those enrolling on an undergraduate geography or geography-related degree are more likely to have studied geography than one of its cognate disciplines, and the Universities and Colleges Admissions Service (UCAS, the

main portal through which HE applications are made in England) suggest that geography-related A-levels are rarely firm prerequisites for enrolling on an undergraduate degree in the earth and environmental sciences (UCAS, 2022).

Many geographers identify a disjointed 'human and physical' approach to the subject problematic in relation to its identity; Castree (2011) writes of 'intellectual disunity' and 'the "society –nature problematic" to geography's identity' (p. 288) and the need to 'negotiate the ontological, epistemological and methodological differences between human and physical geographers' (p. 292). To return briefly to school geography, the reductionist view of GNC2014, structured as it is (and oft has been, in previous national curricula) around the substantive knowledge of 'human and physical processes', perpetuates this unhelpful binary in the secondary school geography context, leading to a lack of coherence with the diverse academic discipline. While human and physical processes might be counted among geography's concepts, a grasp of a more sophisticated, nuanced range of geographical concepts is required to enable learners to develop confidence in geography's vocabulary and grammar (Lambert, 2017) and equip them with the ability to 'think geographically' (Jackson, 2006). GNC2014 encourages a 'transmission' approach to geographical learning, disregarding or marginalising robust and well-evidenced pedagogical approaches such as enquiry learning and geographical reasoning (Roberts, 2013), a situation that would appear to be susceptible to generating a disconnection between curriculum and pedagogy similar to the disconnection between content knowledge (CK) and pedagogical content knowledge (PCK) identified by Lane (2015).

Returning to the academic discipline, however, some would propose that a human and physical geography divide does indeed exist; Bonnett (2008, p. 111) for example, stated that 'human and physical geographers are distinct academic communities', although through the addition of a footnote – 'Hence the need for attempts at "reunification"…' – suggests that this divide was not seen as a desirable one by the author. Ten years later, the fifth edition of Holt-Jensen's *Geography: History and Concepts* (2018) lists *physical geography* in its index, defining it as 'the study of the physical features of the earth, their causes and relations to each other' (Holt-Jensen, 2018, p. 258) but interestingly offers no equivalent entry for human geography. Elsewhere in the publication, Holt-Jensen suggests that physical geography arose perhaps as a result of the 'geologification of geography' in the late 1800s (2018, p. 49) and at a time when physical geography was becoming a popular school subject, only later to be replaced by more specialised earth sciences such as geomorphology (Holt-Jensen, 2018, p. 50).

The disconnection between school geography and academic geography is observed by students. Tate and Swords (2013) found that some first-year undergraduate students felt that the subject they had studied at A-level bore little resemblance to the discipline they were now experiencing at university, attributing this to the constricted identity created by the awarding bodies that design A-level curricula. Indeed, many of the cognitive skills gaps identified in Tate and Swords' (2013) study were thought by students (the participants of the research) to be a consequence of the narrow A-level curriculum offered by the awarding body (Tate and Swords, 2013, p. 235). Awarding bodies are themselves, though, constrained by the core content for A-level specified by the DfE (2014b) and by other political and

economic pressures relating to a competitive curriculum and examinations market (Gardner, 2016).

A number of HEIs group geography and geography-related disciplines into GEES, and this term is adopted widely by a number of UK universities as well as by Advance HE, formerly the Higher Education Academy (Advance HE, 2020a). QAA however offer two separate Subject Benchmark Statements, distinguishing between Earth Sciences, Environmental Sciences and Environmental Studies (QAA, 2022a) and Geography (QAA, 2022b). As can be seen in Table 2.8 (p. 87) there are several cognate disciplines often categorised within the broader umbrella term of GEES, and this is also evidenced by the breadth and variety of subjects found within the institutional Schools and Faculties in which academic geography departments are located (Table 2.9, pp. 90-93). Indeed, as Clifford states:

> Universities wrestle with how to place [geography] in a traditional faculty structure – is it in the sciences, arts or humanities? Some departments have split between physical and human; and increasingly, other, often newer fields of study, recognising the need for integrated, multi-disciplinary study, encroach on territory hitherto the domain of geography (Clifford, 2018, p. 250).

This often-fractured identity of geography as an academic discipline (Heffernan, 2009; Clifford, 2018; Holt-Jensen, 2018) is explored in this thesis in order to determine the extent to which a lack of understanding of the purpose and nature of the discipline contributes to a lack of continuity and progression at the transition points in the geography education journey, where some students will fall away from the formal study of geography. Holt-Jensen suggests that '[t]he work of geographers involves several types of phenomena, each already studied by another science. Are geographers, therefore, "jacks of all trades, and masters of

none"?' (Holt-Jensen, 2018, p. 13). If, as Clifford (2018, p. 257) proposes however, we could be entering a 'post-disciplinary world' then it can be supposed that it will act for the greater good and survival of geographers' concerns to strengthen transitions in the geography education journey, by clarifying the accompanying shifts in the identity of the geographer and to defend the contributions that geographers can (and already do) make to interdisciplinary research (Baerwald, 2010). This moves the debate on from 'what geography is' to 'who geographers are'.

*2.4.1.2 'Who geographers are'*

Lambert and Morgan (2010) note the fragmented nature of geography's identity, in particular in the ways in which not only geograph*y* but geograph*ers* see themselves and present themselves to others:

> In higher education students are taught by specialists, many of whom may even have difficulty with their geography identity, preferring to attend conferences and publish their research in their specialist field, rather than in 'geography'…. In this sense geography is an *elusive* subject….geography has difficulty presenting itself with a look of disciplinary unity or coherence, being instead a subject that has relied on the import of methods and approaches from many disciplines (Lambert and Morgan, 2010, pp. 163-164, emphasis in the original).

Interestingly, this identity problem also revealed itself in the wording of the earlier publication *Geography in higher education* (GA, 2009b), a companion to the GA's 'manifesto for geography', *A Different View* (GA, 2009a):

> With contributions from leading geographers like Doreen Massey, Ron Johnston and Alastair Bonnett and commentaries from public figures like Will Self, Michael Palin and Iain Stewart, the manifesto provides a powerful endorsement for Geography as an academic discipline and as a necessary life skill (GA, 2009b, n.p.).

Within two distinct groups of advocates for geography – 'leading geographers' and 'public figures', the geoscientist Professor Iain Stewart was placed in the latter rather than the former, despite his ongoing employment at a variety of academic institutions. Indeed, although he graduated in 1986 with a Bachelor of Sciences (BSc) degree in geography and geology (University of Plymouth, 2022), the Wikipedia entry for Iain Stewart identifies him as 'Iain Stewart (geologist)' (Wikipedia, 2022) and references Jha *et al.*'s (2008, n.p.) moniker of 'rock star geologist'. In science, the 'Brian Cox Effect' (Vasagar, 2011, n.p.) has been attributed to increases in A-level entries for mathematics, physics and chemistry (Vasagar, 2011; Skouen, 2019) and an increase in university applications by more than 50% (University of Manchester, 2014; Skouen, 2019); as a popular culture figure or, as the GA (2009b) suggest, 'public figure', some might describe Iain Stewart as having the potential to be 'geography's Brian Cox', yet his public identity is rarely articulated as 'geographer'.

To capture the breadth of 'what geography is' and 'who geographers are', this thesis focused on GEES – an opportunity to engage with the fullest range of geography's cognate disciplines – rather than aspects of study most narrowly described as geography, and intended to include as participants those who may or may not self-identify as geographers, but whose work can justifiably be described as related to GEES.

## 2.5 Connection through co-construction, collaboration, and curriculum-making

In *How To Build A Geographer* (Collins, 2020) I argued that enriched, co-constructed, and collaborative curriculum-making with a focus on the transition points in the geography education journey can be a powerful tool to address a lack of enjoyment, engagement and relevance in geography education, and that geography education research can be ideally placed to mediate that curriculum-making process. This was an idea I had been exploring since the previous year (Collins, 2019). In essence, this is an articulation of what an active subject *community* can achieve. In this section of the chapter, three aspects of this community action are examined in relation to their role in more closely connecting school and academic geography: high-quality geography ITTE; subject associations and other actors in the subject community; curriculum-making (in contrast to curriculum delivery).

### 2.5.1 Co-construction: The role of high-quality geography ITTE in strengthening the connection between school geography and academic geography

Geography teacher education in the UK has undergone substantial shift and change, particularly in the period since the publication of the White Paper *The Importance of Teaching* (DfE, 2010) and in very real and practical terms a decade later with the ITT Market Review (DfE, 2021a) and subsequent requirement for reaccreditation in 2022 for all ITTE providers in the UK (DfE, 2021b). The process of becoming a geography teacher – some authors use the term 'beginning teacher' – is in itself a transition in an individual's geography education journey. That transition is often (but not always) from being a geography graduate to a beginning geography teacher. This transition, made through the

ITTE process, can be highly contextual, driven by policy and curriculum frameworks; for example, Alexandre (2016, p. 179) suggested that:

> …younger teachers are either confined to a situation of institutional deference … forced to comply with the directives released by other groups of players (e.g. the school's executive board, fully qualified teachers, and trainers). Their actions are then framed by a series of prescriptions and standards, which will guide the teachers' practices in order to assure the subjects [sic] full integration within the organization.

Here, Alexandre (2016) wrote about professional identity development among geography teachers in Portugal, but these directives, prescriptions and standards are as prevalent in the educational system in the UK and it can therefore be assumed that beginning teachers in the UK are similarly susceptible to the 'institutional deference' that Alexandre (2016, p. 179) observed in research participants in Portugal. By comparison, others suggest that many of the transitions made by beginning teachers are more conceptual, intellectual and internalised, and largely unrelated to external factors or contexts (see, for example, Brooks, 2016; 2017).

The process of learning to teach is one that precipitates significant transition; externally, in terms of professional behaviours and competences (DfE, 2011) and internally, in terms of a transition of personal identity. Brooks (2016; 2017) describes the 'professional compass' that student teachers seek to develop as they make the transition from a graduate to a teacher. There is a significant body of academic literature focusing on the identity development of student teachers but of particular interest and relevance to this thesis is the transition required of graduates who choose to become geography teachers, and how that relates to the connections between school geography and academic geography. High-quality

geography teacher education is at the forefront of high-quality curriculum-making (Mitchell, 2016) and in *How To Build A Geographer* (Collins, 2020) I argued that high-quality geography teacher education is the ideal mechanism for curriculum-making that can strengthen transitions throughout the geography education journey.

Crucial to this subject-specific transition is the process of recontextualisation of subject knowledge required of graduates; earlier in this chapter (section 2.2) this recontextualisation of knowledge is considered through the lens of Bernstein's pedagogic device (Bernstein, 1996; 2000) which would suggest that recontextualisation of knowledge takes place in the pedagogical recontextualising field (PRF). Healy (2024, p. 45) identified that early descriptions of Bernstein's pedagogic device included '…university and polytechnic departments of education, colleges of education…' (Bernstein, 1990, p. 183 cited in Healy, 2024, p. 45). Healy also recognised the marginalisation of teachers from what Bernstein described as the pedagogical recontextualising field (PRF), a view shared by Firth (2018). In *How To Build A Geographer* (Collins, 2020) I argued that beginning geography teachers were particularly influential in this recontextualisation process, and propose here that as an actor recognised by Bernstein as being part of the PRF, geography teacher educators (and the geography teacher education community) have a crucial role to play in more closely connecting school geography and academic geography. For graduates who have read for a geography or geography-related degree, whether a Batchelor of Arts (BA) or Batchelor of Science (BSc), a baseline disciplinary knowledge can be assumed; that is, in spite of any specialism acquired from their particular programme of study, that:

> progression and specialisation in a particular branch of the discipline informs critical reflection about both the subject's diversity and its unifying themes. By the end of a course, students are able to situate their chosen specialisms within a wider understanding of Geography, its approach, history and theoretical underpinnings (QAA, 2022b, pp. 7-8).

This suggests that graduates with a geography degree should begin their geography teacher education with the ability to 'think geographically', a term popularised by Jackson (2006) and that has remained in use in the subject community since (for example: Morgan, 2013; Lambert, 2017; Rawlings Smith, 2017; Morgan, 2018; Ofsted, 2023), although as Bendl *et al*. (2024) demonstrate through a recent systematic review of literature, the term has historic roots tracing back to the work of Halford Mackinder in 1911. A feature of some undergraduate geography degrees is a foundation or core module on the nature of the discipline, for example the first-year module described by Tate and Swords (2013, p. 233) which '…is primarily about the contested and changing nature of geography as a discipline'. It should be noted that these foundation modules are often core only to geography degrees and less likely to be a feature of ES3 degree courses; it can therefore be inferred that, although they may well have a strong disciplinary grounding relating to ES3, ES3 graduates are less likely to begin geography ITTE courses with the same disciplinary grounding relevant to school geography as a typical geography graduate might.

QAA (2022b, p. 3) suggests that it is characteristic of a geography degree that subject content will vary, as '[t]he depth to which individual specialisms are studied varies according to the expertise of specific institutions'. Therefore, the nature of subject content knowledge acquired during the degree course will vary from student teacher to student teacher, even those who have gained a geography degree from the same institution as one another. This

variety in subject content knowledge has been evident (anecdotally) from subject knowledge audits completed by student geography teachers during their ITTE programmes; I have observed this in many student cohorts in my former role as a geography teacher educator, and as an external examiner for several other ITTE providers over a ten-year time period. In contrast to other definitions of knowledge from academic work, for example Shulman (1986; 1987) and Young *et al.* (2014), and in policy documents such as the *Teachers' Standards* (DfE, 2011), the *ITT Core Content Framework* (DfE, 2019b) and the most recent *Initial Teacher Training and Early Career Framework* (DfE, 2024a), knowledge is most often characterised as 'subject and curriculum knowledge', described in greater detail in section 2.2.2 as substantive knowledge. Thirteen years' experience as a geography teacher educator has enabled the observation that student teachers' *curriculum* knowledge often develops as a direct consequence of teaching practice and to some extent the same is true of *subject* knowledge; that is, student teachers' subject knowledge improves in the curriculum areas which they teach. However, it is common that early career geography teachers retain significant gaps in subject knowledge that may (or may not) require addressing during their teaching career (GA, 2022d).

QAA (2022b, p. 3) acknowledges that 'Geography is characterised by a breadth of subject matter which recognise the complex intersections of society and environment relations' and that '[a] major intellectual task within the subject is to encompass the diversity of contexts and the different types of knowledge that inform the study of environments and societies, and the interactions between the two, at a range of scales.' Complexity and diversity are part of what makes geography unique and valuable; in their criticisms of the Ofsted (2021)

research review for geography, Nayeri and Rushton (2021) highlighted the epistemic problems that can arise when that complexity is disregarded, stating: 'A report which is at pains to be prescriptive about what good geography should look like has itself been tripped up by trying to engineer simplicity in a set of concepts whose strengths lie in their complexity' (Nayeri and Rushton, 2021, n.p.). Geography's inherent, valuable complexity presents those tasked with teaching the subject – particularly at primary and secondary education levels – with a challenge of retaining a confident grasp on a breadth of subject knowledge. This is an increased challenge for those graduates with a geography-related degree, for example graduates of the ES3 disciplines, as 'ES3 subjects are interdisciplinary by nature, overlapping with science and humanity-based disciplines, including biology, chemistry, geography, informatics and physics' (QAA, 2022a, p. 6). It is common that an ES3 graduate can meet the threshold entry requirement for many ITTE providers – it is widely stipulated by many ITTE providers that those enrolling on a secondary geography ITTE route must be able to demonstrate at least 50% of their degree content relates to geography – but is likely to have more significant gaps in subject knowledge than their single honours geography graduate peers. These subject knowledge gaps have also been reported, in my experience, by graduates with degrees in cognate disciplines, such as international development or urban planning, and those with joint honours degrees where geography only forms 50% of the degree content.

As has been suggested in section 2.4, interdisciplinarity is to be encouraged and celebrated as a characteristic of the discipline. However, as is also evident in section 2.4, the highly specialised nature of subject knowledge developed by those working in interdisciplinary contexts can present challenges for geography's identity.

### 2.5.2 Collaboration: The role of subject associations and the subject community in strengthening the connection between school geography and academic geography

Lambert and Hopkin (2014, p. 72) distinguish between the GA as the *subject association* and the RGS-IBG as the *learned society* and highlight that, despite their common interest in the discipline, each of these organisations has their own relationship with, and input into, the discipline of geography. The wider *subject community*, in the context of this thesis, is considered to be anyone with a stake in the discipline, including: teachers and lecturers; teacher educators; researchers and academics; organisations such as the Field Studies Council and Esri; learners themselves. The lack of subject community involvement in Ofsted's (2021) research review was noted at the time by Nayeri and Rushton:

> As geographers, we know through our (inter/ multi)disciplinary training that good geography comes through collaboration, conversation and diverse views which is why it would have been far better if teachers and students could have been invited to share the resources and research they use as part of these reviews. This is especially the case for geography as there is such a significant contribution made by teachers', often unpublished, work to the discipline (Nayeri and Rushton, 2021, n.p.).

This suggests that there is somewhat of a distance between Ofsted and the subject community, with little dialogue taking place. This can be viewed as problematic given the degree to which the work of Ofsted feeds into school geography, although their purview does not extend to academic geography.

Work to connect the subject community has been ongoing for many years. Fifteen years ago, as a companion to the GA's 'manifesto for geography' *A Different View* (GA, 2009a),

*Geography in higher education* (GA, 2009b) was published with geographers in the academy as its target audience; the opening 'justification' for engagement with the GA's manifesto is articulated as: 'In higher education, we often complain about the poor public understanding of our discipline, about the gap between school and university-level geography, and about the need to make a powerful case for the subject' (GA, 2009b, n.p.). The current GA Strategic Plan for 2020-2025 (GA, 2024d) still features, under the strategic aim to *Advance geography in education and more widely*, the objective to 'Bridge developments in the discipline of geography with school practice' (GA, 2024d, objective 1.4). This suggests that either there has been limited success in addressing the 'gap' that the GA identified in 2009, or that any methods by which that gap can be 'bridged' are not permanent in nature and require constant maintenance, as indicated by the inclusion of this as an objective in the GA's current strategic plan, fifteen years later.

Additional to this ongoing advocacy is the GA's commitment to 'connect geography educators and enable them to learn from one another' (GA, 2024d, objective 2.1) as a means to 'create a more inclusive and sustainable geography education community', and the intention to 'enable better understanding and appreciation of the world' through such activities such as to 'generate innovative, high impact curriculum and teaching materials' (GA, 2024d, objective 3.4). Each of these objectives has clear links to, and implications for, the 16-19 transition, and explicit reference to *connection* – for example through curriculum-making (the rationale for RQ3) – as a mechanism for achieving those objectives. The GA strongly identifies itself as a subject association for *teachers of geography*, in comparison for example to the RGS-IBG which positions itself as 'the UK's learned society and professional

body for geography' with the aim to 'advance geography and support geographers in the UK and across the world' (RGS-IBG, 2022b, n.p.). The GA recognises, however, that in order for school geography to have a sustainable future it is essential to maintain the flow of disciplinary and subject knowledge between schools and universities. Ferreira (2018, p. 372) also recognised the differing yet complementary roles played by the GA and the RGS-IBG in facilitating the 16-19 transition.

Beyond the aforementioned *Geography in higher education* (GA, 2009b) companion to *A Different View* (GA, 2009a) there appears to be little communication through the GA website directly to academic geographers and those working in HE. There is some guidance directed at students considering further study of geography at university (GA, 2024e) and an established 'sister' resource of Geography Education Online (GA, 2020) which has a strong KS5 focus. By comparison, connections to (and input from) geography in the academy pervades the materials on the RGS-IBG website, including those designed specifically for use in schools (see RGS-IBG, 2022c and RGS-IBG, 2022d). Though explicit work directly with academic geographers is less apparent in GA materials than in the work of the RGS-IBG, the GA strongly promotes the need for high-quality geography teacher education, including subject-specialist initial geography teacher education. Throughout a period of intense reform for ITTE in England, the GA has advocated for the place of high-quality subject-specialist geography ITTE, and in their reports on the state of geography teacher education nationally (GA, 2015; Tapsfield, 2018) have reasserted the need for close connections with geography in the academy. Academic geographers feature (in small numbers) in GA phase committees and special interest groups (GA, 2024f) such as the Post-16 and HE Phase Committee,

Teacher Education Phase Committee, and the Geography Education Research Special Interest Group.

### 2.5.3 Curriculum-making: Using the curriculum to strengthen the connection between school geography and academic geography

The publication of the GA's manifesto for school geography *A Different View* in 2009 (GA, 2009a) saw a distinctive model for curriculum-making introduced into the subject community (Figure 2.2).

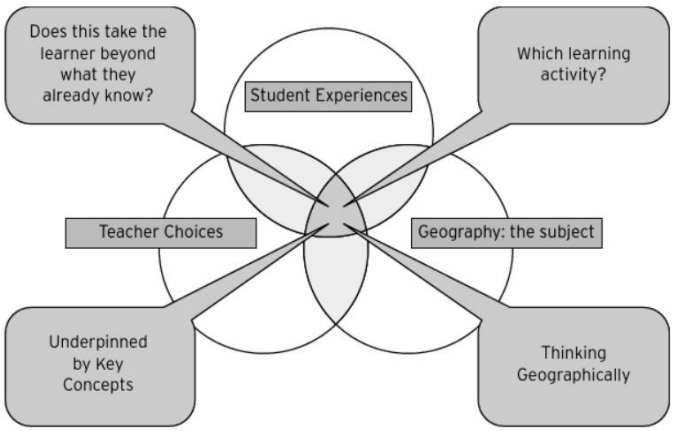



Figure 2.2: Curriculum-making (Biddulph, Lambert and Balderstone, 2015, p. 38, adapted from GA, 2009a).

Biddulph, Lambert and Balderstone (2021) later updated this model to take into account the role of the discipline of geography in curriculum-making (Figure 2.3).

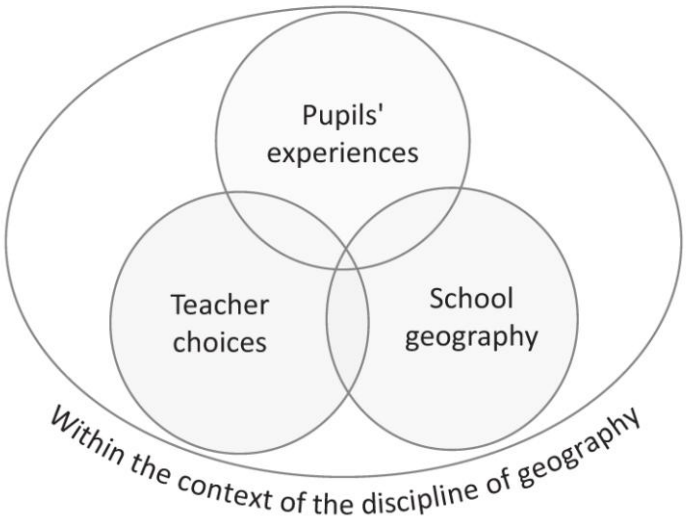



Figure 2.3: Curriculum-making updated (Biddulph, Lambert and Balderstone, 2021, p. 35).

Curriculum-making, and teachers as curriculum-makers, have been central themes in much of the literature on transitions in geography education for some time, with Catling (2011) proposing that:

> In effect, development in geographical education is about how primary teachers might re-create themselves as *curriculum makers* even in the constrained circumstances of teaching a school structured or 'off-the-peg' curriculum unit, in order to make geographical studies and learning theirs and the children's own (Catling, 2011, p. 27, emphasis in the original).

This assertion from Catling (2011) acted at the time as a crucial reminder that creative and collaborative curriculum-making is possible – indeed, desirable – at every stage of the geography education journey, something I proposed to be relevant almost a decade later in *How To Build A Geographer* (Collins, 2020). The work of 'inspiring curiosity and fascination' (DfE, 2013a) begins with primary geography at the start of an individual's geography education journey, although even earlier than this, the EYFS framework (from birth to the age of five) specifies that the inclusion of 'understanding the world' should 'ignite children's curiosity and enthusiasm' (DfE, 2023a, p. 8). At the other end of the geography education

journey, curriculum-making can address the practical and cognitive skills gaps identified by Tate and Swords (2013) and the concerns highlighted by their participants that the curriculum they studied had not been representative of, nor prepared them adequately for, the discipline experienced in HE. Lambert, Solem and Tani (2015) view the curriculum as merely a framework which guides teachers' classroom practice, and this view of the curriculum has often been reasserted since by those supporting geography teachers' practice, including the GA. Prior to the work of Lambert, Solem and Tani (2015), Cotton, Winter and Bailey (2013) described the curriculum as operating at a number of levels, including the hidden curriculum and enacted curriculum rather than the formal curriculum. Embracing this hidden curriculum provides geography teachers with the space and scope to explore their own subject identity, later described by Brooks (2016; 2017) as an essential aspect of the professional development of effective geography teachers. This subject identity might be related to the expertise and interests of the individual geography teacher, manifested as the inclusion of academic themes, processes, and concepts into the school geography curriculum. One such way of integrating academic geography into the school geography curriculum might be to enrich existing SoW (schemes of work; these are prescribed units of learning that, although aligned to the formal curriculum, are usually designed by individual geography teachers or geography departments in schools) by including updated, more contemporary knowledge and understanding of a theme, process, or concept.

Recent curriculum reform in England has provided more explicit opportunities for more recent graduates to integrate some of the more 'radical' geography they may have studied

themselves as undergraduates, which was identified by Tate and Swords (2013) as one aspect of the cognitive skills gap experienced in the 16-19 transition (section 2.3.4.3). The revised A-level curriculum published for first teaching in 2016 and first examination in 2018 (DfE, 2014b) featured for the first time the core content of cultural geography, through the theme of 'Changing Place, Changing Places'. The work of prominent geographers such as Doreen Massey and Peter Jackson, authors who have long featured as integral to core texts for geography undergraduate degrees, was now to be shared with young people learning geography in secondary schools and FE colleges. Along with any curriculum reform there is a need for renewed curriculum-making, and the inclusion of more recognisably 'academic' core content at A-level such as cultural geography, the carbon cycle, and global governance presented geography teachers with both opportunities and apprehensions. For confident geographers, often (but not exclusively) those with more recent qualifications in the subject, the A-level reforms of 2016 provided scope to engage young people with contemporary geography and geographers, and opportunities to enrich and refresh the school geography curriculum. For others, including those teaching geography as non-specialists, the inclusion of academically more rigorous and conceptually more challenging content caused some apprehension and the subject community responses included the provision of subject content overviews (RGS-IBG, n.d.) and specialist CPD courses and materials (see for example GA, 2022e). There are clearly implications here relating to the landscape of geography teacher education in the UK (see section 2.5.1) in that a more rigorous school geography curriculum requires confidence in subject knowledge and a deeper disciplinary understanding of geography, found repeatedly over time to be often beyond the grasp of a non-specialist (Catling, 2011; Burnett and Crowe, 2016; Ofsted, 2023).

While enriching existing SoW for more commonly taught, 'traditional' school geography topics is one approach to curriculum-making, another is to develop SoW which extend beyond the narrow framework of the formal curriculum. For example, SoW based on the work of Hans Rosling, in particular relating to the book *Factfulness* (Rosling, Rosling-Rönnlund and Rosling, 2018) and the work of Gapminder (2022), can often be seen on school geography department websites. Other 'popular geography' beginning to feature more prominently in the school geography curriculum and in recent publications in the GA's professional journal, *Teaching Geography* (Trolley, 2020) includes the work of Tim Marshall, for example SoW founded on the book *Prisoners of Geography* (Marshall, 2015). SoW based on *Factfulness* (Rosling, Rosling-Rönnlund and Rosling, 2018) or *Prisoners of Geography* (Marshall, 2015) can easily be designed as vehicles to deliver aspects of the formal school geography curriculum, whilst exposing young people to aspects of geography more commonly learned at university.

Social media acts as a mechanism for what Mitchell (2016; 2017; 2020) has described as a 'hyper-socialised' approach to curriculum-making. The use of social media platforms – for example, so-called 'edu-Twitter' (Watson, 2020), although the platform has since been rebranded as X – has escalated resource sharing and, to some extent, collaboration. However, as Watson (2020) highlights, this use of social media is not without flaws. It should be recognised that the curriculum-making arising from social media platforms needs to be subject to the same levels of academic and intellectual scrutiny advocated by Mitchell (2016; 2017; 2020). Without such scrutiny, teachers risk the perpetuation of misconceptions (section 2.2.2), for example those observed by Ofsted (2023) and similar misconceptions in turn noted by Morgan (2021) and Nayeri and Rushton (2021) in relation to the content of

Ofsted's (2021) report. It is particularly relevant to this thesis that a lack of involvement from the subject community in developing such reports as Ofsted (2021) was noted by Nayeri and Rushton (2021) as a missed opportunity for collaboration with, and contribution by, the full range of stakeholders in the subject community.

Additionally, concerns have been raised regarding a lack of diversity among curriculum-makers. This again raises the central importance of subject-specialism; increasingly, the origins and ongoing identity of the discipline is a feature of core undergraduate modules (for example, as specified in Tate and Swords, 2013) and requires students to reflect on the state of geography. It is reasonable to suggest that geography graduates – particularly recent graduates, given social movements such as Black Lives Matter and a growing awareness of critical race theory – will be more aware of contemporary thinking around the need for decolonisation of the discipline and issues of equality, diversity, and inclusion (RGS-IBG, 2021b). This awareness is also in part due to work by emerging groups such as the Decolonising Geography group (Decolonising Geography, 2022) and more established groups such as the RGS-IBG's Race, Culture and Equality Working Group (RACE, 2022) who propose that the curriculum-making outputs of subject-specialists, whether formal or informal, should be reflective of the ways in which the discipline is progressing in terms of diversity. Equality, diversity and inclusion are more prominently addressed in the fifth edition QAA Subject Benchmark Statements for ES3 (QAA, 2022a) and Geography (QAA, 2022b) than was the case in previous editions (QAA, 2019a; 2019b), not least as QAA specify this as a 'cross-cutting theme' throughout all of its updated Subject Benchmark Statements (QAA, 2022c;

2023), but also as a recognition that geography's colonialist and imperialist origins came from knowledge production in the exploitative era of colonial enlightenment.

## 2.6 Chapter summary and research questions

This chapter has examined the literature relating to the nature of geographical knowledge, finding a consensus in the geography subject community that the subject comprises disciplinary knowledge and substantive knowledge; a framework which identifies the key concepts and approaches to geographical knowledge has recently been developed by the GA (2022a) and in early critical engagement with this framework, Huckle (2024, p. 19) has indicated that: 'In that it puts the geography curriculum on clear conceptual foundations (Lambert and Morgan, 2010) the GA's framework is to be recommended'. There is a current interest in the field of geography education research in powerful knowledge (PK), and this chapter has also identified opportunities for using PK to supplement the GA's (2022a) view of disciplinary knowledge. School geography and academic geography have been identified as two educational spaces which might be more closely connected to one another; literature has been used to describe each of these educational spaces, and to outline what research currently tells us about the transitions within and between these two educational spaces. Although previous literature has focused on the 16-19 transition, this chapter has explored all phases of the geography education journey, from primary geography to post-16 geography in schools, to the post-19 study of geography in HE and geography's academic identity. Three different mechanisms for more closely connecting school geography and academic geography have been considered in greater detail, by reviewing the available

literature on high-quality geography ITTE, the role of subject associations and the subject community, and the role of curriculum-making.

From this literature review, the following research questions were identified:

**RQ1: What are the elements of continuity and progression between the school geography curriculum and the academic discipline of geography?**

**RQ2: What do stakeholders perceive to be the benefits and limitations of more closely connecting school geography and academic geography?**

**RQ3: What might a more connected geography curriculum look like in practice?**

In the following chapter, the research design and methodology used to answer these research questions is outlined.

# CHAPTER 3: RESEARCH DESIGN

## 3.1 Introduction

This chapter articulates the research process, from design decisions, and theoretical and methodological frameworks, to procedures for data gathering and data analysis. In section 3.2 I reconsider positionality in a more theoretical sense, independent of (though related to) the personal positionality described in Chapter 1 and the ethical considerations described in section 3.8. In section 3.3, the relationship between the RQs and the research design and methodology are summarised. Section 3.4 outlines and justifies the research methodology. The remainder of the chapter summarises the data gathering (section 3.5) and data analysis (the document analysis in section 3.6, and the analysis of questionnaires and interviews in section 3.7). Ethical considerations for the research are presented in (section 3.8) and the chapter is concluded (section 3.9).

## 3.2 Theoretical positionality: Considering the researcher in the research

As a geographer working in the field of education, considerations of positionality – my 'world view' and ontological and epistemological beliefs (Holmes, 2020) – were at the forefront of the research design process. This personal positionality is addressed in Chapter 1, section 1.5. In both disciplines relevant to this research – geography and education – relational positionalities have particular implications for the qualitative researcher. In the context of geography, Philo, Boyle and Lucherini (2021, p. 35) articulate this insider/outsider

positionality as 'researching "our" people and researching "other" people'. In the field of education, positionality is often bound up in relationships of 'power and position' (Cohen, Manion and Morrison, 2018, p. 136) and the political and social hierarchies arising in any educational research, but particularly that which involves inherently vulnerable participants such as children and young people (Midgley, Danaher and Baguley, 2013; Cohen, Manion and Morrison, 2018). Positionality has clear implications for the researcher-participant relationship and for research ethics, and these aspects of positionality are explored more fully in sections 3.5 and 3.8 respectively. However, an acknowledgement of positionality should also be evident as a 'golden thread' throughout any qualitative and reflexive research process, with Butt (2020, p. 122) stating the importance of '…researcher(s) recognising their position in the research process and acknowledging their potential impact'. To co-opt a term used elsewhere in this research project, positionality acts as an element of *continuity* throughout the research. As such, the place of 'the researcher in the research' is examined in several areas of this thesis, beyond the positionality statement in Chapter 1, an approach advocated by Braun and Clarke (2013, in Shepherd, Noble and Parkin, 2022). Such continued scrutiny of positionality – as Holmes (2020, p. 2) describes it, 'an ongoing process' – throughout the research project is a natural outcome of researching and writing reflexively, and this reflexivity is characteristic of both fields of geography and education. Having been situated professionally *somewhere* within those fields for the last twenty years (see Chapter 1) my approach as a researcher is inherently a reflexive one but as the research progressed, it was essential to repeatedly revisit and refine my understanding of positionality. As highlighted by Holmes (2020, p. 2): 'Self-reflection and a reflexive approach are both a necessary prerequisite and an ongoing process for the researcher to be able to identify, construct, critique, and articulate their positionality'. In my positionality there is, too, an

aspect of the 'boundary-crossing' deemed to be crucial in moving forward research which lies in the geography-education nexus (Figure 3.1); both Kinder and Brace (2022) and Finn *et al*. (2022) explored this notion of boundary-crossing in a Special Section in Volume 54, Issue 1 of the RGS-IBG journal *Area*, published in 2022 in conjunction with the re-naming of the 'Higher Education Research Group' to the 'Geography and Education Research Group' (GeogEd). Each of the articles in this Special Section had a particular role in moving the research forward, whether in contributing to the review of literature in Chapter 2 (Healey *et al.*, 2022) or in refining my understanding of the complexity of the geography-education nexus in which this research is situated and in which I, as the researcher, am positioned (Kraftl *et al.*, 2022).

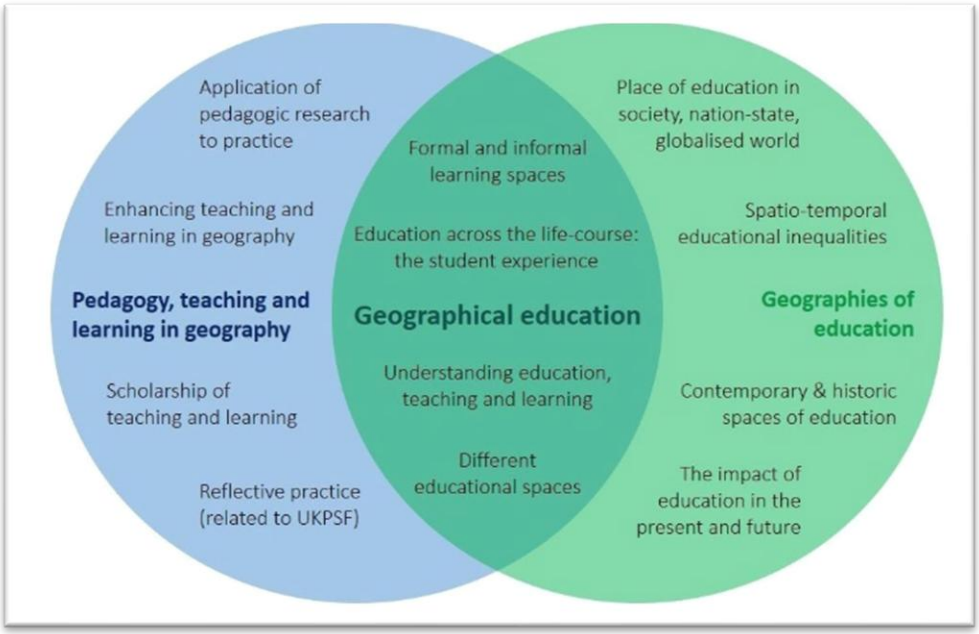



Figure 3.1: The Geography and Education Nexus (Finn *et al.*, 2022, p. 42).

'Geographies of education' can be viewed as a field within the broader discipline of geography, or indeed as a sub-discipline in its own right (Kraftl *et al.*, 2022); for the purposes of the discussion that follows here, geographies of education is considered to be a sub-

discipline of geography and distinct from the field of geography education, with this research project situated in the latter rather than in the former. Kraftl *et al.* (2022, p. 17) report that research in the sub-discipline of geographies of education addresses educational experiences 'in their broadest sense', yet further examination of the cited literature shows that little of this research takes place across multiple phases of education or between educational spaces. To apply an earlier phrase, there is little evidence of boundary-crossing by individual academics or researchers, or within individual pieces of research, and in that respect this research project begins (albeit in a small-scale way) to address this gap. With reference to the geography-education nexus (Figure 3.1) this research project, whilst not in itself situated in the sub-discipline of geographies of education but rather more firmly in the narrow field of geographical education, responds to the suggestion of Kraftl *et al*. (2022, p. 20) that '…more cross-fertilisation between geography and education studies could help extend the geographies of education'.

## 3.3 Restating the research questions (RQs)

As introduced in Chapter 2, the following RQs were selected; Figure 3.2 demonstrates the relationship between the RQs and the research design and methodology, which is then described in more depth in section 3.4.

**RQ1: What are the elements of continuity and progression between the school geography curriculum and the academic discipline of geography?**

**RQ2: What do stakeholders perceive to be the benefits and limitations of more closely connecting school geography and academic geography?**

**RQ3: What might a more connected geography curriculum look like in practice?**

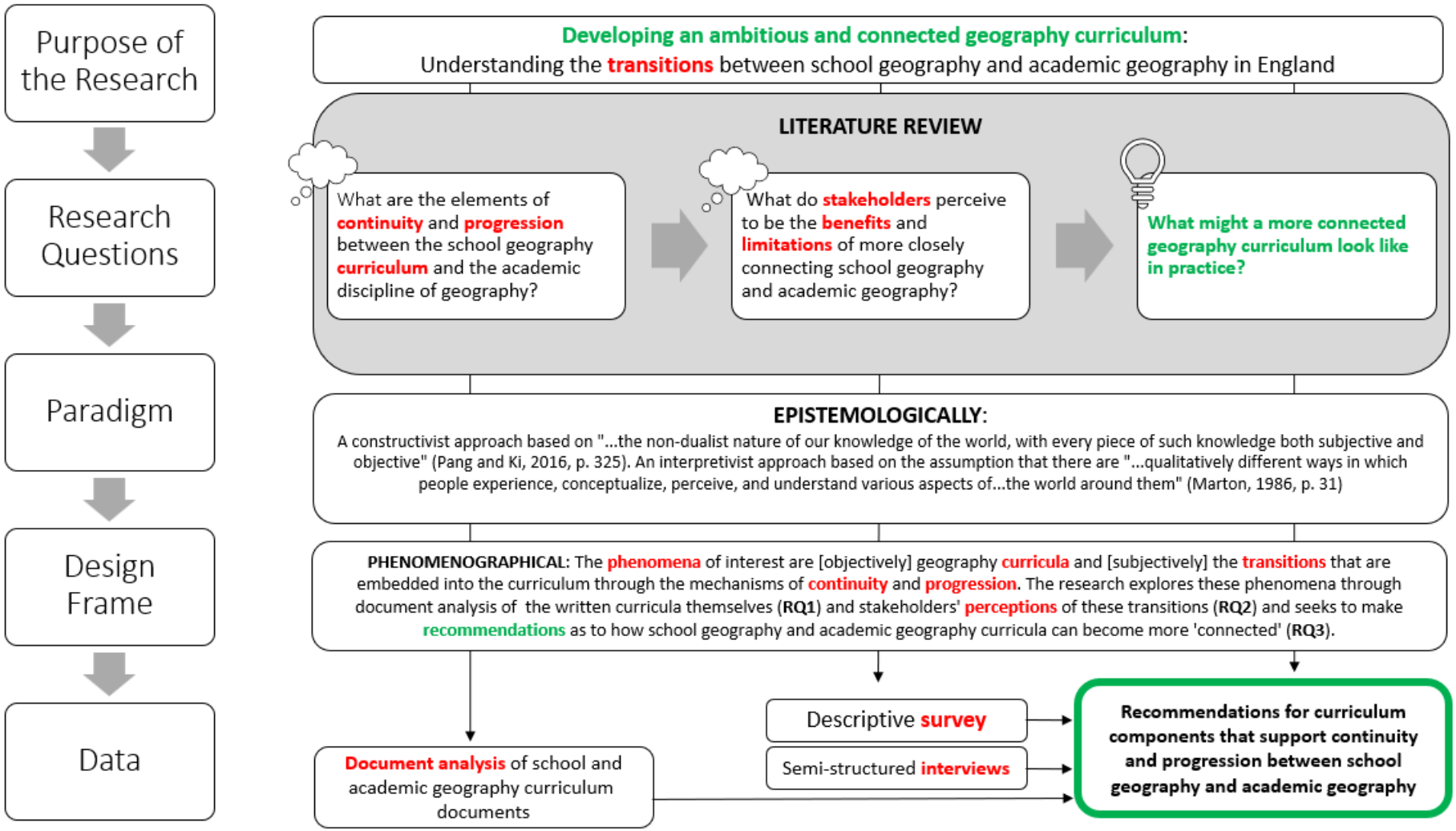



Figure 3.2: The relationship between the research questions and the research design and methodology. (Source: Researcher.)

## 3.4 Research methodology

Just over a decade ago, Furlong (2013, p. 10) described the 'epistemological debates and tensions' that the author felt were evident in the field of educational research. The term 'educational research' rather than 'education research' underpinned my research approach, using the distinction provided by Furlong (2013) who stated that 'there is a difference between … education research, where social scientists study educational processes in and for their own sake and education***al*** research which is concerned to 'make a difference' (Furlong, 2013, p. 10, emphasis in the original). In the decade since Furlong articulated those 'tensions', educational research has continued to be open to scrutiny and criticism, for example by Wang (2020), and the burden remains on educational researchers to set their work in a strong conceptual framework. Research situated within a strong conceptual framework can directly and successfully begin to address concerns over the lack of generalisability often seen in educational research; without this conceptual framework, research can lack rigour, trustworthiness, and authenticity. Bassey's (2001) notion of 'fuzzy prediction' is of value here too, and it is the intention of this research project to produce some 'open generalisations' (Bassey, 1981) that can directly influence practice, in particular through the answer to RQ3:

**What might a more connected geography curriculum look like in practice?**

This research project was formulated with exploring the phenomenon of transitions in geographical knowledge – through identifying aspects of continuity and progression (RQ1) and by exploring the benefits and limitations of more closely connecting school and academic geography (RQ2) – as its broadest aim. This aim was achieved by identifying RQs

with value and meaning and that are concerned with 'making a difference' (Furlong, 2013), and through using these RQs to influence and determine the most appropriate design, methodology and methods for the research. That the nature of RQs themselves should be central to the methodological decisions made by the researcher is a view shared by Hopwood (2004, p. 349), in describing their approach to exploring secondary school students' conceptions of geography:

> Thus research design reflected less those suggested by epistemological or methodological 'camps', and more the particular requirements of the study, governed by the question: "what techniques of data collection and analysis will produce reliable data and allow a valid interpretation of it such that the research questions may be answered?".

Hopwood (2004) used a multiple-methods approach to answering their RQs, including – as also used in this research – a questionnaire and semi-structured interviews. Although the work is now twenty years old, the methodological considerations made by Hopwood (2004) were helpful in developing the research design for this study, along with the more recent work of Alvesson and Sandberg (2013) who highlighted the crucial role that the formulation of RQs plays in knowledge development. A decision was made early in the research process that not all RQs central to this project needed to be investigated empirically; Alvesson and Sandberg (2013, p. 11) justify this approach thus:

> We can ask questions that do not necessarily call for a new, specific empirical inquiry to be conducted: many good research questions imply a thorough, critical, imaginative and synthesizing approach to the theories and empirical studies that already exist in a specific subject area.

This view informed, in particular, the approach to answering RQ1 and the application of document analysis as the research method used for this RQ. However, methodological decisions were wide-ranging and extended beyond the selection of RQs. Phenomenography

as the chosen research methodology is now fully addressed, in four ways: i) by considering phenomenography as an alternative to phenomenology, and its use in research in the fields of geography *and* education (section 3.4.1); ii) by engaging with ongoing debates regarding phenomenography (section 3.4.2); iii) by considering alternatives to a phenomenographical approach (section 3.4.3); and iv) by justifying the methodological choices made for this research (section 3.4.4).

### 3.4.1 Phenomenography in geography *and* education research

Phenomenography was developed in Sweden in the 1970s, with Ference Marton first using the term 'phenomenography' in 1981 (Marton, 1981) and leading what has been termed the Goteborg group (Gibbs, Morgan and Taylor, 1982). Hajar (2021, p. 1421) defines phenomenography simply as 'concerned with the descriptions of things as they appear to us', and in the context of this research, phenomenography allows the 'thing' (i.e. the phenomenon being investigated, namely the transition in knowledge between the school geography curriculum and the academic discipline of geography) to be described as it appears (in documents, and to participants). This focus on the experiences of others is the key difference between phenomenography and phenomenology, with the focus of the latter being on the structure and meaning of the phenomenon itself. Stolz (2020) offered a strong critique of phenomenography, going as far as to suggest it should be subsumed into phenomenology. The position – and power – of the researcher seems to be one of the primary concerns of Stolz, in particular that:

> There does appear to be a fundamental flaw in phenomenography because it fails to both reveal the process of second-order interpretations, and how the phenomenographic researcher is to practice phenomenological reduction or

> bracketing so their own beliefs, assumptions, opinions, and so on, do not impart their own first-order descriptions (Stolz, 2020, p. 1086).

However, there is precedent for the use of phenomenography rather than phenomenology in educational research. Initially, phenomenographical research focused primarily on approaches to learning, but has since been applied across a variety of settings and disciplinary fields of educational research (Wright and Osman, 2018). In fact, Tight (2016), in exploring the development and application of an innovative research design in HE research, proposes that phenomenography lends itself to interdisciplinary research, suggesting that many researchers who use a phenomenographical approach do so when engaged in research that is 'ancillary to their main disciplinary focus' (Tight, 2016, p. 319). Given this research project bridges two academic disciplines (education and geography) each with their own commonly accepted and used research paradigms, it seems appropriate and desirable to embrace a methodological approach that has the scope for interdisciplinarity. Phenomenographic research is not rare in educational research, as this is where the approach originated, but it can be noted that there are also examples of phenomenographic research in the HE disciplines of geography (Bradbeer, Healey and Kneale, 2004) and geography education (Trigwell, 2006). The selection of a research design that is aligned to the approaches used in geography, not solely in education, responds to the criticisms of Butt (2020) who found that, in spite of claims to the contrary, there was little evidence that geography education researchers were employing 'research methods commonly used in mainstream geography' (Williams, 2003, p. 260, in Butt, 2020, p. 117). This further legitimises phenomenography as a suitable research methodology for this research project, seeking as it does to address the boundary-crossing between disciplines and phases of

education. However, in order to address the earlier concerns of Stolz (2020) regarding the methodological rigour of phenomenography, further debates are now examined.

## 3.4.2 Debates regarding phenomenography

Hajar (2021) was influential in helping the development of the phenomenographical approach in the early stages of this research (section 3.4.4). However, Hajar's (2021) representation of phenomenography was critiqued the following year by Åkerlind (2022), an author whose earlier work had also been influential when developing the phenomenographical design for this research (Åkerlind, 2012; Åkerlind, McKenzie and Lupton, 2014; Åkerlind, 2018). The main criticisms of Hajar (2021) by Åkerlind (2022) related to: the object of study, in which it is essential that there is a single phenomenon; meaning and structure, as phenomenographic research outcomes; and the role of the researcher in phenomenographic analysis. Each of these is considered in turn, to appraise the extent to which these were weaknesses in the application of a phenomenographical approach to this research, and also cross-referenced with the more recent work by Åkerlind (2024) which outlines further potential misconceptions relating to phenomenography.

### *3.4.2.1 The object of study*

Åkerlind (2022) stated clearly that phenomenography requires a focus on a single phenomenon; the author criticises the examples provided by Hajar (2021), suggesting that they lacked delimitation. Åkerlind (2022, p. 1301, citing Marton and Booth, 1997) provides in the article some examples of delimited phenomena that can be studied (Figure 3.3):

- Learning (amongst young children in one study and amongst university students in another);
- Numbers (amongst young children);
- Recursion (amongst computer programming students);
- Newtonian motion (amongst physics students);
- Matter (amongst chemistry students);
- Political power (amongst members of a community).

Figure 3.3: Examples of phenomena that can be studied using a phenomenographic approach (Marton and Booth, 1997, in Åkerlind, 2022, p. 1301).

It can be argued that the focus of this research, 'transitions in geographical knowledge (amongst geographers)' would not look out of place among the examples in Figure 3.3. I believe that the research design retained a broad focus on the geography curriculum, but also a more narrow focus on the transitions in geographical knowledge (as identified by where continuity and progression can be found in the geography curriculum). By way of criticism, it could be argued that the research examined geography curricula (plural) rather than the geography curriculum (singular). The counter-argument, however, is that geographical knowledge is one phenomenon (singular) with curricula (plural) articulating what that phenomenon looks like at different stages of the geography education journey. That being the case, I would argue that my object of study was appropriate for phenomenographical research.

*3.4.2.2 Meaning and structure*

Arguably, the findings of this research are not presented in the form of commonly recognised outcomes of phenomenographical research. Åkerlind (2022; 2024) specifies that such research should result in categories of description (different ways of understanding, or

different meanings) and an outcome space (in the form of hierarchical structures) that is 'expected to highlight structural relationships between different ways of understanding the same phenomenon' (Åkerlind, 2024, p. 6). Although Chapters 4, 5 and 6 offer categories of description (meaning) the findings are not presented in the form of 'structural relationships' that are proposed by Åkerlind (2024, p. 12) as a distinguishing feature of phenomenography. This is where there is a clear deviation in my approach from the accepted practices of phenomenographical analysis; it may have been more precise to describe the data analysis as a form of thematic analysis that was underpinned by phenomenographical principles, but notwithstanding this I believe the outcomes of my research – as intended – do capture different ways of understanding the phenomenon of transitions in geographical knowledge, as will be demonstrated in Chapters 4, 5, and 6.

*3.4.2.3 The role of the researcher*

Åkerlind (2022) specified that researchers using phenomenography must retain a reflexive awareness of the non-dualistic ontology and epistemology that underpins any phenomenographical study. This non-dualistic relationship between the individual and their experience is something that was recognised from the start of my engagement with phenomenography as being pivotal to the success of its application (section 3.4.4.1). A reflexive stance is one with which I am familiar as a researcher, and I believe therefore a level of interpretive awareness as recommended by Åkerlind (2012) was protected, without replicating the misconceptions that, ten years later, Åkerlind felt were revealed in Hajar (2021). Åkerlind (2024, p. 7) highlights what they see as an ongoing misunderstanding that 'that the interpretive role of the phenomenographic researcher is a subjective one'. The

need to acknowledge – and indeed to limit – researcher subjectivity in the research process is not unique to phenomenography and would have been a consideration made even had alternatives to phenomenography been selected. In section 3.4.3, reflexive thematic analysis (RTA) is discussed as a potential alternative that could have been used for this research. The guidance of Braun and Clarke (2021) was useful in debating this as an alternative, and in that work the authors identify 'the importance of the researcher's subjectivity as analytic *resource'* (Braun and Clarke, 2021, p. 330, emphasis in the original). Instead, the stance of Åkerlind (2024, p.7) was adopted, that 'in phenomenography, research interpretations are regarded not as subjective or objective, but as relational'. I believe that the thematic analysis of the phenomenographic interviews using the codes established from the GACF allowed me to retain a *relational* view of the data, in line with a phenomenographic approach, without any claims that this increased objectivity nor removed subjectivity.

Having read both recent critiques by Åkerlind (2022; 2024), encouragement was taken from Åkerlind (2022) that the choice of phenomenography was not without merit, particularly given the sociocultural aspect to the research, in that the author was in agreement with Hajar (2021) that phenomenography is 'compatible with a sociocultural perspective'. However, Åkerlind also notes in relation to this compatibility that 'its general absence in phenomenographic literature means that it is an issue that needs to be debated, not assumed' (Åkerlind, 2022, p. 1305) and I propose that this research might contribute to such debate. This research exemplifies the contribution that doctoral research can make to the development of methodological approaches, particularly in the field of phenomenography, as described by Åkerlind (2018, p. 956) who stated that '…we should not overlook the input

of doctoral theses in maintaining creativity in a research field'. Åkerlind signposted the earlier work of Dringenberg *et al.* (2015, in Åkerlind, 2018, p. 956) and Rovio-Johansson and Ingerman (2016), two publications which establish further that the theoretical and methodological position in the phenomenographical tradition remains unfixed, and open to new interpretations and applications.

Åkerlind (2022, p. 1300) recommends that 'it [is] essential to work with an experienced phenomenographer when coming to learn about the research approach', but that was not the context in which this research was conducted. Åkerlind (2022) also highlights that, when researchers attempt to apply a phenomenographical approach without the support of colleagues experienced in phenomenography, misunderstandings and misconceptions can arise. In the case of any such misunderstandings in this research and in this thesis, the responsibility is mine and I hope that my experiences can be of use to researchers considering a similar approach.

### 3.4.3 Alternatives to phenomenography

Other approaches to conducting and analysing the qualitative interviews could have been considered for this research, as an alternative to the chosen phenomenographical approach. Rawlings Smith and Rushton (2023), for example, conducted a questionnaire (n=51) and semi-structured interviews (n=11) to gather data from geography teacher educators. In this recently published work therefore, the authors successfully used methods that were similar to those selected for this research, and with a similar sample size, to investigate the

phenomenon of geography teacher educator identity. The approach to data analysis used by Rawlings Smith and Rushton (2023) was a reflexive thematic analysis (RTA) guided by Braun and Clarke (2021), and in this way the authors were able to generate 'new patterns of shared meaning founded upon a central concept or understanding' (Rawlings Smith and Rushton, 2023, p. 257; Braun and Clarke, 2021). Having since reviewed Braun and Clarke (2021) it can be seen that RTA could have offered an appropriate alternative to the phenomenographical approaches used in my research, particularly as the aim was to seek to establish a collective (rather than individual) experience of a phenomenon – what Rawlings Smith and Rushton (2023, p. 257) described as a 'shared meaning' – and it was this aim which had initially led to the choice of a phenomenographical research design. However, it was also clear that the stages for RTA outlined by Braun and Clarke (2021, p. 331) bore a resemblance to the stages of phenomenographic data analysis outlined in section 3.6 as being utilised for the data analysis (Table 3.1):

| **Six-stage process for data engagement, coding, and theme development in RTA (Braun and Clarke, 2021, p. 331)** | **Equivalent process (Chapter 3, section 3.6, Table 3.7) using the selected phenomenographical approach** |
|---|---|
| 1. Data familiarisation and writing familiarisation notes. | 1. Identify and select the appropriate curriculum documents for analysis.<br>3. Reformat the curriculum documents for consistency (Appendices 5-9). |
| 2. Systematic data coding. | 4. Apply the codes to each curriculum document (Appendices 5-9) and collate the findings as a summary (Appendix 10). |
| 3. Generating initial themes from coded and collated data. | 2. Establish themes and codes from the theoretical framework (GA, 2022a) (Appendix 4). |
| 4. Developing and reviewing themes. | 5. Note in situ any words, terms, phrases, sentences, sections that are not captured by existing themes and codes and that will require an additional code (Appendices 5-9). |

| | |
|---|---|
| | 6. Collate into one document (Appendix 11) all words, terms, phrases, sentences, sections that require an additional code. |
| 5. Refining, defining and naming themes. | 7. From the collated document, capture every key term relating to an additional code, and group these into coherent themes (Appendix 12).<br>8. Consult Critical Friends (CF1 and CF2) to increase reliability and validity and amend as appropriate.<br>9. Apply the additional codes to each curriculum document. |
| 6. Writing the report. | |

Table 3.1: A comparison of Braun and Clarke's (2021) process for reflective thematic analysis with the phenomenographical analysis used in this research.

A comparison between the procedures used in *this* research and RTA, articulated by Braun and Clarke (2021) and used by Rawlings Smith and Rushton (2023), serves an important purpose. It reaffirms that although there were differences in the approach taken in this research, the overall rigor of RTA as a method of analysis can be found in the procedures followed.

### 3.4.4 Justifying phenomenography as the chosen approach

It is clear then that there remains much debate regarding phenomenography as a rigorous research methodology (section 3.4.2) and that there were alternatives to a phenomenographical approach that would be appropriate for the research (section 3.4.3). However, engagement with the literature on phenomenography (and phenomenology) and reflection on the RQs reinforces the alignment of this methodological approach with the research aims and questions. In this section, phenomenography as the chosen approach is justified, with respect to: its ontological, epistemological, and methodological assumptions

(section 3.4.4.1); its academic rigour, reliability and validity (section 3.4.4.2); and the alignment between a phenomenographical and multiple-methods approach (section 3.4.4.3). This structure is taken from the critical review of the theoretical foundations of phenomenography by Hajar (2021) which proved helpful in reinforcing the decision to take a phenomenographical approach to this research whilst addressing the concerns raised by Stolz (2020), notwithstanding the debates regarding phenomenography, including its representation in Hajar (2021) that were presented in in section 3.4.2.

#### *3.4.4.1 The ontological, epistemological, and methodological assumptions of phenomenography*

Phenomenography is an empirical research tradition that is often described as assuming a 'non-dualist epistemology' (Åkerlind, 2024, p. 7). A dualist view of social phenomena is that they exist internally (i.e. in thought) and externally (in the outer world), whereas Åkerlind (2024, p. 7) states that the non-dualist view is that 'individuals' understanding of a phenomenon is seen as a relationship between the individual and the phenomenon being experienced'. Hajar (2021) also described phenomenography as having this non-dualist or 'relational' view of nature, in consensus with the earlier stance of Wright and Osman (2018, p. 260) who suggested that phenomenographic research is based on a 'non-dualist ontological view of the experiential relationship between the person and "the world"'. Svensson (1997, p. 163) recognised phenomenography's similarities to other research traditions but argued that it '…has to be given its own specific foundation and cannot be "reduced" to phenomenology or any other established school of thought'. Since its

conception in the 1970s phenomenography has continued to evolve, as has its theoretical and methodological position; in proposing a 'new phenomenography', Pang described:

> …a shift in the primary emphasis of phenomenography from methodological to theoretical concerns, i.e. from questions about how to describe different ways of experiencing something to questions concerning what is the nature of the different ways of experiencing something described (Pang, 2003, p. 146).

In later work, Pang and Ki (2016, p. 325) revisit the purpose of phenomenography, identifying '…phenomenography as an empirical research approach to revealing the different ways in which people understand a particular phenomenon' and as such, this is an appropriate research approach to apply to RQ2, seeking as it does to determine participants' differing experiences and perceptions of the transitions in geographical knowledge between school geography and academic geography. In the same work, Pang and Ki (2016) propose that phenomenography as a methodological approach requires the application of research methods which can allow these different ways of understanding to be revealed, stating that: 'Phenomenography seeks to reveal the experience of phenomena using methods that provide maximum openness for participants to share their experiences and understandings' (Pang and Ki, 2016, p. 324). This is reflected in the construction of the questionnaire, in particular the inclusion of questions seeking to determine the different ways in which participants perceive the geography curriculum.

#### *3.4.4.2 The academic rigour, reliability and validity of phenomenography*

In scrutinising the communicative validity of a phenomenographical approach, Hajar (2021, p. 1431) makes the recommendation that 'phenomenographers should justify and defend the research methods and findings from their studies by having an open dialogue with the

participants themselves, other members of the professional community and the audience of the research outcomes'. As described further in section 3.5, three critical friends were approached to participate in a pilot of the questionnaire. The use of a critical friend for a variety of functions has been well-documented in educational research literature over the last decade, in relation to professional development (Wennergren, 2016; MacPhail, Tannehill and Ataman, 2024) and educational leadership (Henriksen and Aas, 2021; Abrahamsen, 2023; Aravena Kenigs *et al*., 2023; Wepner, Henk and Broege, 2024). A frequently cited definition of the term is 'a trusted person who asks provocative questions, provides data to be examined through another lens, and offers critique of a person's work as a friend' (Costa and Kallick, 1993, p. 50), and this was the role fulfilled by each of the three critical friends consulted during this research process. There is more limited evidence of similar use of critical friends in the context of the research process, although Greener (2021) described a critical friend approach taken to support doctoral students in a non-supervisory capacity. Elsewhere in this chapter, adaptations to more established research methodologies have been articulated and justified, and the application of a critical friend (or in this case, three) to mitigate the limitations of being a sole researcher is another example of originality and adaptation in the design of this research.

Discussions with two of these critical friends (CF1 and CF2) in particular were used to explore more broadly the selected research methods, including the design of the subsequent interviews and potential approaches to analysing the empirical data collected through the questionnaire and interviews. CF1 and CF2 were able to engage in this dialogue from the perspective of a participant, but also with the insider knowledge stemming from

their positions as members of the professional and subject community at the heart of the research. Crucially, the coherent connection between RQ1 and RQ2, and the recommendations generated for RQ3 indicate that the research findings have pragmatic validity, defined by Hajar (2021, p. 1432) as follows: 'The insights gained from research findings are pragmatically valid if they give valuable knowledge that can be employed by the intended audience.' This pragmatic validity is an outcome aligned with the overall research aim, which sought not only to explore continuity and progression in the geography curriculum (RQ1) and stakeholders' perceptions of the transitions between school geography and academic geography (RQ2) but to generate some practical recommendations which might have the potential to positively influence future practice (RQ3).

In terms of reliability, the limited scope of the research project prevented the use of methods for increasing dialogic reliability (Hajar, 2021), requiring the involvement of two or more researchers to engage in a process of cross-referencing their analysis and interpretation of the data. The use of critical friends was intended to *begin* to address the criticism that dialogic reliability is not common in phenomenographical research. However, measures were also taken to build into the research design a strong degree of 'reliability as interpretive awareness' (Hajar, 2021), and these measures are summarised in Table 3.2 below.

| **Principles for interpretive awareness (Hajar, 2021, p. 1433)** | **Measures taken in this research project** |
|---|---|
| The researcher's own background and understanding of the phenomenon under investigation should be identified. | See section 3.2 for an examination of theoretical positionality, and Chapter 1 for a discussion of personal positionality. |
| The characteristics of the research participants and the design of the interview questions should be clearly stated and justified. | See sections 3.5.2 and 3.5.3 for the selection of participants and section 3.5.5 for the design of the interview questions. |

| | |
|---|---|
| The stages organised for collecting data should be transparent. | See section 3.5 for an outline of the procedure of data collection. |
| The data analysis methods should be conducted with an open mind, not by imposing an existing structure. | See section 3.6, in particular the generation of new (not pre-existing) themes (Appendix 12). |
| The procedures for arriving at categories of description should be completely explained and illustrated with quotes. | See sections 3.5 and 3.6, and Chapters 4-6. |
| The results should be presented in a manner that allows for scrutiny. | See thesis as a whole, and also the role of critical friends described in this chapter. |

Table 3.2: Measures taken to ensure 'reliability as interpretive awareness' (after Hajar, 2021, p. 1433).

A final note on reliability in relation to the phenomenographical approach adopted for the research project; Hajar (2021, p. 1433) states that, for phenomenographical research, 'reliability is not concerned with the replicability of results, but with the employment of thorough and appropriate methodological procedures to achieve faithful interpretations of participants' experiences of a given phenomenon'. It is the intention that this chapter presents a strong case for a thorough and appropriate methodology having been applied to the research.

*3.4.4.3 The alignment between a phenomenographical and 'multiple-methods' approach*

For many researchers, the definition of mixed methods research is as 'involving the collection and analysis of both quantitative and qualitative data in a single study' (Creswell *et al*., 2003, p. 212 in Gray, 2018, p. 196). This research does not collect quantitative data, beyond the small proportion of the questionnaire that had the potential to be analysed quantitatively, so it is not therefore a traditional, mixed methods research study. However, other authors have begun to consider broader interpretations of mixed methods research; Gray (2018, pp. 196-197) cites Yin (2006) who argued that a study that combines two forms

of qualitative methods, without using quantitative methods, could be considered as mixed methods research. I consider this research study to employ 'multiple-methods' (an alternative to the term mixed methods) and while I also recognise that more traditional researchers would not consider the research to be truly mixed methods, I believe that my chosen multiple-methods approach occupies the kind of 'experimental space' for research as advocated by Cheng and De Silva (2022, p. 303), writing about methodologies appropriate for the field of geographies of education. The RQs determined the use of multiple-methods, which remained aligned with the phenomenographical approach chosen for the research design. However, Stolz (2020, p. 1084) expresses significant concern around what the author describes as the 'picks-and chooses' and 'ad hoc' selection of ideas, concepts and methods associated with a phenomenographical approach. Svensson (1997), an author at the forefront of the development of phenomenography along with Marton (1981; 1986), acknowledged similar concerns and tensions between, on the one hand, phenomenography's analytical outcomes of categories and relations and on the other hand, its explorative and interpretive methods of data collection and analysis (Svensson, 1997, p. 164). To an extent, these tensions are evident in the design of this research, with RQ1 being answered through a more analytical categorisation of continuity and progression in the document analysis, and RQ2 answered through more interpretive analysis of the questionnaire and interview data. However, Svensson claimed that phenomenographers take the epistemological stance that '…knowledge fundamentally is a question of meaning in a social and cultural context' but also that '…this meaning was related to well delimited entities or objects, having a certain complexity' (Svensson, 1997, p.163). As such, it could be considered that research that uses multiple-methods is well justified. The former – the question of meaning – might best be explored through methods such as the questionnaire

and interviews used to answer RQ2, and the latter – unpicking the complexity of well delimited entities or objects – through methods that allow the researcher to categorise and order their findings in more structural ways, such as the document analysis used to answer RQ1. Mixed methods research has been shown by Onwuegbuzie, Burke Johnson and Collins (2011) to be a means of strengthening legitimation in research and I believe the same can be concluded for this multiple-methods research design.

The stance taken in this research is that in exploring participants' perceptions of transitions in geographical knowledge between school geography and academic geography, RQ2 has a focus on the 'world-as-perceived' not the 'world-as-is', and therefore a focus on second order (phenomenal, or 'thing as it appears to the observer') not first order (noumenal, or Kantian 'thing-in-itself') perspectives is required (see Gibbs, Morgan and Taylor, 1982, p. 139). That phenomenography offers a methodology by which these second-order perspectives are made the main concern was supported by Hajar (2021) who stated that: 'Since phenomenographers are concerned with the individual's awareness of reality (an ontological issue) and their expression of reality (an epistemological issue), phenomenography embraces a second-order perspective (i.e., how the individual conceives their world) rather than a first-order perspective' (Hajar, 2021, p. 1425).

Having taken into consideration the longstanding debate regarding phenomenology and phenomenography, the decision was made that this research project would employ a broadly phenomenographical, multiple-methods approach. A questionnaire followed by semi-structured phenomenographical interviews with a smaller sample of participants were

decided as the most appropriate research methods to explore stakeholders' second-order perspectives of the connections between school geography and academic geography and to seek an answer to RQ2. However, it was also necessary, through RQ1, to set participants' second-order perspectives of geographical knowledge in the wider context of the formal curriculum frameworks that exist to guide their practice, and this necessity led to the selection of the secondary data described in section 3.5.1 and the document analysis outlined in section 3.6.

## 3.5 Data collection

An overview of the data collection is presented in Figure 3.4.

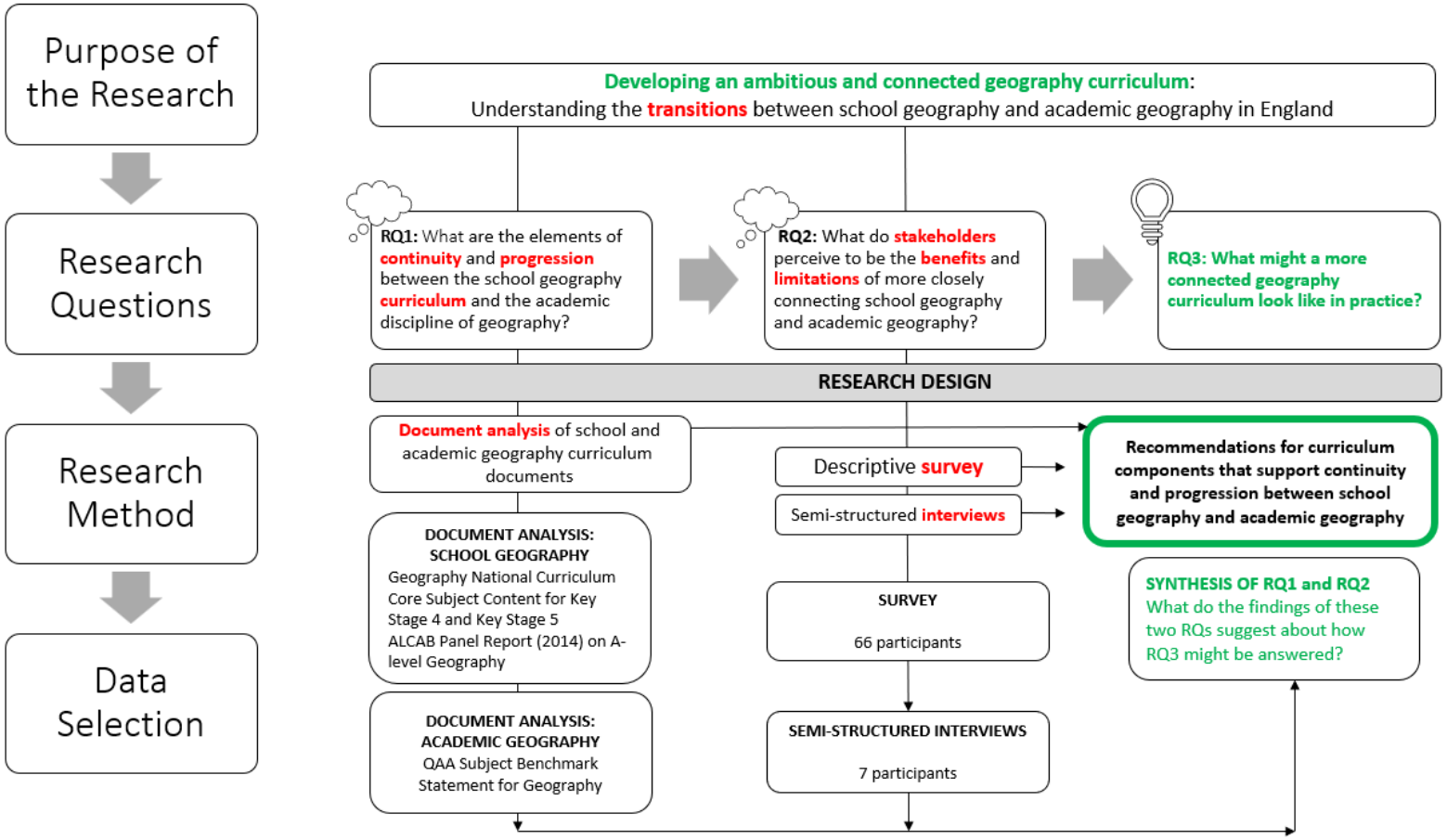



Figure 3.4: The relationship between the research questions and the research methods, data selection, and data collection. (Source: Researcher.)

This section of the chapter gives further information about the research methods used to collect data pertaining to RQ1 and RQ2. For RQ1, the selection of secondary data is outlined, with the process of document analysis described in further detail in section 3.6. For RQ2, this section of the chapter describes: the process for recruitment and the intended sample; the eventual participants; the design of the questionnaire; the design of the semi-structured interview schedule. The analysis of questionnaire and interview data is described in section 3.7.

### 3.5.1 Selection of secondary data

An analysis of secondary data focused on the key documentation which informs geography curricula in schools and HEIs, and was used as the main method to answer RQ1:

> **What are the elements of continuity and progression between the school geography curriculum and the academic discipline of geography?**

As highlighted by the GA (2022a, p. 3) curriculum development and planning takes place at three main levels: i) the national level, undertaken by government departments; ii) planning and development level, for example by awarding bodies and subject associations; and iii) classroom teacher level, including by individual teachers and geography departments. The focus for the document analysis was on formal curriculum documents relating to the national level. As the literature review in Chapter 2 made clear, there are many interpretations of curriculum, and what is written in a formal curriculum document, whether at national level, planning and development level, or classroom teacher level, may not always be identical to the curriculum as enacted by teachers and as received by learners (Cotton, Winter and Bailey, 2013). Enacted and received curricula are challenging to capture

and analyse at anything other than a small-scale, local level. Regardless of the phase and context in which they are teaching, whether in schools or in HE settings, those teaching geography are bound to a greater or lesser extent by what the formal curriculum applicable to that phase and context will permit. This understanding led to the decision therefore to limit the documents selected for analysis only to the formal documents that underpin geography curriculum development and planning at a national level, with a focus on educational contexts across phases (primary, secondary, post-16 and HE).

A limitation to this approach to selecting national level documents for analysis remains that many schools in England, namely those that are academies or free schools, are exempt from the requirement to teach the NC (*Academies Act 2010*). No assumption can be made that all schools will offer a geography curriculum at KS1-3 that is underpinned by GNC2014 (DfE, 2013a) and these schools may therefore be conducting their own curriculum development and planning for this phase at a more organisational (MAT) or local level. However, as was highlighted in Chapter 2, for many reasons the curriculum offered in academies and free schools often closely resembles the NC (Ofsted, 2023) and therefore it is hoped that the document analysis of GNC2014 will have relevance to the geography curriculum being delivered in the majority of schools in England. One possible avenue for further research might be to apply the same approach to document analysis in order to scrutinise geography curricula at a more local or organisational level; many schools publish their curriculum plans online via school websites, and often MATs operate a centralised curriculum across a number of schools. In 2020, initially as a response to the impacts of Covid-19 on schooling in England, the Oak National Academy was established (Oak National Academy, 2023). Oak National Academy offers free curriculum plans and accompanying resources on their website

(Oak National Academy, 2024) which presents an additional source of data which could be scrutinised in further research. At the time of writing, Oak National Academy curriculum plans for the academic year 2023/24 included a primary geography curriculum (KS1 and KS2) but no geography curriculum for secondary phases (KS3 or KS4), although archived versions of the latter from previous academic years were available for download. Oak National Academy does not offer curriculum plans for the KS5/post-16 phase (Oak National Academy, 2023).

For school geography, the documents selected were therefore the formal curriculum documents: GNC2014 for KS1-3 (DfE, 2013a), the core content for KS4 (DfE, 2014a) and KS5 (DfE, 2014b). During the reform to A-levels that occurred in 2014, the A-Level Content Advisory Board (ALCAB) was established to make recommendations for the content for A-level Geography (ALCAB, 2014). Coffey (2014) described the importance of intertextuality when considering related documents:

> The analysis of documents and documentary reality must, therefore, look beyond individual texts as artefacts, and also ask how (and in what ways) they are related. That is, we can recognize that, like any system of symbols and signs, documents often make sense because they have relationships with and to other documents. Thus we can pay attention to the *intertextuality* of documents: that is, their relational qualities and what these can reveal about the setting under investigation (Coffey, 2014, pp. 373-374, emphasis in the original).

It was decided therefore that, in addition to the KS5 core content document that was subsequently developed and published by the government (DfE, 2014b), it would be of interest to ascertain to what extent the ALCAB report recommendations had been adopted and where the KS5 core content outlined by the government (DfE, 2014b) differed from the ALCAB (2014) recommendations in terms of continuity and progression.

For academic geography, the selection of secondary data was more challenging. There is little written documentation to unify the delivery of such a diverse and broad discipline in HE. The source material with the closest purpose to the school geography curriculum documents was decided as the QAA Subject Benchmark Statements (QAA, 2022a; 2022b) rather than any local level curricula delivered by specific HEIs. However, these Subject Benchmark Statements are not intended as a curriculum document and their selection for the secondary data is therefore imperfect. The limitations of this are explored more fully in Chapter 7.

A full record of the secondary data used can be seen in Table 3.8 (p. 169) and the justification for its selection, and the methods of analysis of that data, is addressed in section 3.6.

### 3.5.2 Sample and recruitment

The sampling approach for the empirical data collection was determined by the parameters of RQ2. Punch (2003, p. 41) states that '…the logic of the study, as expressed in its research questions, should flow through to its sampling strategy, rather than the sample being an afterthought. This is part of the internal validity of a project'. Three main populations were identified from which participants would ideally be drawn: i) academic geographers and those studying the discipline – whether geography, ES3, or cognate disciplines – in the academy; ii) teachers of geography in schools in England; iii) members of subject associations and other influential subject communities, including those who make use of

geography or a cognate discipline in their professional capacity. Purposive sampling, a form of non-probability sampling, was chosen as the most appropriate approach to recruiting participants as '…a purposive sample is typically designed to pick a small number of cases that will yield the most information about a particular phenomenon' (Teddlie and Yu, 2007, p. 83). Gray (2018, p. 174) also identifies purposive sampling as an appropriate strategy for qualitative research that 'works with small samples of people, cases or phenomena nested in particular contexts', as is the case in this research project; the phenomenon of interest (transitions between school geography and academic geography) and stakeholders' perceptions of that phenomenon are nested in a particular context (schools and HEIs in England) and therefore a purposive sample begins to present itself in the form of key stakeholders who experience this phenomenon in relevant contexts. As the research project progressed, multiple purposive techniques (Teddlie and Yu, 2007) were applied in order to obtain a sample that could offer an acceptable degree of representation across the range of stakeholders; criterion sampling, for the recruitment of participants or 'cases' who met the criteria for relevant stakeholders, and snowball sampling, for increasing the breadth of the sample across the full range of stakeholders. However, there are missing voices in this research, and this is addressed in Chapter 5 (in the findings and discussion of RQ2) and in Chapter 7.

To facilitate the recruitment of academic geographers and students, the Head of School (GEES) at UoB was approached and consent was granted to circulate the invitation to participate, including a link to the questionnaire, and the participant information sheet (Appendix 18). This information was circulated internally in GEES via appropriate School channels of communication for staff and students. The second sample of participants

identified were geography teachers, and a purposive, criterion sample was drawn from geography teachers employed in schools in the School of Education's ITE Partnership. The Head of Department (Department of Teacher Education, School of Education) was approached and consent to circulate the invitation to participate was granted. The questionnaire and participant information sheet were circulated to ITE Partnership schools using an existing email distribution list held by the School's External Partnerships Manager; this decision was a practical one, as regular communications to ITE Partnership schools were sent in this manner, but also an ethical one, further discussed in section 3.8.

### 3.5.3 Participants

The perceptions of stakeholders in geography education were central to RQ2, in identifying the potential benefits and limitations of more closely connecting school geography and academic geography curricula. Using the strategies described above, a total of 66 participants were recruited for the collection of empirical data, initially via the questionnaire, and subsequently through a smaller number (n=7) of semi-structured interviews. This empirical data was gathered to supplement the secondary data used to answer RQ1 and to offer a 'second-order' perspective on the nature of the transitions between school geography and academic geography, and also to feed into the road maps developed from RQ3.

The participants are outlined in further detail in Table 3.3.

| Potential Sample Population | Actual number (% of sample) | Further contextual detail about participants |
|---|---|---|
| Student completing a geography or geography-related post-16 qualification | 0 | |
| Undergraduate completing a geography or geography-related degree programme (e.g., BA (Hons) Geography, BSc (Hons) Geology) | 17 (25.8%) | 12 (70.6%) studying single honours geography degree<br><br>2 (11.8%) studying joint honours in at least one geography-related discipline<br><br>3 (17.6%) studying MSci/Integrated Masters in Geography [2] or Environmental Science [1] |
| Postgraduate completing a geography or geography-related programme (e.g., MA/MSc, PhD) | 1 (1.5%) | MSc River Environments and their management *(GEES programme)* |
| Student teacher / trainee teacher | 2 (3%) | SCITT [1]<br>PG University led [1] |
| Qualified teacher (any phase (primary, secondary, FE) or subject) | 37+3 (60.6%) | At least one participant in every category, ranging from pre-1990 qualification to early career teacher (ECT).<br><br>30 (81.1%) from secondary [27 geography specialist, 1 geography and politics, 1 'physical geography', 1 'human geography'] but also participants from early years [1], general primary [4], and primary with a subject specialism [2; 1 geography and history, 1 science] |
| Academic geographer | 4 (6.1%) | |
| Use geography as part of profession, employment, or other work | 1 (1.5%) | Teaching Assistant [1] |
| Individuals with expressed interest in the research project, but who do not strongly identify with any other category | 1 | Response: *"Completed postgraduate (PhD) qualification, then completed 15 years as a secondary Geography teacher. I now work in Geography teacher education, but not at a university."* |

Table 3.3: Characteristics of the participants.

### 3.5.4 Design of the questionnaire

The questionnaire was design and distributed (and later analysed) through JISC Online Surveys (formerly Bristol Online Surveys). JISC Online Surveys offered a secure and appropriate platform with design capabilities such as complex routing that would enable the questionnaire to be constructed with the participant experience in mind, and with the intention of securing a strong completion rate. The advantages and disadvantages of questionnaires as a data collection tool are well-reported in research methods literature (two helpful, general sources consulted were Thomas, 2017 and Gray, 2018) and the decision to use a questionnaire as part of the research design, as well as the specific decisions made regarding question types, wording, and routing, are outlined in the following section of the chapter.

The review of literature in Chapter 2, along with the document analysis of secondary data (section 3.6) aided in the identification of key themes to be explored through the questionnaire (Appendix 13). These themes related to participants' definitions and understanding of 'curriculum' in general and geography (and geography-related) curricula in schools and the academy; participants' perceptions of some of the barriers to more closely connecting these curricula; participants' views on the opportunities that might arise from developing a more closely connected curriculum. A questionnaire was chosen as the most appropriate research method by which a sufficient data set could be obtained within a specific timeframe, and to add rigour to the subsequent design of the interview. Using questionnaires to supplement other research methods as part of a multiple-methods approach has been found in recent geography education research. Hammond and Healy

(2022) used a survey as the principal method to gather views from undergraduate students in the UK on the contribution that geography makes to a person's education. Karaoglu and Ozbay (2024) used pre- and post-activity questionnaires as part of a broader methodological approach to exploring how a small group of Turkish children applied spatial knowledge to understand their place in the world. Duan (2023) used questionnaires and interviews with teachers and students in China to investigate the integration of story maps, a GIS-related tool that combines interactive maps with multi-media content and text (Esri, n.d.), into geography teaching. Surveys and questionnaires have therefore been successfully used in the methodologies of recent geography education research involving participants from across the geography education journey, as pertinent to this research. In the case of Hammond and Healy (2022) the use of a survey generated a large sample size (n=333); for Karaoglu and Ozbay (2024) the questionnaire was one aspect of a multiple-methods approach, but the small sample size (n=10) was noted by the authors as a limitation. Duan (2023) was able to generate a reasonable sample size (n=147 students and 15 geography teachers) through the use of questionnaires and interviews.

Gray (2018) addresses the complexity of determining a suitable sample size for any given research, particularly in research that is qualitative and/or exploratory in nature. It is recommended that in such cases, a non-probability sample is identified, '…the aim of which is to select respondents and data that are likely to generate robust, rich and deep levels of understanding' (Gray, 2018, p. 229). Every attempt was made, through the modes of distribution outlined in this chapter, to gather data from a reasonably representative sample of the subject community. Taking into account the limited timescale and resources available

for the research project, along with the ethical considerations outlined in section 3.8, a notional target of 100 responses was set, based on other published geography education research that seemed similar in scope, timescale, and resourcing. The questionnaire was made accessible to participants for a period of 42 days, from Monday 5th December 2022 to Sunday 15th January 2023. There was some evidence, via personal communication, that the questionnaire had become subject to snowballing, or chain referral sampling, as some participants had shared the link with friends, colleagues and other acquaintances who they believed might find it of interest.

The period in which the questionnaire was launched and remained open for responses coincided, respectively, with the approach of the end of school and HEI autumn terms in December 2022 and the start of school and HEI spring terms in January 2023. There were therefore ethical considerations to be made regarding the sector in which the research took place; in late 2022 and early 2023, education in England across every phase from primary to HE, remained in a state of high-pressure resulting from factors such as continued impacts of the Covid-19 pandemic, an ongoing teacher recruitment and retention crisis (Walker, 2022), an emerging cost-of-living crisis with particular implications for education (The Sutton Trust, 2022) and the balloting of members over strike action by the main teaching unions in England (ASCL, 2022; NAHT, 2022; NASUWT, 2022; NEU, 2022) and members of the UK's largest HE union (UCU, 2022). Insider knowledge of the education sector suggests that there is no clear optimum time during the academic year in which educators (or learners) will be more receptive to and able to act on requests for participation in research. Instead, mindful decisions were made about the timeframe in which the questionnaire was accessible to

allow participants to align completion with their own workload demands, and several different mechanisms were used to recruit participants so that no one group of stakeholders was disproportionately pressured to engage with (nor excluded from) the research.

*3.5.4.1 Pilot Questionnaire*

A pilot study was conducted to ensure the questionnaire was well-designed and accessible, and would generate data pertinent to RQ2:

> **What do stakeholders perceive to be the benefits and limitations of more closely connecting school geography and academic geography?**

Three 'critical friends' were instrumental in the pilot study, each scrutinising the questionnaire from a particular stance, thereby contributing equally valuable yet distinct feedback on the questionnaire as a data collection tool. The impact of these critical friends on the questionnaire design is summarised in Table 3.4, below. None of the critical friends were eventual participants in the research.

| **Critical Friend (CF)** | **Impact on the design of the questionnaire** |
|---|---|
| **CF1**: Geography teacher educator | Development of a strong rationale for the threshold age for participants, in order to ensure participants had the necessary experience of the phenomenon of transition to answer all questions, for example:<br><br>*'Previous research has identified some of the challenges of progressing from school geography to academic geography. Based on your opinion, please choose the two most challenging and two least challenging factors'* (Q28)<br><br>OUTCOME: A threshold age of 18 years for participants was applied |
| **CF2**: Postgraduate Researcher | Consideration of the length and depth of the questionnaire, in light of potential attrition of participants during completion<br><br>OUTCOME: Retained all questions, prioritising richness of data over sample size |

| | |
|---|---|
| | Identification of tonal shift in questionnaire, which seemed to occur when more involved multiple-choice, multiple-answer questions were introduced, about the nature of school geography, for example:<br><br>*'To the best of your understanding, which of the following are features of the current Geography National Curriculum (GNC) for England? Regardless of your familiarity with the GNC, please still attempt this question, based on what you assume children and young people in England might learn about geography in school'* (Q22)<br><br>OUTCOME: Careful routing built into the questionnaire design on JISC Online Surveys (Appendix 3) |
| **CF3**: Teacher educator not working in geography education | Development of the links between data collection tools (questionnaire and interview)<br><br>OUTCOME: Inclusion of free text questions, such as:<br><br>*'To the extent that you are able to comment, what aspects of academic geography do you feel are 'missing' from school geography and from which, were they included, young people could benefit learning about?'* (Q33) |
| | Development of a strong rationale for the sequencing and wording of questions<br><br>OUTCOME: Deliberate sequencing of questions relating to definitions of 'curriculum' |

Table 3.4: The impact of critical friends on the questionnaire design

CF1 is geography teacher educator based in another UK HEI and who had knowledge of the academic field, the typical characteristics of likely participants, and much of the academic literature that had informed the research design. In early discussions regarding the research design, CF1 queried the choice to exclude students of geography who were not aged 18 or above. The threshold age of 18 years was selected principally on the basis of ethics, although Blackburn (2015) raises wider issues around the age of consent for research with children and young people, suggesting that chronological age is less important than the young participant's ability to 'realistically understand what they're being asked to participate in' (Blackburn, 2015, n.p.). In discussion with CF1, the rationale for rejecting the views of younger students of geography emerged; whilst all phases and transitions of geography

education – primary, secondary, further and higher education – are of interest to this research, the capacity of younger students of geography to reflect and comment on the barriers and opportunities of the school to HE transition was felt to be limited. Meaningfully answering questions of transition in the questionnaire would require some lived experience of that transition, and it was decided that younger students of geography, such as those in KS4 (typically aged between 14 and 16 years) would not yet have considered the process of transition sufficiently enough to comment on the likely challenges associated with that transition.

The development of the questionnaire was also strongly influenced by discussions with CF2, a postgraduate researcher in the field of geography and education. In addition to having the disciplinary knowledge necessary to comment on the content of some of the questions, this critical friend also represented another of the key stakeholder groups the questionnaire was intended to reach, those studying geography (or a geography-related discipline) in the academy. CF2's experience of using a questionnaire as a method in their own research, including aspects of the design, distribution, and analysis of a questionnaire generated some important reflection on the benefits and limitations of certain decisions. One particularly valuable comment from CF2 related to the intellectual demands of the questionnaire, in that CF2 had felt they needed to 'think deeply' about their responses and that one of the consequences of this was that it had taken longer to complete the questionnaire than had been anticipated. From this feedback, it seemed possible, if not highly likely, that a number of participants may start but not complete the questionnaire, as the intellectual demands of the questions increased as the questionnaire progressed. It was decided that such attrition

was acceptable, and the final questionnaire therefore retained the questions that CF2 had found to be stimulating yet more time consuming. This decision was made with the intention of securing a rich data set, even at the cost of a lower response rate, rather than obtaining a high response rate by sacrificing some of the rigour and demands placed on participants. Analysis of the respondent progress showed that, in fact, the greatest attrition rate occurred at the start of the questionnaire; 242 individuals opened the questionnaire but did not proceed past the first two pages, containing the participant information and consent statements.

CF2 also noticed a tonal shift in the nature of the questions as the questionnaire progressed, and that this was a threshold in their own experience as a participant. Their own investment and interest in the questionnaire had encouraged them to continue beyond that threshold and to complete the questionnaire in its entirety. Analysis of the respondent progress showed that the threshold observed by CF2 was indeed the other identifiable stage at which participants exited the questionnaire without completing it. However, to address the risk of non-completion highlighted by CF2's experience, the questionnaire was designed to enable careful routing of participants to reduce any extraneous questions, for example those not relevant to a participant's identity or positionality, and the overall respondent progress indicated that this had been largely successful; the majority of those participants who progressed beyond the participant information and consent statements completed the questionnaire in full.

The third critical friend consulted (CF3) is an experienced teacher educator but not working in the field of geography education. Rather than commenting on any disciplinary content (addressed by CF1) or the participant experience (CF2), the feedback from CF3 focused instead on the questionnaire as a data collection tool in relation to the research questions and the research design, as it was determined that analysis of the questionnaire responses would be used not only to partially answer RQ2, but also to inform the design of the interview schedule (see section 3.5.5, and Appendix 20). Discussion with CF3 generated some important thinking about how the questionnaire responses would influence the design of the further data collection tools, through the inclusion of free text questions that enabled participants to raise themes and issues not previously anticipated by the researcher. This influenced the inclusion of the question *'To the extent that you are able to comment, what aspects of academic geography do you feel are 'missing' from school geography and from which, were they included, young people could benefit learning about?'* and the provision of an opportunity for participants to share any aspects of academic geography that they find most inspirational and to identify any notable geographers of whom they believe children and young people should be aware.

Discussion with CF3 also clarified and consolidated how the sequencing and wording of questionnaire questions would best enable participants to respond openly and without influence from the researcher; for example, one free text question stated *'Complete the following sentence in whatever way you wish: The school geography curriculum should…'*, and in order to respond to this question the participant is required to have formed their own conception of what is meant by 'school geography curriculum'. CF3 proposed that moving the free text question to appear before the multiple-choice definition of curriculum would

more likely ensure that the free text questions revealed the participants' own grasp of what the school geography curriculum means to them, rather than stemming from one or more of the pre-defined statements of 'curriculum' that appeared in the multiple-choice question. In both the pilot study and the final questionnaire, this question appeared after the multiple-choice, single answer question *'There are many and varied definitions of 'curriculum'. Which one of the following definitions best aligns with your view of what a curriculum is?'*. The views of CF3 were carefully considered; an alternative view, however, is that by preceding the free text question with a variety of valid definitions of 'curriculum', the participant is prompted to begin reflecting on their own tacit knowledge of what is meant by the term, before they are then asked to more explicitly set out what they themselves believe the school geography curriculum should be, do, achieve, or be formed of. It was decided therefore to retain in the final questionnaire the sequencing in the pilot study, that participants would first engage with a set of definitions of curriculum, before being asked to complete the sentence *'The school geography curriculum should…'*. The open-ended nature of the sentence was intentional, in that the way in which the participant chose to complete the statement – whether focusing on what should be taught, what students might learn, experiences that the school geography curriculum should provide – would be the focus of interest, rather than the specific wording that was chosen, even if that wording was closely reflective of the definitions that featured in the preceding question.

The potential limitations identified in the pilot study were addressed before the questionnaire was launched, to mitigate the impacts of those limitations and to secure a high-quality and efficient experience for participants.

*3.5.4.2 Other considerations in the questionnaire design*

The main themes of the questionnaire (Appendix 13) – curriculum, transition, school geography and academic geography – echoed the main themes presented in Chapter 2, as well as including themes which might contribute toward an understanding of what a more closely connected geography curriculum might look like in practice (RQ3). In order to address RQ2, it was intended that the participants (whose recruitment was outlined in section 3.5.2) would be representative of a range of stakeholders from different phases of geography education and at different stages of their own geography education journey, with some identifying more strongly with school geography, such as geography teachers and post-16 geography students, and some identifying more strongly with academic geography, for example lecturers, researchers, undergraduate and postgraduate students. Dividing stakeholders into those with interest in *either* school geography *or* academic geography is though, a false and over-simplistic binary; as identified by Finn *et al.* (2022, p. 43), one of the complexities of the field of geography and education is that stakeholders include '…individuals and groups who work across different educational settings and communities of practice occupying multifaceted identities and roles', a complexity of identity of which I have been aware from my own positionality and addressed in previous work (Butt and Collins, 2013; Butt and Collins, 2018). Some stakeholders are likely to situate themselves within, or outside of, both groups (for example, those working in subject associations, or those who use geography as part of their profession, employment or work) but the binary does offer a simple articulation of each 'side' of the post-16 (school geography) to HE (academic geography) transition which is the subject of Chapter 2. However, to gain an understanding of the extent to which these two groups are familiar with one another's context – for this

research, a pertinent issue – it was essential to set the majority of questions as 'required', to prevent participants from leaving questions about unfamiliar contexts unanswered. This desire for participants to respond to all questions was reflected in the language used (for example, *Regardless of your familiarity with the GNC/with academic geography please still attempt this question, based on what you assume children and young people in England might learn about geography in school/ based on what you assume students might learn about geography at university*) to encourage participants to answer regardless of their level of confidence. It is acknowledged that this requirement may have dissuaded some participants from completing the questionnaire in its entirety, but the overall numbers of participants exiting at this stage of the questionnaire did not raise any concerns nor suggest a fundamental flaw in the questionnaire design that should significantly impact the findings.

It was identified in Chapter 2 that geography is a fragmented discipline which is often subject to an identity crisis and that, certainly in HE, there are a number of cognate disciplines which should be considered alongside academic geography. Recognising that precision in language is an important aspect of questionnaire design (Gray, 2018, p. 344), and in order that participants were fully confident in the parameters of the research, a statement was included towards the beginning of the questionnaire to define the terms 'geography' and 'geography-related' for the participant. This statement is replicated in Figure 3.5 below.

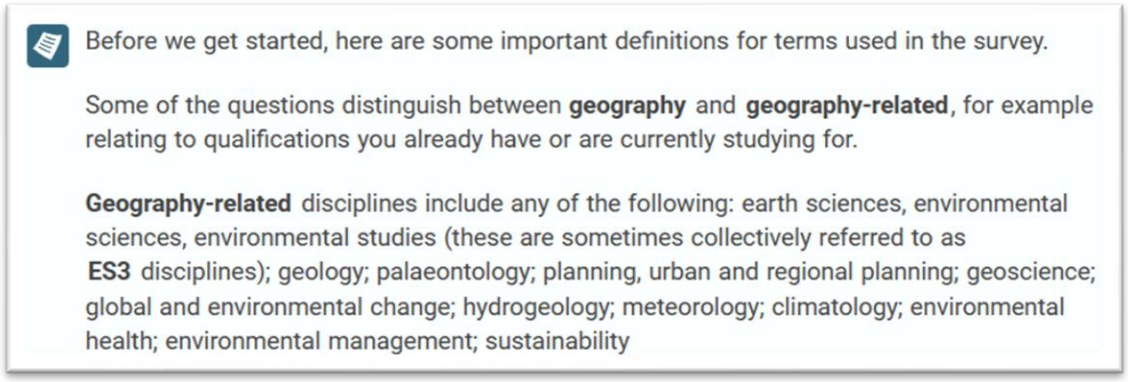



Figure 3.5: The definitions used in the questionnaire for the key terms 'geography' and 'geography-related'.

This seemed important as participants based in the academy – undergraduate and postgraduate students, lecturers, researchers – may not self-identify as geographers or as 'belonging' to the discipline of geography, an issue of identity exacerbated by the variety of approaches to situating geography and geographers in the academy (see Table 2.9, Chapter 2) yet it was desirable for those studying or working in geography's cognate disciplines, such as ES3, to contribute to the research. These definitions of the terms geography and geography-related, and of ES3, were also incorporated where the terms were used in the wording of specific questions. There was, however, an absence of explicit engagement from participants from the ES3 context, and this is discussed further in Chapter 7.

Issues of identity also influenced the routing of the questionnaire for participants. To avoid marginalising any participants who would not identify with any of the predetermined categories of identity provided in the questionnaire, an additional option – *I don't strongly identify with any of these categories* – was provided which allowed a participant to elaborate on their chosen identity, and to then be routed through to the same subsequent questions as other participants (Appendix 3).

A question about curriculum was included *(There are many and varied definitions of 'curriculum'. Which one of the following definitions best aligns with your view of what a curriculum is?*) and the literature review informed the definitions of curriculum from which participants were asked to select, as represented in Table 3.5.

| **Question** | **Potential Response** | **Links to Literature** |
|---|---|---|
| There are many and varied definitions of 'curriculum'. Which one of the following definitions best aligns with your view of what a curriculum is? | a curriculum directs teachers as to what students should be taught | *This was a simple 'hybrid' definition created for the questionnaire* |
| | a curriculum is a set of subjects and standards used so students learn the same things | National Curriculum for England (NC2014) (DfE, 2014c) |
| | a curriculum comprises all learning and other experiences that a school plans for its students | National Curriculum for England (NC2014) (DfE, 2014c) |
| | a curriculum should promote the spiritual, moral, cultural, mental and physical development of students and of society, and should prepare students for the opportunities, responsibilities and experiences of later life | *Education Act 2002* |
| | a curriculum describes the nature of study and the academic standards expected of students - what they should know, do and understand - in specific subject areas | QAA Subject Benchmark Statement (QAA, 2023) |

Table 3.5: A question about different conceptions of curriculum, underpinned by the literature review.

Table 3.5 is an exemplification of how the questionnaire had a strong theoretical underpinning, designed to explore empirically some of the issues of continuity, progression, transition, and disconnection outlined in the academic literature.

### 3.5.5 Design of the semi-structured interview schedule

At the end of the questionnaire, participants were asked if they would like to take part in a focus group and only those participants giving consent for this would be approached to participate. However, between the distribution of the questionnaire and the next stage of empirical data collection, it was determined that semi-structured interviews might offer greater benefits in terms of the generation of rich data that could answer RQ2. The two methods are compared below, in Table 3.6.

| **Aim** | **Focus Group** | **Semi-structured interview** |
|---|---|---|
| Triangulation of secondary data analysis; trustworthiness; credibility (Gray, 2018, p. 185). | Initially proposed as a method to triangulate the findings of the secondary data analysis, by ascertaining stakeholders' views of continuity, progression, and disconnection in the discipline. | The move away from a focus group to carrying out individual, semi-structured interviews was underpinned by the methodological principles of a phenomenographical research approach. |
| Elicit each individual participant's experience of the phenomenon, with the goal of identifying categories of description that reveal a collective experience. | A group dynamic may lead to the generation of a more disparate, divergent range of views and that it would therefore be challenging to pursue each of these views with equal attention in the focus group setting. | An individual interview should allow for the 'exploration of conceptions' advocated by Svensson (1997, p. 169) who states that by using this method: 'The exploration of conceptions takes a communication with the interviewee that is sensitive to his or her way of delimiting the objects or phenomena. This is the reason why the data collection has to be very explorative.' |
| Familiarity with method. | | In previous work I had used semi-structured interviews as a research method to explore student teachers' experiences and perceptions of the mentoring |

| | | |
|---|---|---|
| | | process (Collins, 2022) and therefore felt confident and comfortable with the method, both in terms of data collection and data analysis. |
| Other considerations. | There may have been some pragmatic benefits to conducting a focus group: participants could share ideas in a supportive, collegial space which can often be less intimidating than an individual interview; focus groups can lead to the joint generation and co-construction of new ideas. | Having gathered some preliminary 'census' data (for example through the email addresses provided by participants, many of which included a suffix indicative of working in education such as 'sch.uk' or 'ac.uk') it was felt that the participants who expressed a willingness to participate in a focus group would exhibit the qualities and characteristics also necessary to thrive in an interview setting. |
| Content / questions. | The focus group would centre on discussion of a proposed school geography curriculum which was designed with reference to the outcomes of the secondary data analysis and questionnaire responses, allowing the research project to conclude with a series of recommendations for schools and HEIs who wish to more closely connect their geography curricula, answering RQ3. | Hajar (2021, p. 1425) suggests that: 'The typical phenomenographic interview is of a semi-structured nature with only a very few predetermined questions, since most questions follow or develop from what the interviewee says'.<br><br>This led to the identification of a small number of questions that acted as a stimulus for discussion. The interview schedule used can be seen in Appendix 20, which also includes the rationale for the questions that were asked. |

Table 3.6: A comparison of the focus group and the semi-structured interview as methods to answer RQ2.

Taking into account the advice of Svensson (1997) and more recently Hajar (2021), it was determined that the methodological rigour of a phenomenographical approach would be best achieved through semi-structured interviews rather than a focus group. Therefore, participants who had indicated on the questionnaire that they would be willing to

participate in a focus group were contacted individually and asked whether they would be interested in a semi-structured interview. Of the 13 participants who initially expressed interest in the focus group, seven responded with a willingness to instead be interviewed individually. A full description of these participants is provided in Chapter 5.

### 3.5.6 Procedure

The procedure followed for the empirical data collection is outlined in Figure 3.6.

<table>
<tr><td colspan="2">Conduct literature review</td></tr>
<tr><td colspan="2">Initial design of data collection tools (sufficient detail for Application for Ethical Review)</td></tr>
<tr><td colspan="2">Application for Ethical Review;<br>Approval received (ERN_22-0796)</td></tr>
<tr><th>Questionnaire</th><th>Interview</th></tr>
<tr><td>Pilot study with CF1, CF2, CF3</td><td rowspan="3"></td></tr>
<tr><td>Questionnaire design finalised following pilot study</td></tr>
<tr><td>Questionnaire circulated<br>(December 2022 – January 2023)</td></tr>
<tr><td>Questionnaire analysis commenced<br>(February 2023)</td><td>Participants who had consented to further data collection contacted</td></tr>
<tr><td rowspan="2">Questionnaire analysis continued<br>(October 2023)</td><td>Interviews conducted<br>(November 2023 to January 2024*)<br>*Conducting interviews was delayed due to a period of ill-health earlier in 2023</td></tr>
<tr><td>Interviews transcribed and analysed<br>(January – March 2024)</td></tr>
<tr><td colspan="2">Findings and Discussion<br>March 2024- June 2024</td></tr>
</table>

Figure 3.6: The procedures followed for the empirical data collection.

The empirical data collection, at times, took place concurrently with the secondary data analysis; for the purposes of clarity, the secondary data analysis is not shown on Figure 3.6 but is instead outlined in section 3.6.

## 3.6 Data analysis: Document analysis

The aim of the document analysis was to answer RQ1: to identify common themes of continuity (for example concepts, processes, theories) through geography curricula; and to define what progression might look like throughout and between the school geography curriculum and the HE curriculum. In addition, the secondary data analysis was used to identify areas of the greatest disconnection between the school geography curriculum and the academic discipline of geography, and in turn informed the design of the questionnaire.

Document analysis has been used by qualitative researchers for some time; Coffey (2014) notes the long history of documentary research in social science. Coffey also argued that although '[q]ualitative researchers have not always recognized the analytical potential of studying written documents and textual recordings as research data… qualitative research can be enriched by a careful and critical attention to the gathering and analysis of documents' (Coffey, 2014, p. 368). Using documentation as a source of data offers a great deal of stability, as the documents can be accessed and reviewed repeatedly by the researcher (Gray, 2018). The content of documents remains static, whereas participants may change their views and opinions between instances of data collection; for example, in my research, participants may have altered their views between completing the questionnaire and being interviewed (although when asked at the start of their interview to reflect on

whether their views had changed since completing the questionnaire, no participants reported that they had). Gray (2018, p. 273) also identified two potential limitations of documentation as a source of evidence: issue of access, and reporting bias. The selection of publicly accessible curriculum documentation addressed the first of these potential limitations. The second limitation is more challenging, as the reporting bias of the author(s) of such documents are likely to be unknown. As Coffey (2014, p. 375) cautioned:

> …while it is self-evident that a person or a group must actually author documents (since they do not write themselves), that does not always imply a social recognition of 'authorship'. Indeed, it is part of the facticity of many documents (particularly but not exclusively 'official' documents) that they are not identifiably the work of an individual author.

The nature of the documents selected for this research was such that authorship was likely to be multi-layered and subject to external influences. Curriculum-making is subject to 'a range of social, political, and cultural factors' (Biddulph, 2018, p. 156), and this was taken into account when analysing the documents and when drawing conclusions from them as a source of data.

The stages of the document analysis have been summarised in Table 3.7, along with the academic sources that influenced the approach, before each stage is described in greater depth. Table 3.7 also reasserts the methodological considerations that were made to ensure academic rigour in the document analysis. These considerations were also addressed earlier in the research process, during the selection of secondary data outlined in section 3.5.1.

| Stage | Process | Considerations |
|---|---|---|
| 1 | Identify and select the appropriate curriculum documents for analysis. | There were no access or confidentiality issues (Gray, 2018) as all documents are publicly available. |

| | | |
|---|---|---|
| | | There were limitations to using QAA (2022b) as its purpose is not the same as the other curriculum documents. As noted by Coffey (2014, p. 369), all documents 'are versions of reality, scripted according to various kinds of convention, with a particular purpose in mind'.<br><br>See Chapter 7 for further discussion. |
| 2 | Establish themes and codes from the theoretical framework (GA, 2022a) (Appendix 4). | As suggested by Bazeley and Jackson (2013, in Gray, 2018, p. 686) identifying external themes, models or theory can be an advisable stage in the coding process.<br><br>Coffey (2014) is in agreement, stating the importance of developing a suitable methodological framework for document analysis. |
| 3 | Reformat the curriculum documents for consistency (Appendices 5-9).<br><br>Additionally, each document was given an identifier to be used in the written analysis: **GNC2014**, **DfE-KS4**, **ALCAB**, **DfE-KS5**, **SBS**. | This allowed for a comparison of document length (by pages) as well as to develop familiarity with the structure and approach of each document. This familiarity is recommended by Bazeley and Jackson (2013, in Gray, 2018, p. 686) and described by Thomas (2017, p. 215) as a means of 'intelligent reading'.<br><br>Although this research did not employ narrative analysis or discourse analysis, Coffey (2014, p. 371) suggests that paying attention to the language and form of documents is an important aspect of understanding documents as a 'construction of social reality'. |
| 4 | Apply the codes to each curriculum document (Appendices 5-9) and collate the findings as a summary (Appendix 10). | Coffey (2014, p. 360) states that 'it is entirely possible and appropriate to undertake a thematic analysis of documentary data'. |

| | | |
|---|---|---|
| | | As Thomas (2017, p. 216) states, 'there is no substitute for intelligent reading in the interrogation of documents'. |
| 5 | Note in situ any words, terms, phrases, sentences, sections that are not captured by existing themes and codes and that will require an additional code (Appendices 5-9). | Although the use of GA (2022a) was useful in developing an initial framework from which themes and codes were generated, additional themes were identified in the documents that were not captured by those existing themes and codes. |
| 6 | Collate into one document (Appendix 11) all words, terms, phrases, sentences, sections that require an additional code. | These stages were a process of 'review and refine' as recommended by Bazeley and Jackson (2013, in Gray, 2018, p. 686). |
| 7 | From the collated document, capture every key term relating to an additional code, and group these into coherent themes (Appendix 12). | |
| 8 | Consult Critical Friends (CF1 and CF2) to increase reliability and validity and amend as appropriate. | |
| 9 | Apply the additional codes to each curriculum document. | This offered further immersion in the data and an additional opportunity for 'intelligent reading' (Thomas, 2017, p. 215), along with further opportunities to 'review and refine' (Bazeley and Jackson, 2013, in Gray, 2018, p. 686). |

Table 3.7: The stages of the document analysis, and the methodological considerations made at each stage.

### 3.6.1 Stage 1: Identify and select the appropriate curriculum documents for analysis

Formal curriculum documents selected for the document analysis in this research were sourced from the Department for Education (DfE) in England for the school curriculum, and from the Quality Assurance Agency (QAA) in the United Kingdom for the HE curriculum. An additional document related to the post-16 geography curriculum – the panel report by the A-Level Content Advisory Board (ALCAB) – was also selected for analysis because of the

strong connection between ALCAB and the A-level reforms that led to the content of **DfE-KS5**, but also because the slight discrepancies between the ALCAB recommendations and the final KS5 curriculum may reveal something about the curriculum-making process at the national level. These discrepancies were noted and responded to by the RGS-IBG (2014) in the consultation phase. The final documents selected for analysis are summarised in Table 3.8 below.

| Author/Year | Title of document | Length | Identifier |
|---|---|---|---|
| Department for Education (2013a) | *National curriculum in England: geography programmes of study: The statutory programmes of study and attainment targets for geography at key stages 1 to 3.* | (7 pages) | **GNC2014** |
| Department for Education (2014a) | *Geography: GCSE subject content.* | (12 pages) | **DfE-KS4** |
| A Level Content Advisory Board (ALCAB) (2014) | *Report of the ALCAB Panel on Geography, July 2014.* | (50 pages) | **ALCAB** |
| Department for Education (2014b) | *Geography: GCE AS and A Level subject content.* | (20 pages) | **DfE-KS5** |
| The Quality Assurance Agency for Higher Education (2022b) | *Subject Benchmark Statement: Geography.* | (37 pages) | **SBS** |

Table 3.8: A summary of the secondary data selected for the document analysis.

### 3.6.2 Stage 2: Establish themes and codes from the theoretical framework (GA, 2022a)

The importance and relevance of the GA (2022a) Curriculum Framework (GACF) to this research was justified in Chapter 2, and it was therefore selected as the theoretical framework through which the document analysis would be conducted. The GACF was used to identify the disciplinary and substantive knowledge of the discipline, which was then broken down into broad themes and sub-themes. These themes are summarised in Table 3.9

(replicated in Appendix 4) along with the notation for codes used in the in-text comments on analysed documents and the respective colour-coding.

| Theme | Sub-Theme | Code | Notes |
|---|---|---|---|
| Disciplinary Knowledge: **Key Concepts** | | DK-KC | 'knowing that' |
| | Disciplinary Knowledge: Key Concepts – **Space** | DK-KC-Sp | |
| | Disciplinary Knowledge: Key Concepts – **Place** | DK-KC-Pl | |
| | Disciplinary Knowledge: Key Concepts – **Earth Systems** | DK-KC-ES | |
| | Disciplinary Knowledge: Key Concepts – **Environment** | DK-KC-Env | |
| Disciplinary Knowledge: **Organising Concepts** | | DK-OC | 'knowing that' |
| | Disciplinary Knowledge: Organising Concepts – **Time** | DK-OC-Ti | |
| | Disciplinary Knowledge: Organising Concepts – **Scale** | DK-OC-Sc | |
| | Disciplinary Knowledge: Organising Concepts – **Diversity** | DK-OC-Div | |
| | Disciplinary Knowledge: Organising Concepts – **Interconnection** | DK-OC-IntC | |
| | Disciplinary Knowledge: Organising Concepts – **Interpretation** | DK-OC-IntP | |
| Disciplinary Knowledge: **Practice/Geographical Skills** | | DK-GeoSk | 'knowing how' |
| | Disciplinary Knowledge: Practice/Geographical Skills – **Observing** | DK-GeoSk-Obs | **Observing**, perceiving, identifying |
| | Disciplinary Knowledge: Practice/Geographical Skills – **Describing** | DK-GeoSk-Desc | Defining, extracting, **describing** |
| | Disciplinary Knowledge: Practice/Geographical Skills – **Explaining** | DK-GeoSk-Exp | Analysing, **explaining**, making connections |

| | | | |
|---|---|---|---|
| | Disciplinary Knowledge: Practice/Geographical Skills – **Presenting** | DK-GeoSk-Pres | Summarising, synthesising, **presenting** |
| | Disciplinary Knowledge: Practice/Geographical Skills – **Evaluating** | DK-GeoSk-Eval | **Evaluating**, responding |
| | Disciplinary Knowledge: Practice/Geographical Skills – **Fieldwork** | DK-GeoSk-Fwk | Geographical **fieldwork** |
| Disciplinary Knowledge: **Application** | | DK-A | 'knowing how to apply' |
| | Disciplinary Knowledge: Application – **Learning About** | DK-A-LA | **Learning about** application |
| | Disciplinary Knowledge: Application – **Learning To** | DK-A-LT | **Learning to** apply for oneself |
| Substantive Knowledge | | SK | 'knowing about' |
| | Substantive Knowledge: **Locational knowledge** | SK-LK | |
| | Substantive Knowledge: **Place knowledge** | SK-PK | |
| | Substantive Knowledge: **Human processes** | SK-HP | |
| | Substantive Knowledge: **Physical processes** | SK-PP | |
| | Substantive Knowledge: **Environment** | SK-Env | |
| Progression | | P | |
| | Progression: **Conceptual Understanding** | P-CU | "progression in relation to the inherent structure of the subject" (GA, 2022a, p. 14)<br><br>Progression in conceptual understanding of key and/or organising concepts |
| | Progression: **Curriculum Experiences** | P-CE | "the kinds of teaching and learning experiences which should be provided if learners are to have the opportunity to make progress" (GA, 2022a, p. 14) |
| | Progression: **Outcome** | P-O | "setting out<br>the key features of the kind of performance we expect to see<br>in a learner's work as they make progress in geography" (GA, 2022a, p. 16) |

| | | | |
|---|---|---|---|
| | Progression: **Transition** | P-T | An additional aspect of progression, as identified from the review of literature and determined to be necessary to answer RQ1. |

Table 3.9: Themes, sub-themes and codes established from the theoretical framework (GA, 2022a).

As has been presented in Chapter 2, the adaptation of the GACF generated themes which provided an appropriate, timely theoretical framework through which curricula could be examined, and which related to many of the themes that arose from the review of academic literature relevant to the RQs. There were alternative categorisations of geographical knowledge that could have been selected (for example, those proposed by Taylor, 2008; Brooks, 2018) and these are discussed further in Chapter 4 along with the findings of the document analysis. The GACF was published after the initial stages of the research design had been finalised but before the document analysis commenced, therefore in sufficient time for it to be adopted as a framework to establish themes for the coding of documents in the document analysis. These themes were subsequently adopted for the analysis of the phenomenographic interviews, and of participant responses to relevant sections of the questionnaire. The decision to make use of the GACF as a framework for the data analysis was not only a methodological one, but a decision taken in order to contribute to an early evaluation of the GACF. At the time of writing, the only published work that refers to the GACF explicitly is Huckle (2024), and it was also noted in Healy (2024) as having potential to inform teachers' practice.

Three initial adaptations, outlined in Table 3.10, were made to the existing substance of the GACF at Stage 2.

| Adaptation to GACF | Rationale |
|---|---|
| Use the section on 'Geographical practice' (GA, 2022a, pp. 9-11) as a basis for the broad code focusing on practice and geographical skills as aspects of disciplinary knowledge (DK-GeoSk).<br><br>Figure 5 (GA, 2022a, p. 10), relating to geographical enquiry, used to generate five of the six sub-codes for DK-GeoSk.<br><br>A sixth sub-code for fieldwork was created and attached to DK-GeoSk; as fieldwork 'is widely recognised as an essential component of the practice of geography' (GA, 2022a, p. 10). | It was essential that fieldwork was represented as a distinct sub-code, but given its close connections to geographical enquiry, geographical practice, and geographical skills it seemed appropriate that fieldwork should become a sub-code of the broad code relating to practice and geographical skills (DK-GeoSk). |
| The stage of the enquiry sequence in Figure 5 (GA, 2022a, p. 10) relating to 'Predicting, thinking creatively, problem solving…Envisaging, speculating, applying' was felt to be more appropriately situated within the broad code of application as an aspect of disciplinary knowledge (DK-A) rather than incorporated as a sub-code of DK-GeoSk. | DK-A had been characterised as the category relating to the application of geographical knowledge, and these stages of geographical enquiry - 'Predicting, thinking creatively, problem solving…Envisaging, speculating, applying' – involve application. |
| Add, pre-emptively before the codes were applied to any documents, an additional sub-code relating to progression.<br><br>The GACF (2022a, pp. 14-16) already outlined three aspects of progression pertinent to the school geography curriculum: progression in conceptual understanding; progression in relation to curriculum experiences; progression by outcome. These became three clear sub-codes of the broad code of progression – P-CU, P-CE and P-O respectively. | It was clear from the review of academic literature that transition between phases of education is an important aspect of progression when multiple phases across different educational contexts and settings are considered, and that exploring transition as a form of progression was essential in pursuing an answer to RQ1.<br><br>A fourth sub-code (P-T) was therefore added to the broad code of progression, in anticipation of transition as a form of progression being a key feature of the document analysis alongside the exploration of continuity. |

Table 3.10: The adaptations made to the GACF before the document analysis.

### 3.6.3 Stage 3: Reformat the curriculum documents for consistency

The next stage in the process of document analysis was to reformat each document so that they were each a double-spaced Word document rather than a variety of differently formatted PDFs. These reformatted documents can be seen in Appendices 5-9. The benefits of reformatting in this way included the ease with which the comments could be added to

the documents, along with colour-coded highlighting to indicate in situ the codes being applied to specific words, phrases, sentences, and sections of the document. As the same typeface, font size, and spacing has been applied to each of the documents, an easy comparison can be made of the respective lengths (in pages) of the document, as can be seen in Table 3.8 (p. 169), considering that number of pages could be used as a potential proxy for depth. The reformatted documents have their own page numbering which differs from the page numbering in the original PDF versions; where direct quotes from the documents are used in this thesis, the page numbers given refer to the coded version of the documents (found in Appendices 5-9) rather than any other online or print versions of the documents.

For the purposes of clear and coherent discussion throughout the written thesis, a shorthand was used for the documents, with the name of the document in bold text, for example '**GNC2014'**. The contextual information that would otherwise be given by a full in-text academic reference can be found in Table 3.8 (p. 169), as frequent repetition of this full information would interrupt the flow of the discussion for the reader. References to these documents in the remainder of the thesis may therefore appear to be unconventionally formatted – for example, '**ALCAB**, p. 8', with no year of publication given – but it is intended that this formatting improves readability whilst retaining academic integrity, as well as making it clear when reference is being made to any of the five documents which formed part of the document analysis.

### 3.6.4 Stage 4: Apply the codes to each curriculum document, and collate the findings

The next stage in the document analysis was to apply the codes that were generated in Stage 2. At the start of the coding process, a code was first selected, for example, DK-KC-Sp to notify the key concept of space as an aspect of disciplinary knowledge. The document was then read, to look for examples of that code only. However, after following this process with the first three codes, it quickly became apparent that a more linear approach within the document – reading through each document line by line, paragraph by paragraph, section by section and applying whichever code was relevant to the words, phrases, sentences, and sections in turn – would be more efficient than applying each different code one at a time, which would have required a significant number of readings of each document and would be prohibitively time-consuming for a sole researcher with limited capacity. It is possible that retaining a focus on one code at a time might have slightly increased the consistency with which each code was applied, but as is outlined below, the second stage of capturing the coding by copying and pasting coded words, phrases, sentences, and sections into a summary table (Appendix 10) achieved the same 'cross-referencing', corroborative action.

As can be seen from the documents in Appendices 5-9, the coding appears as a combination of colour-coded highlighting, and in-text comments using the notation for the relevant code, for example, DK-KC-Env to indicate the key concept of 'environment' as an aspect of disciplinary knowledge. Often the in-text comments feature a commentary on the thinking behind the coding, particularly in the case of any words, phrases, sentences, or sections of the document where interpretation might be more nuanced or complex, and therefore

requiring more of a justification or insight into the thought process behind the final code selected. For example, in **DfE-KS5** (p. 2) it is stated that one of the 'Aims and Objectives' of geography A-level is to 'gain understanding of specialised concepts relevant to the core and non-core content. These must include the concepts of causality, systems, equilibrium, feedback, inequality, representation, identity, globalisation, interdependence, mitigation and adaptation, sustainability, risk, resilience and thresholds'. This was coded as a general statement on the organising concepts as a facet of disciplinary knowledge (DK-OC) but the accompanying in-text comment sheds light on the thought process behind this coding and that a more nuanced interpretation might be required:

> *Coding this as DK-OC in general, although some of these might more strongly relate to pre-established OC codes (e.g., identity and representation might be coded as DK-OC-Div) and there are also links to some DK-KC such as Place.*

After each document had been coded as fully as possible, a second reading of the document was undertaken alongside the process of copying and pasting each coded word, phrase, sentence, or section of the document to a summary document (Appendix 10). This helped to retain higher levels of reliability in that, as the summary document was populated, it was possible to check that the application of the codes had been consistent from one document to the next (inter-document reliability) and within the same document (intra-document reliability). On a few occasions, the chosen code was changed if it became apparent that there had been some internal inconsistency, perhaps where documents had been coded on different days, but overall the process of populating the summary document (Appendix 10) revealed that codes had been applied with sufficient consistency. A key term search to the summary document was used as a mechanism for an additional check for consistency. For example, a search of the summary document for the key term 'space' returns 33 results

across the five documents. Of these 33 results, two refer to the term ‘spaces’ and have been coded appropriately as fieldwork, for example:

> Leaders and coordinators of fieldwork are responsible for implementing anticipatory design to ensure field spaces are not exclusionary (**SBS**, p. 10).

A further two of the 33 results are simple headings in the document, and the remaining 29 are clear references to the key concept of ‘space’ as an aspect of disciplinary knowledge and have been coded as such.

### 3.6.5 Stage 5: Note in situ any words, terms, phrases, sentences, sections that are not captured by existing themes and codes and that will require an additional code

Every document in the document analysis (n=5) was scanned for statements which seemed to have relevance to the RQs but that were not easily coded by applying any of the codes generated from the GACF. When a word, phrase, sentence, or section of the document was identified which was not easily coded according to these pre-existing categories, a note was added and an initial suggestion of a potential ‘additional code’ was made. For example, in **ALCAB** (p. 2) a comment was added to the key recommendation that

> Funding should be made available for the development of appropriate training and resources for teachers in order to facilitate teaching of the new core content.

The comment (*Additional Code: Teacher Attributes? e.g. CPD needs*) suggested that this example might indicate that an additional code would be required to capture aspects of curriculum development and planning not explicitly addressed by the GACF. It can be seen

from subsequent comments in the coded document (Appendix 7) that, following the iterative process of developing additional codes, this particular example was later coded as DI-Comm. This additional code covered aspects of the disciplinary identity of the subject community, including the shared responsibilities of funding, training, and continuous professional development (CPD) required for curriculum development and planning.

### 3.6.6 Stage 6: Collate into one document all words, terms, phrases, sentences, sections that require an additional code

Once identified, all of the statements that required an additional code were collated into one Word document (Appendix 11) where they were initially categorised, via in-text comments on the Word document, with labels. A total of 93 labels were generated in this way at this stage. Some of these labels were reasonably specific one-word summaries, with the language in many cases taken directly from the wording of the original document, such as 'curiosity' (**GNC2014**), 'enjoyment' (**DfE-KS5**) 'relevance' (**ALCAB**), and so on. Other labels were broader in scope, in an attempt to begin to generate themes that might become additional codes across documents, such as 'learning contexts', 'learner diversity', 'partnership', and so on.

### 3.6.7 Stage 7: From the collated document, capture every key term relating to an additional code, and group these into coherent themes

Each of the terms identified in Stage 6 were written onto individual cards, and these were then ordered and reordered over a number of days. Re-examining the groupings from one day to the next revealed alternative interpretations, with one or two terms being shifted

from one group to another before the final groupings were confirmed. Viewing the terms only in isolation on their individual cards marginalised the importance of the context and placement of the term within a phrase or sentence, and therefore the summary produced in Stage 6 (Appendix 11) was regularly consulted in order that the context surrounding the term could be taken into consideration. No limitations on the number of groups were imposed before this stage was undertaken, but it was felt that the scope of the groupings should be comparable to those already established from the GACF; not too granular as to lead to an unmanageable number of groupings, but not too broad that any nuance would be lost in the interpretation.

In the early stages of undertaking the process of generating additional codes at Stage 7, broad sections and/or headings from the documents themselves such as 'equity, equality, diversity and inclusion' (**SBS**, p. 5) and 'accessibility' (**SBS**, p. 9) were helpful in developing initial groupings, although not all of these groupings were retained in the final generation of the additional codes at Stage 9. For example, the broad theme of 'equity, equality, diversity and inclusion' was a helpful starting point, but in the final groupings of additional codes, aspects of equity, equality, diversity and inclusion were separated out into themes of accessibility, power, and learner diversity and ultimately into the additional codes of Disciplinary Identity: Learner Diversity (DI-LD) and Disciplinary Identity: Power (DI-Pow). These themes are related to, but felt to be distinct from and more nuanced than, the broader theme of equity, equality, diversity and inclusion. The scope of (and intended audience for) the documents at times seemed to drive the language used. In the case of 'equity, equality, diversity and inclusion', for example, this is a prevalent agenda in HEIs in

the UK (Advance HE, 2020b) and it is therefore unsurprising that the **SBS** should have a section dedicated to this. Indeed, each of the forty Subject Benchmark Statements that have been revised by QAA since March 2022 include a dedicated section addressing equality, diversity and inclusion (EDI):

> We are currently in the process of updating Subject Benchmark Statements. 15 revised Statements were published in March 2022, 10 in March 2023, 3 in September 2023 and a further 13 in March 2024. These are the first to incorporate consideration of how practice within disciplines addresses the wider social goals of equality, diversity and inclusivity; Education for Sustainable Development; requirements of disabled students; and enterprise and entrepreneurship (QAA, 2023, n.p.).

In Stage 5, a regular suggestion – made seven times (Appendix 10) - of a possible additional code was 'disciplinary identity'. However, as the grouping and regrouping in Stage 7 progressed, it became clear that one potential interpretation of all of the terms requiring additional codes was that they were all aspects of disciplinary identity in some form. This therefore became the chosen broad theme for these additional codes, and six sub-themes were established by the end of Stage 7. These are presented in Table 3.11, and in Appendix 12.

| **Code** | | **Key Terms / Associated Concepts** |
|---|---|---|
| Disciplinary Identity:<br>Geography as a discipline | DI-Geo | History<br>Purpose<br>Core values<br>Fundamental<br>Defining<br>Characteristic<br>Distinctive<br>Thinking geographically<br>Relevance<br>Innovation<br>Contemporary<br>Breadth<br>Depth |

| | | |
|---|---|---|
| Disciplinary Identity:<br>Learner Attributes | DI-LA | Curiosity<br>Fascination<br>Inspiration<br>Enjoyment<br>Satisfaction<br>Sense of achievement<br>Informed<br>Engaged<br>Lifelong learning<br>Impact<br>Independence<br>Learner attributes |
| Disciplinary Identity:<br>Learner Diversity | DI-LD | Accessibility<br>Life experience<br>Circumstances<br>Learning contexts<br>Learner diversity<br>Access<br>Anticipatory practice<br>Appropriate<br>Equity<br>Inclusion<br>Exclusion<br>Equality<br>Protected characteristics<br>Self/other<br>Well-being<br>Risk<br>Safety<br>Flexibility<br>Rigidity |
| Disciplinary Identity: Subject Community | DI-Comm | External perspective<br>Monitoring<br>Review<br>Quality assurance<br>CPD<br>Training<br>Subject associations<br>Capacity<br>Subject community<br>Curriculum resources<br>Specialism<br>Expertise<br>Partnership<br>Funding<br>Choice<br>Prescription<br>Shared understanding |

| | | |
|---|---|---|
| Disciplinary Identity:<br>Power | DI-Pow | Representation<br>Decision making<br>Decision makers<br>Control<br>Significance<br>De/Colonialism<br>Imperialism<br>Empire<br>Anti-racism<br>Knowledge production<br>Plurality<br>Positionality<br>Relationality<br>Respect<br>Discomfort<br>In/Justice<br>Disadvantage<br>Responsibility<br>Ethics<br>Critical thinking<br>Theoretical perspectives<br>Alternative perspectives |
| Disciplinary Identity: Interdisciplinarity | DI-Int | Integrated<br>Holistic<br>STEM<br>SHAPE<br>Cross-disciplinarity<br>Inter-disciplinarity<br>Multi-disciplinarity<br>Cognate disciplines |

Table 3.11: Additional themes, sub-themes and codes established from the document analysis.

### 3.6.8 Stage 8: Consult Critical Friends (CF1 and CF2) to increase reliability and validity and amend as appropriate

The interpretation of GACF and the generation of themes and codes arising from that interpretation was a subjective process, and it was possible therefore that this subjectivity might adversely impact the reliability and validity of the research. In order to ascertain whether other subject-specialists would have a similar interpretation, CF1 and CF2 (both geographers) were consulted. Firstly, the themes generated directly from the GACF were

shared with CF1 and CF2, to seek their views on the interpretation of themes and the appropriateness of this interpretation as a framework to underpin the document analysis. Verbal discussions took place with both CF1 and CF2, with no adjustments being recommended to the interpretation of themes. This consultation took place before Stage 4 of the document analysis. Secondly, the additional themes generated from the first 'round' of coding (Appendix 11) were shared with CF2. These were shared as a simple spreadsheet of terms listed in alphabetical order, and CF2 was asked to group the terms in whichever way felt most appropriate to them; to aid with the process, CF2 was also given the summary of the terms in situ, so that the context in which the terms featured could be taken into account. The aim of this consultation process was not necessarily to reach a consensus between the groupings of the researcher and CF2, but to understand any differences and nuances in the interpretation of the selected key terms and to consider, with another geographer, whether the final groupings could be considered as reasonably representative of the likely views of other subject-specialists. Whilst not a guarantee of objectivity, it was intended that undertaking this stage of the document analysis would increase the rigour of the research process. Following a verbal discussion with CF2, it was decided that the interpretation of additional themes met this benchmark of being 'reasonably representative'.

### 3.6.9 Stage 9: Apply the additional codes to each curriculum document

This was conducted as per the process described in Stage 4.

## 3.7 Data analysis: Questionnaire and interview analysis

The same coding framework was applied to participants' views (as expressed in questionnaire responses and interview transcripts) as was used in the document analysis, enabling the cross-referencing of themes between these sources of data. Participants' views are therefore examined through the broad themes of disciplinary knowledge, substantive knowledge and progression that are addressed in the GACF, and also through the additional themes related to disciplinary identity that were generated from the document analysis. Typical outcomes of a phenomenographical study should include categories of description, described by Åkerlind (2012, p. 116) as 'ways of experiencing the phenomenon'. Hajar (2021, p. 1428) suggested a focus on 'key aspects of collective experience, rather than on the richness of individual experience, on the assumption that human experience tends to be partial'. It was crucial therefore to establish a way of analysing the questionnaire and interview data that fulfilled the characteristics of categories of description specified by Marton (1988, in Hajar, 2021, p. 1428) as being relational, experiential, content-orientated and qualitative. Hajar (2021) elaborated on these characteristics, stating that:

> Categories of description are both relational and experiential because they reflect the relationship between the subject and her/his own experience of a phenomenon. They are content-oriented because they focus on the meaning of the phenomenon, and qualitative and descriptive since they are made visible through language (Hajar, 2021, p. 1428).

I believe the application of the same thematic codes as used for – and generated iteratively through – the document analysis is an approach that is well-aligned to the principles of a phenomenographical approach, and an appropriate way to analyse the questionnaire and

interview data in order to retain the characteristics of phenomenographical categories of description.

### 3.7.1 Analysis of the questionnaire data

JISC Online Surveys offers basic analytic functions that were sufficient to interrogate much of the questionnaire data, a summary of which can be found in Appendix 13. The questionnaire was structured into distinct sections, and each section was analysed in ways appropriate to the nature of the questions asked. This is summarised in Table 3.12.

| **Section of Questionnaire** | **Method of analysis** |
|---|---|
| Consent statements (Q1-Q7) | *No analysis required* |
| Participant identity (Q8 for all participants, Q9-Q19 dependent on routing from Q8) | Multiple choice, JISC Online Survey analysis (%) |
| Definitions of curriculum (Q20) | Multiple choice, JISC Online Survey analysis (%) |
| Familiarity with GNC (Q21, Q22) and SBS (Q24, Q25) | Multiple choice, JISC Online Survey analysis (%) |
| 'The school geography curriculum should…' (Q23) | Open text response, coded using GACF and additional themes (Appendix 14) |
| Inspirational geography (Q26) | Open text response, coded using GACF and additional themes (Appendix 14) |
| Notable geographers (Q27) | *No analysis required, but examples provided in Appendix 23* |
| Challenges of progression from school geography to academic geography (Q28, Q29) | JISC Online Survey analysis (%) available. Compare participant views with academic literature. Look for consensus as well as examples of disagreement |
| Areas of least preparation for academic geography (Q30) | Open text response, coded using GACF and additional themes (Appendix 14) |
| Benefits of connecting school geography to academic geography (Q31, Q32) | JISC Online Survey analysis (%) available. Compare participant views with academic literature. Look for consensus as well as examples of disagreement |
| Academic geography 'missing' from school geography (Q33) | Open text response, coded using GACF and additional themes (Appendix 14) |
| Consent for contact regarding involvement in further data collection | *No analysis required* |

Table 3.12: Methods of analysis of the questionnaire data.

### 3.7.2 Analysis of the interview data

The interviews were recorded and transcribed, using the recording and transcription functions of the relevant platform (Teams or Zoom) along with a back-up recording made using a digital recorder. Participants were fully informed of the ways in which their interview would be recorded, as part of the process for informed consent, and this can be seen in the interview schedule used (Appendix 20). Each participant's informed consent for the interview was also part of the recording to supplement the written consent they had already provided in the questionnaire (Appendix 19). Interview transcripts were subject to thematic coding, in line with the phenomenographical research design, as summarised in Table 3.13.

| **Purpose of Interview Data** | **Method of analysis** |
|---|---|
| To what extent were the aspects of continuity and progression identified in the document analysis also observed in the interview data? (RQ1) | Coded using GACF and additional themes (Appendix 15) |
| What do interview participants perceive to be the benefits and limitations of more closely connecting school geography and academic geography? (RQ2) | Coded by benefit and limitation, (Appendix 16) |

Table 3.13: Methods of analysis of the interview data.

Once the analysis described in Table 3.13 had been completed, the data in Appendices 15 and 16 were reviewed again, and broad themes emerging from the coding were identified. These are the themes that form the structure for the discussion in Chapter 5.

## 3.8: Ethical considerations

An application was made to the University of Birmingham's Research Ethics Committee (Appendix 17) and ethical approval obtained (ERN_22-0796). Additionally, the research design was underpinned by the *Ethical Guidelines for Educational Research* issued by the

British Educational Research Association (BERA, 2018) and later cross-referenced against the newly published fifth edition of those same guidelines (BERA, 2024). Much educational research involves participants who are particularly vulnerable, such as children and young people; this was not the case for this research, as all participants would be aged 18 years or over. In addition to the ethical guidelines specific to educational research, 'five key premises of ethical guidance' (Hall, Sou and Pottinger, 2021, pp. 50-51) underpinned the research approach: autonomy (participation free from coercion); beneficence (research that is worthwhile); avoidance of harm (through robust precautions); confidentiality and anonymity (protection of personal data); integrity (openness, honesty, and fairness from the researcher). These are summarised in Table 3.14.

| Premise | Influence on the research approach |
|---|---|
| Autonomy<br><br>(participation free from coercion) | As the research questions stemmed from a personal curiosity related closely to my work as a geography teacher educator, the most relevant participants would likely be drawn from the geography education community in which I am an active member (including participants from ITE partnership schools, GEES, subject networks).<br><br>Although it is therefore inevitable that some of the participants recruited for the research project would know me, attempts were made to reduce the risk of any pre-existing relationship with the researcher leading participants to feel pressured or coerced into responding to the questionnaire or attending the focus group (which later became an individual interview).<br><br>1. The participant information sheet (Appendix 18) was circulated as part of the routine communications within each of these contexts rather than directly by myself as the researcher to reduce the likelihood that participants felt pressured into responding.<br><br>2. Questionnaire responses were anonymous unless participants explicitly chose to identify themselves; it was intended that this anonymity might help to reduce any risk of social-desirability bias (Gray, 2018, p. 244).<br><br>3. Explicit informed consent was gained from every participant who chose to volunteer for further data collection; every ethical consideration was made to ensure that participants gave their informed consent freely and without coercion. |
| Beneficence<br><br>(research that is worthwhile) | This research occupies a spatial and temporal context from which the outcomes have the potential to make meaningful contributions to the process of curriculum-making, in schools and in the academy.<br><br>This research was conducted in a period of great change for education, and for geography education in particular. HE has been significantly impacted by the Covid-19 pandemic, which has had implications for recent and new undergraduates, as well as teachers who are seeking to best support young people in making a successful transition to HE. This research seeks to example how we might strengthen and develop continuity |

| | |
|---|---|
| | and progress in geography education (RQ1) by exploring the potential benefits and limitations of a more connected geography curriculum (RQ2) and making some informed recommendations about what a connected curriculum might look like in practice (RQ3).<br><br>There are potential positive impacts on geography teacher education, by helping student teachers to recontextualise their subject through a deeper understanding of the connections between academic geography and the school geography curriculum; this is of crucial importance as geography teaching faces a national recruitment crisis, with the National Foundation for Educational Research (NFER) reporting that targets for geography teacher recruitment were missed by 47% in 2021/22 and 31% in 2022/23 (McLean, Worth and Faulkner-Ellis, 2023) and by 44% in 2023/24 (McLean, Worth and Smith, 2024).<br><br>While there is a body of literature theorising the nature of the 16-19 transition in geography and positing the need to strengthen that transition, there is little research into how we might do so in practice. This research project seeks to address that gap in literature and research. |
| Avoidance of harm<br><br>(through robust precautions) | One of the main ethical concerns at the time of data collection remained the high levels of workload experienced by educators. There were, however, very minimal risks associated with this research project. Use of video-conferencing technology for the semi-structured interviews allowed participants to engage from an environment in which they felt comfortable, and at a time that was convenient to them. Participants were given a choice of platform (Teams or Zoom) so that they could choose the one with which they were most comfortable.<br><br>In the unlikely event that participants experienced any distress arising from their participation, I was equipped (as an experienced interviewer) to take necessary steps to resolve this, for example by offering the participant a break from the data collection or reasserting their right to withdraw (i.e. by terminating their involvement in the interview immediately at their request). However, it was not necessary to take these steps and I am confident that the research was carried out with no harm to participants. |
| Confidentiality and anonymity | Questionnaire data was stored securely online through the JISC software. The questionnaire data was completely anonymously unless the participant also completed the final section which asked whether they would like to take part in a focus group (with the research method later refined to become a semi-structured |

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| (protection of personal data) | interview). In this case, the participant provided their name and an email address, which was used to contact them to arrange the interview.<br><br>Participants in the questionnaire were assigned a randomised, numerical ID by JISC. A key was created which allowed the researcher to identify participants, including those who had given consent to be contacted regarding further data collection, and this key was kept separate from the anonymised questionnaire data. In this thesis, individual questionnaire responses have identified only by the numerical ID, protecting participants' confidentiality.<br><br>It was possible for the data of the majority of participants to remain confidential, meaning that their data and/or identities have not been revealed in the research outputs or otherwise to third parties. However, there were a small number of participants whose contributions could be identifiable through the nature of their role, which was pertinent to the data gathered from them. In these instances, every attempt was made to treat participants' data as confidential, and in the consent process for each form of data collection (questionnaire, interview) participants were asked explicitly if they would have any concerns regarding their confidentiality and anonymity. Had they expressed any concerns, I would have ensured that their data was treated with strict confidentiality (i.e. if the participant would have been easily identifiable from their data, then their data would not have been used in the written outputs from the research without their explicit consent). Additional measures – further described in Chapter 5 – were taken to ensure that participants felt accurately represented in the data analysis.<br><br>Data from the semi-structured interviews (notes, recordings, transcripts, and any coding) were stored securely. In this thesis, individual participants in the interview have been referred to by a pseudonym; participants were given the option to choose their own pseudonym, an approach which I had successfully used in earlier research (Collins, 2022) and that is recommended as a respectful approach to protecting the identify of participants (Allen and Wiles, 2016). Further detail about this process can be found in Chapter 5.<br><br>In writing openly about my positionality, it is clear in this thesis that the case study institution is the University of Birmingham; my employment at the University from 2010-2023 is publicly available information. The name of the institution has been used openly throughout the thesis whenever it arises; as the research project was |

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| | likely to reveal good practice regarding outreach and engagement, grounded in the University's civic responsibility, I did not anticipate any ethical issues arising from the open identification of the University in the written outputs of the research. The consent given by the Head of School (GEES) and the Head of Department (Department of Teacher Education, School of Education) was given with full awareness that the institution would be identifiable in the written outputs. |
| Integrity<br><br>(openness, honesty, and fairness from the researcher) | Beyond institutional oversight (via a successful Application for Ethical Review – ERN_22-0796) and the ethical guidelines relevant to the discipline (BERA, 2018; 2024), my commitment to researcher integrity is founded on a belief that all interactions, personal and professional, should be rooted in respect and transparency.<br><br>My professional life has been spent working with potentially vulnerable populations – children, young people, students of all ages subject to the power dynamic inherent in the teacher-student relationship – and I have upheld a commitment to the highest standards of integrity, equality, diversity, and inclusion throughout that professional life.<br><br>Formally, I have undertaken regular training on the requirements of General Data Protection Regulation (Regulation (EU) 2016/679) and the UK's implementation of GDPR (Data Protection Act 2018), as well as the implementation of legislation to protect equality (Equality Act 2010). Informally, I have educated myself about the necessity of decolonising educational practices (including curriculum design and development, and carrying out research) and have voluntarily undertaken other opportunities which demonstrate a personal commitment to openness, honesty, and fairness (for example, becoming a LGBTQ+ Ally in 2023, enabling me, as a researcher, to create safe spaces and inclusive practices which do not marginalise participants who identify themselves as members of the LGBTQ+ community). |

Table 3.14: The 'five key premises of ethical guidance' (Hall, Sou and Pottinger, 2021, pp. 50-51) that underpinned the research approach.

## 3.9 Chapter summary

This chapter has outlined the research design and methodology used to answer three research questions. Methods of data collection and data analysis have been outlined, and ethical considerations have been discussed.

# CHAPTER 4: CONTINUITY AND PROGRESSION BETWEEN SCHOOL GEOGRAPHY AND ACADEMIC GEOGRAPHY

## 4.1 Introduction

This chapter presents the outcomes of the document analysis, the principal method used to answer RQ1:

> **What are the elements of continuity and progression between the school geography curriculum and the academic discipline of geography?**

The document analysis was conducted in line with the phenomenographical approach outlined in Chapter 3. Chapter 4 describes and discusses the phenomenon (the transition between the educational spaces of school geography and academic geography, identified by continuity and progression) as it appears to the researcher (in selected documents relating to the geography curricula of these two educational spaces). The GA Curriculum Framework (GACF) (GA, 2022a) has been used to frame the language – the thematic codes – through which the phenomenon is described and discussed, and to generate the key concepts and organising concepts that were chosen for the document analysis. It was, however, recognised throughout the process that this was one of many possible frameworks that could have been applied for the document analysis. As Brooks (2018, p. 103) stated, concepts are 'at the heart of geography education' yet also 'somewhat contested'. Brooks also suggested that a consensus regarding which geographical concepts might be 'key' was lacking. Published four years after Brooks highlighted this lack of consensus, the GACF is an attempt to propose (among other outcomes) a set of key and organising concepts for geography that might be accepted and used across the subject community. In work

predating the GACF, Brooks (2018) suggested three alternative categorisations for geographical concepts: i) hierarchical, ii) organisational, iii) developmental, proposing that these categorisations would be useful for examining curriculum documents critically. The choice to apply the GACF categorisation of concepts as being either key or organising, rather than the categorisations used by Brooks (2018) was a deliberate one, in order to contribute to the ongoing debate around geography's concepts, and to support critical engagement with the GACF, which remains a reasonably 'new' framework but one that is likely to be widely accessed by the subject community. The application of the GACF was also a methodological decision, taken to secure pragmatic validity; in other terms, to conduct research that is practically useful. Wallerstedt *et al.* (2022, p. 12) argue that 'the validity of educational research cannot be reduced to the extent that it is directly applicable to teachers' and that the immediate applicability of research should not be the (only) motivation for furthering collective knowledge. However, in light of the imminent curriculum and assessment review in England (Phillipson, 2024a), conducting research with pragmatic validity and that is practically useful is well-aligned with the ethical approach required in educational research (BERA, 2024).

The GACF provides clear definitions of what is meant by key concepts and organising concepts (Table 4.1), demonstrating that although there are alternative categorisations, these key and organising concepts have been synthesised from a breadth of literature and research.

| Key Concepts | Organising Concepts |
|---|---|
| 'the big concepts and ideas developed in the discipline as a means of imposing order on the material studied and clarifying the distinctiveness of geographical thought' (p. 5)<br><br>'what geographers know and how they think' (p. 5)<br><br>'high-level geographical concepts representing the overarching ideas of the subject that geographers agree lie behind all the varied content' (p. 7)<br><br>'part of the disciplinary knowledge of geography, but also the top of a hierarchy of substantive material' (p. 7)<br><br>'selected as the base for the school geography curriculum, although it is recognised that academic geographers may identify a different selection' (p. 7)<br><br>'Most discussions about educational use tend to prioritise Space, Place and Environment as the three major concepts (e.g. GA, 2012; Jackson, 2006; Lambert, 2017; Maude, 2020; Rawling, 2010; Taylor, 2008)…. The Subject Benchmark for Geography in Higher Education (QAA, 2022) refers to Scale, Place, Space and Time. However, the importance of Earth Systems and Processes is also recognised by other writers (e.g. by Holloway *et al*., 2003; Whalley, 2020)' (p. 7)<br><br>'Key concepts change over time, but those recognised here have been remarkably persistent in geography' (p. 7) | 'Organising concepts are also vital to geographical understanding' (p. 7)<br><br>'represent the range of perspectives within which to consider substantive geographical content' (p. 7)<br><br>'provide a common language within which to consider the different operational dimensions of geographical thought' (p. 7)<br><br>'Examples of these are: change over time, scale, similarity and difference [diversity], causality [and] process [interconnection] and interdependence' (p. 7)<br><br>'key to the discipline of geography and to geographical research, but they also have value in school education (Leat, 1998; Taylor, 2008; Brooks, 2018) by helping teachers to shape geographical content in a way that reveals disciplinary knowledge' (p. 7)<br><br>History teachers have referred to such ideas as second order concepts (Counsell, 2017; Ofsted, 2021a, p.22)' (p. 7) |

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| ‘Standing at the top of a hierarchy of ideas in geography are the most significant and abstract concepts, such as Space, Place, Earth Systems and Environment. Upon them hang webs of more specific ideas and more concrete phenomena’ (p. 7) | |

Table 4.1: Definitions of key concepts and organising concepts (GA, 2022a).

In the context of this research, therefore, it is accepted that other researchers may have selected alternative concepts, may have categorised these concepts in different ways, and may have approached the document analysis through different methods. Measures were implemented in the research design (Chapter 3) to address matters of trustworthiness and quality in the research, particularly in relation to credibility (through the use of critical friends, particularly in the generation of the codes found in Appendices 4 and 12) and confirmability (through transparency in the procedures and outcomes, found in Appendices 5-10). At the time of writing, there remains almost no work that critiques how the GACF has been received by the subject community, beyond brief references in Huckle (2024) and Healy (2024) as addressed in Chapter 2. The deliberate choice, therefore, to adopt the key concepts and organising concepts from the GACF is a contribution of this research to the ongoing debates around conceptual development in geography.

The stages of the document analysis (Table 4.2) are reflective of a rigorous research method aligned to a phenomenographical approach, by which the application of thematic codes are used to reveal elements of continuity and progression across the geography education journey, as well as to identify elements in which this continuity is lacking.

| Stage | Process |
|---|---|
| 1 | Identify and select the appropriate curriculum documents for analysis. |
| 2 | Establish themes and codes from the theoretical framework (GA, 2022a). |
| 3 | Reformat the curriculum documents for consistency (Appendices 5-9). Additionally, each document was given an identifier to be used in the written analysis: **GNC2014**, **DfE-KS4**, **ALCAB**, **DfE-KS5**, **SBS**. |
| | *To reiterate the parameters of this research project: the school geography curriculum is examined through formal documentation from the DfE in England, from the GNC for KS1 and KS2 in the primary phase and KS3 in the secondary phase; KS4 focuses on GCSE; and KS5 focuses on A-level as the most typical post-16 qualification in secondary and further education in England. The academic discipline is examined through the Subject Benchmark Statement (SBS) for Geography published by the QAA in the UK, although the limitations of this document as a means of determining the academic geography 'curriculum' are discussed elsewhere in this chapter and in Chapter 7.* |
| 4 | Apply the codes to each curriculum document (Appendices 5-9) and collate the findings as a summary (Appendix 10). |
| 5 | Note in situ any words, terms, phrases, sentences, sections that are not captured by existing themes and codes and that will require an additional code (Appendices 5-9). |
| 6 | Collate into one document (Appendix 11) all words, terms, phrases, sentences, sections that require an additional code. |
| 7 | From the collated document, capture every key term relating to an additional code, and group these into coherent themes (Appendix 12). |
| 8 | Consult Critical Friends (CF1 and CF2) to increase reliability and validity and amend as appropriate. |
| 9 | Apply the additional codes to each curriculum document. |

Table 4.2: The stages of the document analysis.

As has been often highlighted in the ensuing discussion, the detail and depth of the language used and the context in which words, phrases, and sentences are found are a more reliable indication of significance and meaning than the frequency with which particular key terms appear within the document. Coffey (2014, p. 371) described this as the importance of 'language and form', adding that attention should be given to intertextuality and the relational qualities of the documents being analysed (Coffey, 2014, pp. 373-374). This is reflected in the ways in which findings, analysis, and discussion have been blended throughout this chapter. Any quantitative judgements (for example, the number of times a

key term can be found in any individual document) are examined more qualitatively through a close reading of the text surrounding key terms, and in the wider context of the placement of coded references in the overall structure of the documents. The blending of findings and discussion throughout the chapter results in the rich description required for this research to demonstrate the communicative and pragmatic validity which are characteristic of academically rigorous phenomenographical research (Hajar, 2021). Call-Cummings (2017, p. 199) proposes that 'every decision or interaction a researcher makes or has becomes one with communicative validity components and potential effects', and this is particularly true of research – and true of *this* research – that seeks to actively involve stakeholders in knowledge production. Therefore, retaining rich description and participants' voices has been prioritised in Chapters 4 and 5. The reader may find it useful to consult the appendices referenced in Table 4.2, throughout the reading of the chapter. Appendix 4 contains a key to the thematic codes generated from the GACF, and Appendix 12 contains a key to the additional codes that were iteratively generated through the process of analysing the documents. Appendices 5-9 contain the coded documents, and Appendix 10 contains the overall summary of the coding. The phenomenographical analysis is presented in a broadly similar structure in each section of the chapter, outlined below in Figure 4.1.

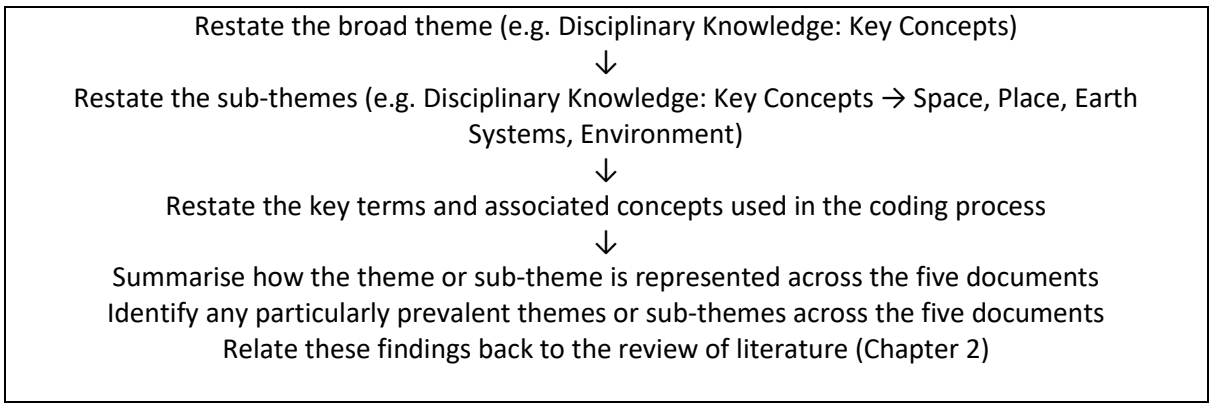



Figure 4.1: The structure of the findings and discussion sections in Chapter 4.

## 4.2 Disciplinary Knowledge: Key Concepts

The key concepts of disciplinary knowledge (DK-KC) specified in the GACF are space, place, earth systems, and environment (GA, 2022a). A summary of the sub-themes, key terms and associated concepts can be found in Table 4.3, along with the number of references found to each sub-theme in the document analysis.

| **Sub-theme** | **Number of references in document analysis** | | **Key terms and associated concepts** |
|---|---|---|---|
| Space (DK-KC-Sp) | GNC2014 | 6 | Location<br>Distribution<br>Pattern<br>Interaction<br>Interdependence<br>Globalisation<br>Development<br>Distance<br>Spatial process<br>Spatial dynamics<br>Spatial narratives<br>Spatial possibilities<br>Spatial justice<br>Spatial variation<br>Flows<br>Global systems<br>International trade<br>Global governance<br>Geopolitics |
| | DfE-KS4 | 4 | |
| | ALCAB | 5 | |
| | DfE-KS5 | 7 | |
| | SBS | 3 | |
| Place (DK-KC-Pl) | GNC2014 | 3 | Character<br>Identity<br>Home<br>Community<br>Landscape<br>Sense of place<br>Diversity<br>Nation<br>Assemblage<br>Meanings<br>Place narratives<br>Culture<br>Cultural diversity<br>Migration |
| | DfE-KS4 | 3 | |
| | ALCAB | 5 | |
| | DfE-KS5 | 7 | |
| | SBS | 1 | |

| | | | |
|---|---|---|---|
| Earth Systems (DK-KC-ES) | GNC2014 | 2 | Physical Processes<br>Physical Cycles<br>Dynamic Changes (Biological, Chemical, Physical)<br>Land use change<br>Land use management<br>Landform processes |
| | DfE-KS4 | 2 | |
| | ALCAB | 3 | |
| | DfE-KS5 | 9 | |
| | SBS | 1 | |
| Environment (DK-KC-Env) | GNC2014 | 8 | Interactions between physical and human geography<br>Ecosystems<br>Biodiversity<br>Environmental change<br>Environmental impact<br>Resources<br>Sustainability<br>Environmental stewardship<br>Environmental citizenship<br>Climate change/climate crisis |
| | DfE-KS4 | 4 | |
| | ALCAB | 8 | |
| | DfE-KS5 | 3 | |
| | SBS | 5 | |

Table 4.3: Disciplinary Knowledge: Key Concepts - A summary of the sub-themes, key terms and associated concepts, along with the number of references found to each sub-theme.

### 4.2.1 Space

The GACF (p. 7) describes space as being positioned:

> at the head of a hierarchy of ideas such as location, distribution, pattern, interaction and distance, and these themselves will have been made apparent in the context of a variety of physical and human geographical features, such as landforms, urban areas, political systems.

Of the 19 key terms and associated concepts identified for the coding of DK-KC-Sp in the documents, many stem from this description. Six feature the prefix ‘spatial’: process; dynamics; narratives; possibilities; justice; variation. This spatial dimension of geography education appears therefore to be a strong aspect of continuity between the school geography curriculum and the academic discipline. This aligns with several seminal definitions of geography as a discipline (for example: Dear and Flusty, 2002; Massey, 2005;

Bonnett, 2008; Holt-Jensen, 2018) each of which identifies space as a defining concept in geography, although space is also recognised as a contested concept (Lambert and Morgan, 2010, p. 74).

### 4.2.2 Place

The GACF (p. 7) proposes that:

> Place is underpinned by the more specific ideas of character, identity, home, community, landscape, sense of place and diversity, all exemplified in the context of a range of different places of different types, sizes and locations.

DK-KC-Pl is featured strongly in both **ALCAB** and **DfE-KS5**, notable at this post-16 phase as being one of the aspects of A-level geography introduced in the 2014 curriculum reforms through the (then new) topic of 'Changing Place, Changing Places'. Two of the three statements coded as DK-KC-Pl in **GNC2014** demonstrate some cross-over between place as a key concept of disciplinary knowledge (DK-KC-Pl) and place knowledge as an aspect of substantive knowledge (SK-PK), as summarised in Table 4.4.

| **DK-KC-Pl (GNC2014)** | **SK-PK (GNC2014)** |
|---|---|
| '…the formation and use of landscapes…' (Purpose, p. 1) | '…location and characteristics of a range of the world's most significant human and physical features…' (KS2, p. 4) |
| '…develop [pupils'] use of geographical knowledge, understanding and skills to enhance their locational and place knowledge…' (KS2, p. 4) | 'understand geographical similarities and differences through the study of human and physical geography of a region of the United Kingdom, a region in a European country, and a region in North or South America' (KS2, p. 4) |
| '…detailed place-based exemplars [at a variety of scales]…' (KS3, p. 6) | '…study the geography of their school and its grounds and the key human and physical features of its surrounding environment' (KS1, p. 3) |

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|---|---|
| | '…studying the human and physical geography of a small area of the United Kingdom, and of a small area in a contrasting non-European country'<br>(KS1, p. 3)<br><br>'…focus on Europe (including the location of Russia) and North and South America… environmental regions, key physical and human characteristics, countries, and major cities…name and locate counties and cities of the United Kingdom, geographical regions and their identifying human and physical characteristics, key topographical features (including hills, mountains, coasts and rivers), and land-use patterns…'<br>(KS2, p. 4) |

Table 4.4: A comparison of DK-KC-Pl and SK-PK in **GNC2014**.

The conflation of disciplinary concepts (*place*) and substantive knowledge (*place knowledge*) and the perpetuation of misconceptions was highlighted as an issue of concern in the 50 research visits conducted by Ofsted (2023), but also two years earlier by Nayeri and Rushton (2021) who noted the 'imprecise' ways in which the terms *place* and *place knowledge* were used in Ofsted's (2021) research review.

### 4.2.3 Earth Systems

An understanding of earth systems is considered by the GACF (p. 7) to be:

> key to a network of ideas about physical processes and cycles, dynamic biological, chemical and physical changes, exemplified in a range of landforms, landscapes and environments.

There were two references coded as DK-KC-ES in **GNC2014**. The first is that geographical knowledge is a framework that can be used to explain '…how the Earth's features [at different scales] are shaped, [interconnected and change over time]' (**GNC2014**, p. 1). This

captures dynamic change as a distinctive aspect of a systems approach to geographical understanding. The second is a brief reference to learning about the water cycle at KS2 (**GNC2014**, p. 5). Although only two statements were coded as DK-KC-ES in **DfE-KS4**, these statements are much more detailed than those in **GNC2014**. They relate to 'geomorphic processes' (**DfE-KS4**, p. 6) and the 'causes, consequences of and responses to extreme weather conditions and natural weather hazards, [recognising their changing distribution in time and space] and drawing on an understanding of the global circulation of the atmosphere' (**DfE-KS4**, p. 7).

**ALCAB** makes three recommendations that were coded as DK-KC-ES, and the subsequent document **DfE-KS5** extends these recommendations further; nine statements in that document were coded as DK-KC-ES. In both **ALCAB** and **DfE-KS5**, statements that were coded as DK-KC-ES relate to the core content selection of landscape systems and the water and carbon cycles, both newly specified core content in the 2014 revised curriculum for A-level geography (Table 4.5).

| **DK-KC-ES in ALCAB** | **DK-KC-ES in DfE-KS5** |
|---|---|
| '[The study of landscape systems] will focus on flows of energy and matter and the way in which they combine to produce a dynamic geomorphological system' (Proposed Content, pp. 16-17) | '[Study must] take place within a systems framework emphasising the integrated nature of land, earth and atmosphere' (Subject Content, p. 6)<br><br>'the variety of geomorphological processes that operate within landscape systems and how the flows of energy and materials within the chosen landscape system combine to create specific landforms' (Subject Content, p. 9) |
| '[Water and carbon] cycles also link the earth's lands, oceans, and atmosphere into an integrated system and provide a relevant context for understanding an | '…study the physical processes which control the cycling of both water and carbon between land, oceans and the atmosphere' (Subject Content, p.6) |

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|---|---|
| earth systems approach to physical geography'<br>(Proposed Content, p. 17) | '…the pathways and processes which control the cycling of carbon within and between land, oceans and atmosphere…'<br>(Subject Content, p. 7)<br><br>'…the pathways which control cycling [of water] between land, ocean, atmosphere and cryosphere, and the processes which control transfers within and between them…'<br>(Subject Content, p. 7)<br><br>'the links between [the water cycle and the carbon cycle] using climate as a key context for exploring these linkages and for developing and applying understanding of the role of feedbacks within and between the two cycles'<br>(Subject Content, p. 7) |
| 'This theme will introduce students to the integrated study of earth surface processes, landforms and resultant landscapes within the conceptual framework of a systems approach, for the first time'<br>(Proposed Content, p. 20) | '…integrated study of earth surface processes, landforms and resultant landscapes'<br>(Subject Content, p. 8)<br><br>'[Study of landscape systems must] take place within a systems framework, focusing on transfers of energy and movements of materials'<br>(Subject Content, p. 9)<br><br>'…gain understanding of how earth processes are a vital context for human activity'<br>(Subject Content, p. 9) |

Table 4.5: A comparison of DK-KC-ES in **ALCAB** and **DfE-KS5**.

**SBS** makes just one explicit reference that was coded as DK-KC-ES: 'Concepts such as thresholds, intrinsic and extrinsic drivers, along with approaches such as biogeochemical cycles, sediment and water budgets and environmental reconstruction, underpin this knowledge of spatial and temporal change in biophysical environments' (**SBS**, p. 16).

There are two possible explanations for this apparent lack of focus on DK-KC-ES in **SBS**. The first is that **SBS** in general is less prescriptive of subject content than any of the other four documents analysed, focusing rather on broader disciplinary aspects such as the context, purpose, and characteristics of a geography degree (**SBS**, pp. 3-5), cross-cutting themes relevant to HE such as equity, equality, diversity and inclusion, and sustainability, as well as essential legislative and regulatory aspects of HE and other sector-specific reference points. The second is that the document analysed was the **SBS** for *geography* (QAA, 2022b) but there is a separate Subject Benchmark Statement for *earth sciences, environmental sciences, and environmental studies* (QAA, 2022a). It can reasonably be expected that greater reference to DK-KC-ES would be found in the latter, and reinforces the division that has taken place in many HE contexts between the human and physical aspects of geography as a discipline. This division is discussed further (section 4.8 of this chapter, and in Chapter 6) as a facet of geography's identity crisis which was addressed in the literature review in Chapter 2.

### 4.2.4 Environment

Environment as a key concept of geographical knowledge is, according to the GACF (p. 7):

> at the top of a network of ideas about interactions between physical and human geography, ecosystems, environmental change and impact, resources and sustainability, again followed up and revealed in a variety of contexts at micro to macro scales.

As is the case with many of the key (and organising) concepts of geographical knowledge, there is a distinction between environment as a broad – and contested – geographical concept and more narrow definitions of environment as, for example 'synonymous with

nature' (Lambert and Morgan, 2010, p. 139). As was found to be the case with *place* and *place knowledge*, the risk of conflating disciplinary concepts with substantive knowledge – in this case, the key concept of *environment* with the substantive knowledge of *environmental processes* – was identified from the review of literature in Chapter 2 (Nayeri and Rushton, 2021; Ofsted, 2023). Any understanding of environment as a concept will also be contextual, and Lambert and Morgan (2010, p. 139) go on to state that: '[Environment] is often 'claimed' by geographers, but mistakenly, for it is an idea that now transcends usual disciplinary boundaries: it belongs to practically every discipline and to none'.

With these cautions regarding the potential and range of definitions of DK-KC-Env in mind, the document analysis reveals that references coded as DK-KC-Env were found extensively across all five of the documents analysed, suggesting that DK-KC-Env is an aspect of continuity between the school geography curriculum and the academic discipline. A key feature of DK-KC-Env is *interaction*; this word appeared 19 times in the summary document (Appendix 10) but crucially these 19 references were not all coded as DK-KC-Env. This suggests that interaction as an underpinning characteristic of environment not only 'transcends disciplinary boundaries', as suggested by Lambert and Morgan (2010, p. 139) but is a truly integrative feature of geography, in school geography and academic geography, which draws together a range of key concepts and organising concepts beyond DK-KC-Env. Table 4.6 cross-references the 19 instances of the word *interaction* across the documents.

| Code | Reference to interaction |
|---|---|
| DK-KC | 'Geographers are able to use a systems framework to critically conceptualise patterns, processes, interactions and change in the context of a human, biodiverse and geodiverse world. This acknowledges environmental impacts on human activity; human impacts on biophysical systems and on components of the climate system; and the management of environments and landscapes' (**SBS**, Subject knowledge and understanding, p. 15) |
| DK-KC-Sp [interaction] | [although 'interaction' is one of the key terms/associated concepts for DK-KC-Sp, none of the statements coded as DK-KC-Sp explicitly use the word 'interaction'] |
| DK-KC-Env [Interactions between physical and human] | '…[understanding of] the interaction between physical and human processes…' (**GNC2014**, Purpose, p. 1)<br><br>'…understanding of the interactions between people and environments…' (**DfE-KS4**, Subject Aims and Learning Outcomes, p. 2)<br><br>'The interface between human and physical geography is one of the unique features of geography. An understanding of interdisciplinary approaches to 'people and the environment' is one of geography's key characteristics and must be an important and attractive part of the A/AS level. An understanding of people-environment interactions must develop from a sound understanding of process in both physical and human geography' (**ALCAB**, Guiding Principles, pp. 7-8)<br><br>'…recognise and be able to analyse the complexity of people-environment interactions…and appreciate how these underpin understanding of some of the key issues facing the world today' (**DfE-KS5**, Aims and Objectives, p. 2)<br><br>'…emphasis on deep understanding of both physical and human processes, and on applying this understanding to interrogate people-environment interactions and people-place connections…' (**DfE-KS5**, Aims and Objectives, p. 3) |
| DK-OC | 'Geographers have a clear understanding of the drivers of change in environments over space and time, demonstrating knowledge of the interactions between climate, ecosystems and landscapes' (**SBS**, Subject knowledge and understanding, p. 16) |
| DK-OC-Sc | '…interrogate people-environment interactions and people-place connections at all scales from local to global' (**DfE-KS5**, Aims and Objectives, p. 3)<br><br>'…interactions between the local, regional, national, international and global scales are fundamental to an understanding of global governance' (**DfE-KS5**, Subject Content, p. 12) |
| DK-OC-IntC | '…complex people-environment interactions, highlight the dynamic links and interrelationships between places and environments [at different scales]…' (**DfE-KS4**, Subject Aims and Learning Outcomes, p. 1) |

| | |
|---|---|
| DK-GeoSk-Fwk | '…fieldwork undertaken in at least two contrasting environments…include exploration of physical and human processes and the interactions between them…involve the collection of primary physical and human data'<br>(**DfE-KS4**, Scope of Study, p. 5) |
| DK-A | 'Geography's broad curriculum, subject content and focus on interactions and interconnections, and application of critical theory, make it well placed to support and enact diverse and alternative approaches to sustainable development. This is achieved through emphasis on the development of student values and geocapabilities, behaviours and attitudes, alongside traditional acquisition of knowledge, skills and competencies'<br>(**SBS**, Sustainability, p. 7)<br><br>'…understand the place of their discipline in contributing a holistic perspective on natural and human worlds, interactions and processes that is distinctive compared with other disciplines'<br>(**SBS**, Subject knowledge and understanding, p. 14) |
| P-CU | 'broadening and deepening understanding of locational contexts…greater awareness of the importance of scale and the concept of global…a greater emphasis given to process studies that lead to an understanding of change<br>…a greater stress on the multivariate nature of 'human-physical' relationships and interactions<br>…a stronger focus on forming generalisations and/or abstractions, including some awareness of theoretical perspectives and of the subject's conceptual frameworks…an increased involvement of students in planning and undertaking independent enquiry in which skills and knowledge are applied to investigate geographical questions…enhancing competence in a range of intellectual and communication skills, including the formulation of arguments, that include elements of synthesis and evaluation of material'<br>(**DfE-KS4**, Progression Statement, pp. 2-3) |
| P-T | '…carbon and water cycling includes understanding of a key driver of climate change and the opportunity to study aspects of hydrometeorology. It demands understanding of earth, ocean and atmosphere interactions and therefore provides a more widely applicable basis for further study'<br>(**ALCAB**, Core content in relation to the draft criteria considered by the Smith Review, p. 42) |
| SK | 'A major intellectual task within the subject is to encompass the diversity of contexts and the different types of knowledge that inform the study of environments and societies, and the interactions between the two, at a range of scales'<br>(**SBS**, Purposes of a Geography degree, p. 4) |
| SK-Env | 'For two selected ecosystems, draw out the interdependence of climate, soil, water, plants, animals and humans; the processes and interactions that operate within them at different scales; and issues related to biodiversity and to their sustainable use and management'<br>(**DfE-KS4**, Scope of Study, p. 7) |

Table 4.6: References to 'interaction' in the documents.

The word *interaction* features in the key concepts of space (DK-KC-Sp) as a key term/associated concept, as well as in the organising concepts of scale (DK-OC-Sc) in **DfE-KS5** and interconnection (DK-OC-IntC) in **DfE-KS4**. Interaction is referenced in relation to the application of geographical knowledge (D-A) in **SBS**, progression in conceptual understanding (P-CU) in **DfE-KS4**, and progression through transition in **ALCAB**. Interaction is also a feature of a general view of substantive knowledge in **SBS**, and more specifically of environmental processes as a strand of substantive knowledge in **DfE-KS4**. This therefore seems to demonstrate that *interaction* can be seen not only as a facet of the key concept of *environment* (DK-KC-Env) across the school geography and academic geography, but also as an integrative characteristic of geography and an element of continuity between school geography and academic geography.

### 4.2.5 Summary discussion of Disciplinary Knowledge: Key Concepts (DK-KC)

No statements in **GNC2014** were coded as DK-KC in *general* terms, although as can be seen above, **GNC2014** does address each of the individual key concepts in more *specific* terms. **DfE-KS4** alludes to the general nature of key concepts (DK-KC) in geography education, stating that the intention of the geography curriculum at KS4 is to 'develop and extend [students'] knowledge of locations, places, environments and processes…' (**DfE-KS4**, p. 2).

DK-KC is similarly addressed in **ALCAB** and **DfE-KS5**, but in this instance there is a subtle difference in language between the interpretation of DK-KC by **ALCAB** and the final language found in **DfE-KS5**. **ALCAB** suggests that students should 'understand the importance of key

concepts in geographical understanding, including those of space, place, [time, and scale]…' (**ALCAB**, p. 8). In **DfE-KS5**, the language has reverted to familiar terms: '…develop [students'] knowledge of locations, places, processes and environments, [at all geographical scales from local to global]…' (**DfE-KS5**, p. 1). This language in **DfE-KS5** is almost identical to that used in **DfE-KS4** and in **GNC2014**, documents relating to earlier key stages of the geography education journey.

It could be considered that this similarity and consistency in language aids in establishing continuity between key stages of geography education. There are also direct comparisons in language with the widely accepted categorisation of substantive knowledge (SK) in geography as locational knowledge, place knowledge, human and physical processes, and environmental processes (DfE, 2013a; Ofsted, 2021; GA, 2022a) which additionally might aid in continuity between key stages of geography education. However, it could also be interpreted that the reduction of all forms of geographical knowledge to 'locations, places, processes and environments' (all four of these terms are used in both **DfE-KS4** and **DfE-KS5**, in almost identical statements, as well as in **GNC2014**) is too simplistic, marginalises the key concepts (DK-KC) and organising concepts (DK-OC) inherent in disciplinary knowledge, and encourages too heavy a focus on substantive knowledge (SK).

The school curriculum reforms in England that preceded **GNC2014**, **DfE-KS4**, **ALCAB** and **DfE-KS5** are widely accepted as being instigated by the publication of the White Paper *The Importance of Teaching* (DfE, 2010) and resulted in substantial shifts in practice, positioned as '…a radical reform of our schools' (DfE, 2010, p. 4). The DfE made clear its intentions for

large-scale impacts, referencing 'whole-system reform' and 'structural change and rigorous attention to standards' (DfE, 2010, p. 7). Criticisms of the resultant reforms, in particular of GNC2014 (DfE, 2013a), highlighted the risk of rote learning, too strong a focus on 'facts', and a content-heavy curriculum that has been found to the present day to pose challenges for both learners and teachers (Ofsted, 2023). The White Paper set out a clear intention to '[r]eview and reform the National Curriculum so that it becomes a benchmark outlining the knowledge and concepts pupils should be expected to master to take their place as educated members of society' (DfE, 2010, p. 41). The literature review in Chapter 2, however, would suggest that this intention is not easily achieved, as any curriculum document is merely a framework (Lambert, Solem and Tani, 2015) that operates at a number of levels (Cotton, Winter and Bailey, 2013) and requires interpretation and enrichment by classroom teachers (GA, 2022a). As the foundations of a learner's geographical education, beginning at KS1 in the primary phase, the nature of **GNC2014** has significant implications for continuity and progression across the subsequent phases. Beginning a learner's geography education with a reduction of the discipline to 'locations, places, processes and environments' risks an early marginalisation of the key (and organising) concepts that are integral to the discipline of geography. The document analysis suggests that this reductive view of geography persists until KS4, as evidenced by the language used in **DfE-KS4**. There is evidence of continuity in DK-KC from KS1 to KS4, but that continuity could be considered as superficial and lacking in conceptual depth.

The language proposed by **ALCAB** (p. 8) more explicitly references 'key concepts in geographical understanding', although the interpretation of **ALCAB** regarding key concepts

(which the document identifies as space, place, time, and scale) differs slightly from the coding generated from the GACF which makes a distinction between key concepts (DK-KC, identified in **ALCAB**, p. 8 as 'space and place') and organising concepts (DK-OC, identified in **ALCAB**, p. 8 as 'time and scale').

Coding of DK-KC in **SBS** was more extensive, with reference to space, place, earth systems and environment in at least four different areas of the document (Appendix 9). In outlining the context of the **SBS**, it is stated that: 'Geographers study through the concepts of scale, place, space and time' (**SBS**, Context, p. 3). It is of note that the same four concepts feature here as are highlighted in **ALCAB**, and contain two concepts (space and place) that have been coded as key concepts (DK-KC) and two concepts (time and scale) that have been coded as organising concepts (DK-OC). In relation to the design of geography courses in HE, **SBS** states that '[t]he discipline is uniquely holistic and integrative in its reach, but with a number of overarching concepts that define its boundaries. These include, but are not limited to, space, place, time, landscape, environment and scale' (**SBS**, p. 9). **SBS** continues to implicitly reference, in general terms, DK-KC in areas of its description of 'subject knowledge and understanding', as well as highlighting more explicit examples of DK-KC, as discussed above. It is encouraging therefore that there is evidence (in **ALCAB** and **DfE-KS5**) of greater conceptual depth in school geography by KS5, and that this conceptual depth is progressed into academic geography (indicated by **SBS**). However, this continuity between KS5 and HE seems to be prescribed for post-16 learners of geography, with little evidence in the document analysis of a broad understanding of key (and organising) concepts embedded in the earlier phases of the geography education journey. These criticisms of an apparent

lack of continuity are, however, based on the ways in which key concepts are described in *general* terms in the five documents. Each of the key concepts – space, place, earth systems and environment – was individually coded, and the findings in relation to more explicit consideration of those *specific*, individual key concepts, addressed in earlier sections of this chapter, are more comprehensive.

## 4.3 Disciplinary Knowledge: Organising Concepts

The organising concepts of disciplinary knowledge (DK-OC) specified in the GACF are time, scale, diversity, interconnection and interpretation (GA, 2022a). A summary of the sub-themes, key terms and associated concepts can be found in Table 4.7, along with the number of references found to each sub-theme in the document analysis.

| **Sub-theme** | **Number of references in document analysis** | | **Key terms and associated concepts** |
|---|---|---|---|
| Time (DK-OC-Ti) | GNC2014 | 6 | Past<br>Present<br>Future<br>Stability<br>Dynamism<br>Continuity<br>Change<br>Geological timescale(s)<br>Epoch(s)<br>Era(s)<br>Period(s) |
| | DfE-KS4 | 3 | |
| | ALCAB | 7 | |
| | DfE-KS5 | 10 | |
| | SBS | 4 | |
| Scale (DK-OC-Sc) | GNC2014 | 2 | Size of investigation<br>Local<br>Regional<br>National<br>International<br>Global<br>Planetary<br>Spatial relations<br>Multi-scalar connections |
| | DfE-KS4 | 4 | |
| | ALCAB | 5 | |
| | DfE-KS5 | 11 | |
| | SBS | 4 | |

<table>
<tr><td rowspan="6">Diversity (DK-OC-Div)*</td><td>GNC2014</td><td>0</td><td rowspan="6">Range of characteristics<br>Similarity<br>Difference<br>Comparison<br>Contrast<br>Cultures<br>Identities<br>Inequality<br>Representation</td></tr>
<tr><td>DfE-KS4</td><td>0</td></tr>
<tr><td>ALCAB</td><td>3</td></tr>
<tr><td>DfE-KS5</td><td>3</td></tr>
<tr><td>SBS</td><td>0</td></tr>
<tr><td colspan="4">*The key terms and associated concepts identified in the coding of DK-OC-Div came initially from the GACF (pp. 7-8) – range of characteristics, similarity, difference, comparison, contrast, cultures identities – with an additional two key terms emerging from the process of document analysis for this code. The additional key terms were ‘inequality’ and ‘representation’, although subsequently a note was added to the latter to clarify the distinction between a more narrowly geographical application of representation, for example the representation of place in media, and representation as a facet of the newly identified code of Disciplinary Identity: Power (DI-Pow) that was generated in the document analysis process, and discussed in further detail in section 4.8.5.</td></tr>
<tr><td rowspan="5">Interconnection (DK-OC-IntC)</td><td>GNC2014</td><td>3</td><td rowspan="5">People<br>Places<br>Environments<br>Spaces<br>Integration/Integrative</td></tr>
<tr><td>DfE-KS4</td><td>3</td></tr>
<tr><td>ALCAB</td><td>7</td></tr>
<tr><td>DfE-KS5</td><td>8</td></tr>
<tr><td>SBS</td><td>2</td></tr>
<tr><td rowspan="6">Interpretation (DK-OC-Int)</td><td>GNC2014</td><td>1</td><td rowspan="6">Changing narratives<br>Different values<br>Range of viewpoints<br>Range of interpretations<br>Contrasting imaginations<br>Geographical similarities and differences</td></tr>
<tr><td>DfE-KS4</td><td>1</td></tr>
<tr><td>ALCAB</td><td>2</td></tr>
<tr><td>DfE-KS5</td><td>5</td></tr>
<tr><td>SBS</td><td>0</td></tr>
</table>

Table 4.7: Disciplinary Knowledge: Organising Concepts - A summary of the sub-themes, key terms and associated concepts, along with the number of references found to each sub-theme.

### 4.3.1 Time

**GNC2014** (p. 3) states that, as early as KS3, learners should know about geological timescales. This element of DK-OC-Ti is also present in the substantive knowledge relating to physical processes (SK-PP) outlined later in **GNC2014** (p. 6). **DfE-KS4** progresses this aspect of DK-OC-Ti by requiring learners to understand ‘[t]he spatial and temporal characteristics, of climatic change and evidence for different causes, including human activity, from the

beginning of the Quaternary period (2.6 million years ago) to the present day' (**DfE-KS4**, p. 7). However, this statement was also coded as DK-KC-ES, to capture that an underlying systems approach is inherent in understanding the causes of climate change. As the GACF (p. 9) notes, 'the key concepts of Place, Space, Earth Systems and Environment and the interweaving of the organising concepts are all inextricably linked and together form a distinctively geographical system for thinking about the world'. This 'interweaving' therefore necessitated decision making at the point of coding, to categorise some statements as one code or another when often, the interpretation needed greater nuance than this. This accounts for the instances where identical statements appear in more than one code in the summary document (Appendix 10), for example the quote above from **DfE-KS4** (p. 7) which was coded not only as DK-KC-ES and DK-OC-Ti, but also as DK-OC-IntP (Appendix 6).

Often, the most obvious references that were coded as DK-OC-Ti related to scale – past, present, future – but care was taken not to conflate temporal scale with spatial scale (with the latter being coded as DK-OC-Sc). 'Change over time and space' is a recurrent theme across all five documents and features in multiple statements regarding both key concepts and organising concepts. In fact, the phrases 'temporal and spatial' or 'spatial and temporal' appear together a total of eight times across the five documents. This suggests that in an integrated, holistic conceptual understanding of geography (noted as key to the identity of the discipline in **SBS**, p. 9) the organising concept of time (DK-OC-Ti) and the key concept of space (DK-KC-Sp) are often closely linked. For example, **ALCAB** proposes that learners should understand that '…spatial and temporal variations in the processes which cycle material in the earth system is a key part of physical geography' (**ALCAB**, p. 17).

In **SBS**, both DK-OC-Ti and DK-KC-Sp feature as an aspect of the subject-specific skills developed through academic geography:

> Geographers use a variety of sources of evidence and are able to apply appropriate forms of both quantitative and qualitative analysis, making informed judgements based on the evidence available. Geographers are numerate and able to establish the appropriate spatial and temporal scales for the purpose of their analysis (**SBS**, p. 22).

This statement was coded as DK-GeoSk-Exp rather than as DK-OC-Ti or DK-KC-Sp, as the focus of the statement seems to be more firmly on geographical practice and skills. The links between the statement and the key terms and associated concepts relating to DK-GeoSk-Exp were felt to be stronger than the links to DK-OC-Ti or DK-KC-Sp. This is yet another example of the need to view geography – whether school geography or academic geography – in an integrative and holistic manner, in addition to the individual themes adopted for the document analysis.

### 4.3.2 Scale

As has been noted already in relation to DK-OC-Ti, the coding of DK-OC-Sc was not as simple as searching for and coding all references to 'scale'. Three of the documents included reference to temporal scale (**DfE-KS4**, p. 7; **ALCAB**, p. 22; **SBS**, p. 15). However, closer scrutiny of these examples reveal, again, the interweaving of concepts in geography; although these examples feature clear reference to temporal scale, there are also aspects of the more complex meaning of 'scale' as an organising concept in its own right, as articulated by the GACF (p. 7):

> Scale has several different connotations, all important for geography. Scale can refer to the size of an investigation – micro, small, macro, etc. Terms like local, regional, national, international and global refer to a level of analysis, while scale is also recognised as a dynamic dimension necessary to consider interconnections between phenomena. The work of Doreen Massey has illuminated the idea of a 'global sense of place', in which it is necessary to 'zoom in and out' of scales in order to appreciate what she calls 'the power geometries of spatial relations' or how the same place can produce different life chances and identities for different people because of multi-scalar connections (Massey, 2005, Chapter 15).

The interpretation of DK-OC-Sc in **GNC2014** is, as might be expected when taking into account lack of opportunity for progression in conceptual understanding at those early key stages, a fairly simple one. **GNC2014** requires that learners know '…how the Earth's features at different scales [are shaped, interconnected and change over time]' (p.1) and that the KS3 curriculum includes '…[detailed place-based exemplars] at a variety of scales…' (**GNC2014**, p. 6). By KS4, DK-OC-Sc progresses to an understanding of '…the interrelationship between geographical phenomena at different scales…' (**DfE-KS4**, p. 2). **ALCAB** contains five recommendations that were coded as DK-OC-Sc, ranging in context across several topics or strands of the proposed content for A-level geography. In **DfE-KS5**, the number of references to DK-OC-Sc has increased to 11 (Table 4.8).

| **DK-OC-Sc in ALCAB** | **DK-OC-Sc in DfE-KS5** |
|---|---|
| | '…[develop [students'] knowledge of locations, places, processes and environments] at all geographical scales from local to global…'<br>(Aims and Objectives, p. 1)<br><br>'…a range of temporal and spatial scales…'<br>(Aims and Objectives, p. 2)<br><br>'…interrogate people-environment interactions and people-place connections at all scales from local to global'<br>(Aims and Objectives, p. 3) |

| | |
|---|---|
| 'An understanding of pathways and processes that control the cycling of water and carbon…considered at a range of time and space scales' (Proposed Content, p. 19) | '…the pathways and processes which control the cycling of carbon within and between land, oceans and atmosphere at a range of [time (seconds to millions of years) and] space (plant to continental) scales…' (Subject Content, p. 7)<br><br>'the pathways which control cycling between land, ocean, atmosphere and cryosphere, and the processes which control transfers within and between them at a range of [time (minutes to millennia) and] space (hillslope to global) scales' (Subject Content, p. 7)<br><br>'the characteristics of physical processes and patterns at a variety of spatial (landform to landscape) [and temporal (seconds to millennia)] scales' (Subject Content, p. 9) |
| 'The conceptual framework [for the theme of global systems and global governance] will emphasise the way in which global systems have local consequences' (Proposed Content, p. 24) | 'the characteristics and impacts of external forces operating at different scales from local to global…government policies…the decisions of multinational corporations…the impacts of international or global institutions' (Subject Content, p. 14) |
| '…scope for thinking about how scale, including local, regional, national, international and global, helps students to make sense of how global interdependence, inequality and governance manifest themselves' (Proposed Content, p. 26) | '…interactions between the local, regional, national, international and global scales are fundamental to an understanding of global governance' (Subject Content, p. 12) |
| 'By examining how local change and actions relate to the wider contexts of national, international and global forces, the dynamic nature of local places will be illuminated' (Proposed Content, p. 29) | 'Study [of Changing Place, Changing Places] must involve moving out from the local place to encompass regional, national, international and global scales in order to understand the dynamics of place' (Subject Content, p. 12)<br><br>'…past and present connections, within and beyond localities, shape places and embed them in the regional, national, international and global scales' (Subject Content, p. 14) |
| '…study for [Changing Place, Changing Places] should move across scales, including local, | '…the demographic, socio-economic and cultural characteristics of places are shaped by shifting flows of |

| | |
|---|---|
| regional, national, international and global, revealing the way in which local places are embedded within and interconnected to these wider scales'<br>(Proposed Content, p. 29) | people, resources, money and investment, and ideas at all scales from local to global'<br>(Subject Content, p. 14) |

Table 4.8: A comparison of DK-OC-Sc in **ALCAB** and **DfE-KS5**.

Four statements were coded as DK-OC-Sc in **SBS**. Two are explicit in their links to spatial scale, and both also reference temporal scale in addition, reinforcing the close links between DK-OC-Ti, DK-OC-Sc, and DK-KC-Sp. Scale can also be identified through the use of the terms global, national, regional, and local. None of the four statements coded as DK-OC-Sc in **SBS** are linked directly to topics, themes, or specific subject content. This is in contrast to the close connections made at KS5, for example, '…study for [Changing Place, Changing Places] should move across scales, including local, regional, national, international and global' (**ALCAB**, p. 29), or '…the pathways and processes which control the cycling of carbon within and between land, oceans and atmosphere at a range of [time (seconds to millions of years) and] space (plant to continental) scales…' (**DfE-KS5**, p. 7). Rather, the references to DK-OC-Sc in **SBS** seem to acknowledge scale as a broad, defining concept of the discipline.

### 4.3.3 Diversity

A noticeable gap in the summary document (Appendix 10) is regarding the organising concept of diversity (DK-OC-Div). No statements in **GNC2014** or **DfE-KS4** were coded as DK-OC-Div. It appears, therefore, that considerations of diversity as an organising concept are first introduced in **ALCAB** and **DfE-KS5**. **ALCAB** suggests that the study of geography '…asks

students to think about how, why and where interdependence and inequalities exist in the world today' (**ALCAB**, p. 26), and that students should be aware of '…the existence of an unequal but interdependent world. Interdependence focuses on the relationships that are created by global systems, while inequality alerts us to how the world is shaped in unequal ways' (**ALCAB**, p. 25). In **DfE-KS5**, this is translated as the need for students to be aware of '…the way in which their own lives and those of others are affected by continuity and change in the nature of places' (**DfE-KS5**, p. 14) and, in learning about 'meaning and representation', that students understand 'how humans perceive, engage with and form attachments to places and how they present and represent the world to others, including the way in which everyday place meanings are bound up with different identities, perspectives and experiences' (**DfE-KS5**, p. 14).

No statements in **SBS** were coded as DK-OC-Div. In the GACF, DK-OC-Div refers to concepts of *geographical* diversity – key terms and associated concepts used to apply this code included 'similarity' and 'difference', 'contrast', 'comparison', 'cultures' and 'identities' – yet **SBS** does contain frequent reference to aspects of *learner* diversity. These became coded as DI-LD (one of the additional codes generated iteratively, Appendix 12) rather than as DK-OC-Div. It could be interpreted that this shift in focus – from *geographical* diversity to *learner* diversity – also represents a shift in the nature of the discipline at HE, and thereby captures one aspect of a lack of continuity between school geography and academic geography. As individuals move from being *students outside* of the discipline, to *geographers inside* of the discipline, and from *learning* the subject to *shaping* the subject, the focus shifts from concepts of diversity within the discipline being learned, to the diversity of the individuals that are shaping and contributing to that discipline.

### 4.3.4 Interconnection

The GACF (p. 8) proposes that:

> It can be claimed that geography is all about interconnection, because people, places, environments and spaces are all connected to each other in a multitude of ways. Maude (2020, pp. 236–7) refers to interconnection as "the basis for geography's claim to be an integrative discipline".

References to DK-OC-IntC were coded across all five documents. However, as noted in the summary document (Appendix 10), the key concept of space (DK-KC-Sp) encompasses the additional concept of interaction, and there are other areas of disciplinary knowledge that allude to links, interconnection, interaction, and integration. For example, **SBS** includes the following statement: 'Geography's broad curriculum, subject content and focus on interactions and interconnections, and application of critical theory, make it well placed to support and enact diverse and alternative approaches to sustainable development' (**SBS**, p. 7). This is a statement about the nature of the discipline more than it is a reference narrowly to *interconnection* as an organising concept in isolation, and has been coded as a form of application of disciplinary knowledge (DK-A) due to the sentence that follows immediately: 'This is achieved through emphasis on the development of student values and geocapabilities, behaviours and attitudes, alongside traditional acquisition of knowledge, skills and competencies' (**SBS**, p. 7). It should also be noted that this statement appears in the section headed 'Sustainability'; this is one of the QAA's 'cross-cutting themes', reference to which can be found in each one of the QAA's revised (from 2022) Subject Benchmark Statements regardless of subject or discipline (QAA, 2023) alongside other cross-cutting

themes such as equity, equality, diversity and inclusion, and entrepreneurship and enterprise education.

This exemplifies the subject-specific interpretation required for the coding process to be conducted rigorously, and the importance of viewing every statement in context (Coffey, 2014). A more rudimentary approach, for example by searching for key terms and coding them without context-specific interpretation, would yield vastly different results; in the case of *interconnection*, for example, a search for this term in all five documents would produce only two references (**SBS**, p. 7; **ALCAB**, p. 28). Had this approach been taken to coding DK-OC-IntC, the document analysis would falsely imply that the organising concept of interconnection is of little concern in school geography and only of marginal importance in academic geography, whereas a broader consideration of related terms such as *interaction* reveal this not to be the case (Table 4.6, pp. 207-208).

### 4.3.5 Interpretation

Interpretation (DK-OC-IntP) is described in the GACF (p. 8) as:

> a different kind of organising idea, but increasingly key to understanding the way in which the world is influenced by changing narratives, different values, a range of viewpoints and interpretations, and contrasting imaginations, including those generated and disseminated through digital networks.

Aspects of DK-OC-IntP have been evident in the GNC for some time. A focus on values, viewpoints and attitudes was a key feature of a previous iteration (GNC 2007, DCSF/QCA, 2007). In **GNC2014**, however, reference to DK-OC-IntP is scarce, with just one identical

phrase in both KS1 and KS2 – that learners should 'understand geographical similarities and differences…' (**GNC2014**, KS1, p. 3; KS2, p. 4) – and no coded references to DK-OC-IntP at KS3. Only one statement was coded as DK-OC-IntP in **DfE-KS4** (p. 7).

Both **ALCAB** (p. 12) and **DfE-KS5** (p. 2) make references that were coded as DK-OC-IntP as a broad aspect of disciplinary knowledge, as well as in statements relating more specifically to subject content, for example, **ALCAB** (pp. 30-31). **DfE-KS5** also refers on three occasions to DK-OC-IntP in aspects of the subject content for the topic 'Changing Place, Changing Places' (**DfE-KS5**, p. 13; p. 14; p. 15).

There initially seemed to be an absence of DK-OC-IntP in **SBS**. However, the key terms and associated concepts used to apply this code included 'changing narratives' and 'different values', 'range of viewpoints' and 'range of interpretations', and 'contrasting imaginations' and 'geographical similarities and differences', and there are close connections here to the key terms for the additionally generated code of Disciplinary Identity: Power (DI-Pow). The distinction made between DK-OC-IntP and DI-Pow in the coding process was that the former tends to require learners to understand the narratives, values, viewpoints and interpretations from the perspective of others, whereas the latter is more concerned with these things in relation to representation, positionality and relationality, from the perspective of others but also of oneself. This distinction is discussed further in section 4.8.5.

### 4.3.6 Summary discussion of Disciplinary Knowledge: Organising Concepts (DK-OC)

Organising concepts are articulated differently across the documents. There are no *general* references to DK-OC in **GNC2014** or **DfE-KS4**, although references to each of the *specific* organising concepts were coded elsewhere in the documents. **ALCAB** and **DfE-KS5** seemed to offer some general comments about DK-OC; once again, the statement found in **ALCAB** (but missing from **DfE-KS5**) suggests that students should '…understand the importance of key concepts in geographical understanding, including those of space, place, time, and scale…' (**ALCAB**, p. 8). In this case, and applying the coding established from the GACF, the organising concepts (DK-OC) are 'time and scale', in addition to the key concepts (DK-KC) of 'space and place'. **ALCAB** elaborates on the concepts that should underpin geography education, stating that students should '…be familiar with, and recognise the importance to their studies of, a broader range of concepts…must include the concepts of causality, systems, difference, inequality, representation, interdependence, mitigation and adaptation, sustainability, risk, resilience and thresholds' (**ALCAB**, pp. 8-9). Although the geographical concepts stated in **ALCAB** do not align directly with the codes generated from the GACF for either key concepts (DK-KC) or organising concepts (DK-OC), it was felt that they closely reflected an underlying conceptual framework for geography education that has parallels with the organising concepts found in the GACF.

**DfE-KS5** replicates the language used by **ALCAB** and therefore makes the following general statement about DK-OC, describing them as '…specialised concepts relevant to the core and non-core content. These must include the concepts of causality, systems, equilibrium,

feedback, inequality, representation, identity, globalisation, interdependence, mitigation and adaptation, sustainability, risk, resilience and thresholds' (**DfE-KS5**, p. 2). **DfE-KS5** does not include in this statement the reference from **ALCAB** (p. 8) to 'time and scale'. The reasons for this disparity in language are unclear, but this is not an indication that **DfE-KS5** contains no reference at all to organising concepts; as is clear from the discussion earlier in this section, all five aspects of DK-OC were coded in **DfE-KS5**. However, it seems appropriate to note and to scrutinise instances where the language proposed in **ALCAB** differs from the final language found in **DfE-KS5**, as it is likely that these differences will have arisen from deliberate actions, and a reminder that curriculum-making is not an apolitical act (Biddulph, 2018).

## 4.4 Disciplinary Knowledge: Geographical Practice and Geographical Skills

The aspects of geographical practice and geographical skills as a form of disciplinary knowledge (DK-GeoSk) specified in the GACF are observing, describing, explaining, presenting, evaluating, and the practice of fieldwork (GA, 2022a). A summary of the sub-themes, key terms and associated concepts can be found in Table 4.9, along with the number of references found to each sub-theme in the document analysis.

*NB: The GACF references geographical practice and geographical skills throughout the document. The sub-codes generated to identify geographical practice and geographical skills as an aspect of disciplinary knowledge (DK-GeoSk) were principally taken from Figure 5 (GA, 2022a, p. 10) and therefore mirror aspects of geographical enquiry (drawing heavily on the work of Roberts, i.a. 2003; 2013). Though the work of Roberts in the area of geographical enquiry is widely accepted by the geography education research field to be highly influential, there are a number of alternative models of geographical enquiry, including those used by the Field Studies Council (FSC, n.d.) each of which sets out the aspects of geographical practice and geographical skills required for enquiry, and these were consulted in the process of establishing sub-codes, key terms, and associated concepts. However, for consistency, the*

*GACF was retained as the main theoretical framework from which the broad codes and sub-codes for the document analysis were generated. As has been described in Chapter 3, however, some modifications and adaptations were made to the GACF at the research design phase, and two of these particularly applied to the ways in which DK-GeoSk was coded. These modifications were the addition of fieldwork as geographical practice (DK-GeoSk-Fwk) as a sub-code in its own right under the broad code of DK-GeoSk, and the decision to code any references to the* application *of geographical practice and geographical skills (for example thinking creatively and problem-solving) as DK-A rather than as DK-GeoSk.*

| **Sub-theme** | **Number of references** | | **Key terms and associated concepts** |
|---|---|---|---|
| Observing (DK-GeoSk-Obs) | GNC2014 | 1 | Identifying geographical questions<br>-What?<br>-Where?<br>-When?<br>-Why?<br>-Who?<br>-How?<br>-What might?<br>-What ought?<br>Observing<br>Perceiving<br>Identifying [questions] |
| | DfE-KS4 | 3 | |
| | ALCAB | 2 | |
| | DfE-KS5 | 4 | |
| | SBS | 1 | |
| Describing (DK-GeoSk-Desc) | GNC2014 | 3 | Identifying [sources of geographical information]<br>Gathering sources of geographical information<br>Collecting sources of geographical information<br>Using sources of geographical information<br>Defining<br>Extracting<br>Describing<br>Classifying<br>Categorising<br>Evaluating the credibility and reliability of sources of geographical information<br>Bias<br>Accuracy<br>Geographical reasoning<br>Inference |
| | DfE-KS4 | 3 | |
| | ALCAB | 2 | |
| | DfE-KS5 | 6 | |
| | SBS | 1 | |
| Explaining (DK-GeoSk-Exp) | GNC2014 | 3 | Analysing<br>Explaining<br>Making connections<br>Statistical techniques<br>Analysing quantitative and qualitative data<br>Comparing<br>Contrasting<br>Interpreting<br>Identifying relationships<br>Identifying impacts<br>Identifying trends<br>Analysing values |
| | DfE-KS4 | 4 | |
| | ALCAB | 7 | |
| | DfE-KS5 | 9 | |
| | SBS | 4 | |

| | | | |
|---|---|---|---|
| | | | Clarifying values |
| Presenting (DK-GeoSk-Pres) | GNC2014 | 2 | Reaching conclusions<br>Relating conclusions to presented findings<br>Summarising<br>Communicating findings<br>Drawing together<br>Synthesising<br>Synopticity<br>Presenting<br>Giving reasoned explanations/interpretations<br>Geographical reasoning<br>Inference<br>Relating findings to geographical knowledge<br>Relating findings to theories<br>Weighing up alternatives<br>Generalisations |
| | DfE-KS4 | 4 | |
| | ALCAB | 2 | |
| | DfE-KS5 | 5 | |
| | SBS | 1 | |
| Evaluating (DK-GeoSk-Eval) | GNC2014 | 0 | Reflecting on what has been learned<br>Evaluating critically the credibility and reliability of sources of geographical information<br>Responding<br>Reflecting on further avenues of enquiry<br>Clarifying one's own values, moral stance, and ethical stance<br>Positionality<br>Recognising possible courses of action for oneself<br>Recognising possible courses of action for others |
| | DfE-KS4 | 1 | |
| | ALCAB | 4 | |
| | DfE-KS5 | 7 | |
| | SBS | 1 | |
| Fieldwork (DK-GeoSk-Fwk) | GNC2014 | 5 | Memorable experiences<br>Inspiration<br>Practical work<br>Practical group work<br>Leadership skills<br>Increased confidence<br>Ability to deal with risk<br>Ability to deal with uncertainty<br>Acquisition of knowledge through direct observation<br>Framing enquiry<br>Fieldwork methods<br>Fieldwork tools<br>Fieldwork approaches<br>Accessibility<br>Inclusion (and exclusion)<br>Belonging<br>Othering |
| | DfE-KS4 | 7 | |
| | ALCAB | 13 | |
| | DfE-KS5 | 8 | |
| | SBS | 9 | |

Table 4.9: Disciplinary Knowledge: Geographical Practice and Geographical Skills - A summary of the sub-themes, key terms and associated concepts, along with the number of references found to each sub-theme.

### 4.4.1 Observing

DK-GeoSk-Obs was selected to capture any references to observing, perceiving, and identifying, particularly in the context of geographical enquiry questions; in fact, enquiry questions and research questions appear to be another potential aspect of continuity *within* school geography as 'questions' feature at both KS4 (**DfE-KS4**) and KS5 (in both **ALCAB** and **DfE-KS5**). In the preceding phase of the geography education journey (KS1-KS3) the sole reference coded as DK-GeoSk-Obs in **GNC2014** is that learners should develop '…observational skills…' (**GNC2014**, p. 3). However, this is unlikely to indicate that DK-GeoSk-Obs is not a strong feature of school geography at this phase, but is potentially a consequence of the [limited] scope of the curriculum document itself. Anecdotal experience of observations of KS3 geography lessons across tens of different secondary schools over a thirteen-year period (2010-2023) suggests that a geographical enquiry approach underpins the majority of school geography curricula at KS3, especially those based on GNC2014. This anecdotal evidence is further corroborated by a simple search of publicly available curriculum plans, for example those made available by Oak National Academy (2024) for the 2023/24 academic year, in which enquiry questions underpin every unit of study: for example, 'Sustainable World: Does it matter how we live?' (Oak National Academy, 2024, n.p.).

All three of the statements coded as DK-GeoSk-Obs in **DfE-KS4** contain the word 'questions', and are distributed throughout three different sections of the document (Subject Aims and Learning Outcomes, p. 2; Scope of Study, p. 6; Assessment of Fieldwork, p. 9). At KS5, DK-GeoSk-Obs seems to focus more narrowly on geographical questions in the context of

fieldwork, for example that learners should develop '[t]he ability to research relevant literature sources and to understand and write up the theoretical or comparative context for a "research question"' (**ALCAB**, p.35) and must know how to 'define the research questions which underpin field investigations' (**DfE-KS5**, p. 18).

**SBS** features just one statement that was coded as DK-GeoSk-Obs: that '[a] geographical education develops a range of subject-specific skills, including…spatial awareness and observation…' (**SBS**, p. 23). However, taking into account the examples from other documents and applying the terms 'questions' and 'enquiry' as shorthand to search for other potential links to DK-GeoSk-Obs, it can be seen that aspects of identifying, perceiving, and geographical enquiry are embedded throughout **SBS**. This is often alluded to in brief statements that capture broad experiences, for example the statement that '[s]tudents experience the entire research process, from framing enquiry to communicating findings' (**SBS**, p. 27).

### 4.4.2 Describing

The code DK-GeoSk-Desc was used to encapsulate a broad range of geographical skills that relate to defining, extracting, describing, classifying, and categorising, as well as identifying, gathering, and using sources of geographical information. Inherent in these skills is also the need to be able to evaluate the credibility and reliability of sources of geographical information, for example through considering bias and accuracy, as well as through geographical reasoning and inference. DK-GeoSk-Desc was observed across all five documents, with the fewest coded references found in **ALCAB** (n=2) and **SBS** (n=1).

**GNC2014** includes three statements coded as DK-GeoSk-Desc, with two of these being general statements relating to 'defining characteristics of places' and 'collecting data' found in the section on 'Aims' (**GNC2014**, pp. 1-2) and a third – 'use aerial photographs and plan perspectives to recognise landmarks and basic human and physical features…' (**GNC2014**, p. 3) – in the content for KS1.

In the case of **ALCAB**, the references coded as DK-GeoSk-Desc may be few in number, but when examined in greater detail, the depth of the two statements is evident and the recommendations found in both can be seen as more fully resolved by **DfE-KS5** which contains the greatest number of references to DK-GeoSk-Desc (n=6). **SBS** only appears to make one explicit reference to DK-GeoSk-Desc:

> A geographical education develops a range of subject-specific skills, including…primary data generation, collection and recording, and the use of secondary data sets, both quantitative and qualitative…critically evaluating, interpreting and combining different types of geographical evidence, for example, texts, visual and material culture, archival data, maps, digitised and laboratory data (**SBS**, p. 24).

Closer examination of this single statement, however, reveals the overarching, holistic nature of this view of DK-GeoSk-Desc. In fact, DK-GeoSk was more difficult in general to code in **SBS**, as geographical skills were much more integrated and embedded throughout **SBS** than they were in the other documents analysed. This may be indicative of the importance placed on the integrative nature of the discipline in HE.

### 4.4.3 Explaining

References coded as 'explaining' (DK-GeoSk-Exp) as a key geographical skill were found extensively (n= 27 across all documents) and seemed to be addressed at a reasonable level of detail in every document. In general, DK-GeoSk-Exp was situated in sections of the documents that relate to broad aims of the curriculum, rather than in sections that link skills with specific subject content. All three of the references to DK-GeoSk-Exp in **GNC2014**, for example, can be found either in the Purpose of Study (**GNC2014**, p. 1) or the Aims (**GNC2014**, p. 2). In **DfE-KS4**, two of the four instances of DK-GeoSk-Exp are found in the Scope of Study (**DfE-KS4**, p. 2) and the remaining two feature in the Assessment of Fieldwork (**DfE-KS4**, p. 9). This link between DK-GeoSk-Exp and fieldwork is maintained at KS5, with two references in the section of **DfE-KS5** that focuses on fieldwork (pp. 19-20). DK-GeoSk-Exp is referenced more frequently in **DfE-KS5** than in any other document (n=9) and almost half of its references to DK-GeoSk-Exp (n=4) are set in the context of 'Geographical Skills' (**DfE-KS5**, pp. 15-17).

**SBS** also references DK-GeoSk-Exp within the section for 'Subject-specific skills', with three of the four coded examples being found in that section (**SBS**, pp. 22-24). The remaining reference to DK-GeoSk-Exp in **SBS** states that a 'valued feature of the subject is its diverse ways of knowing and understanding the world, as evidenced by the use of both qualitative and quantitative research techniques' (**SBS**, p. 5). Whilst not explicitly referencing explanation, nor any of the key terms or associated concepts applied for DK-GeoSk-Exp, a subject-specialist interpretation of 'knowing and understanding the world' can reveal

implicit links to the associated concepts of DK-GeoSk-Exp: explaining, analysing, interpreting, making connections, comparing and contrasting.

### 4.4.4 Presenting

'Presenting' as a geographical skill (DK-GeoSk-Pres) can at times appear as a very graphical (and sometimes, cartographical) skill, and this is exemplified in the documents by statements such as '…processing and presenting [fieldwork data] in various ways including maps, graphs and diagrams…' (**DfE-KS4**, p. 9) and 'show the ability to write up field results clearly and logically, using a range of presentation methods' (**DfE-KS5**, p. 19). Summaries of the cartographical and graphical skills expected at the relevant key stage, and closely related to DK-GeoSk-Pres, can be found in **DfE-KS4** (pp. 10-12), although this more prescriptive approach to DK-GeoSk-Pres is not found in the other documents analysed. The links between cartographical skills and DK-GeoSk-Pres should be noted, along with the fact that aspects of the geography curriculum relating to maps, cartography, spatially located data, and geographical information systems regularly seemed related to Dk-GeoSk-Pres but were somewhat difficult to code consistently as they tended to be contextualised in a wide range of ways.

A broader, less graphical interpretation of DK-GeoSk-Pres is related to the ways in which geographers communicate their findings, and the document analysis suggests that this is an aspect of continuity between school geography and academic geography. In school geography, communication of findings as a form of DK-GeoSk-Pres begins at a basic level – '[collect, analyse and] communicate with a range of data…' (**GNC2014**, p. 2) – and progresses

through KS4 – '…communicate their ideas effectively…' (**DfE-KS4**, p. 6) and KS5 – 'communicate and evaluate findings, draw well-evidenced conclusions informed by wider theory, and construct extended written argument about geographical matters' (**DfE-KS5**, p. 16). **ALCAB** relates DK-GeoSk-Pres to the fieldwork context, stating that geographers require '[k]nowledge of the techniques appropriate for analysing field data and representing results and the ability to select appropriate approaches and apply them' (**ALCAB**, p. 35). This link between fieldwork and DK-GeoSk-Pres is also made in **DfE-KS5**, where the expectation is for the independent investigation element of A-level geography to 'involve the individual drawing of conclusions and their communication by means of extended writing and the presentation of relevant data' (**DfE-KS5**, p. 20).

In **SBS**, only one statement was coded as DK-GeoSk-Pres. As per the caution expressed at the start of this chapter, that frequency of reference should not be seen as a proxy for significance, it is important to consider the depth of this single reference coded as DK-GeoSk-Pres in **SBS**:

> [Geographers] have an appreciation of situations when conclusions drawn from data are ambiguous or uncertain. Geographers are also skilled in issues of data ethics, both in the generation of data but also in the use and reuse of data to draw robust and reliable conclusions. As analyses of spatial data underpin all kinds of decision-making, from individual credit scores to large-scale policy decisions, geographers understand the importance of notions of openness, transparency and reproducibility (the duplication of results and inference) (**SBS**, p. 22).

Although there is evidence of continuity in DK-GeoSk-Pres from school geography to academic geography, the quote above from **SBS** is also an indication of the increasing levels

of sophistication with which geographers are expected to demonstrate criticality in their application of geographical skills, including here in relation to DK-GeoSk-Pres.

### 4.4.5 Evaluating

No statements in **GNC2014** were coded as DK-GeoSk-Eval, suggesting that students are not yet, in this phase, required by the curriculum to demonstrate skills such as 'reflecting on what has been learned', 'evaluating critically the credibility and reliability of sources of geographical information', 'reflecting on further avenues of enquiry' and so on, as determined by the key terms and associated concepts relating to DK-GeoSk-Exp. However, these evaluative skills are inherent in enquiry learning (Roberts, 2013; Widdowson and Parkinson, 2013; FSC, n.d.) and it is therefore likely that – particularly when school geography follows an enquiry approach – many teachers of KS1, KS2 and KS3 geography will include opportunities for students to demonstrate evaluative skills, even if this is not explicitly required by **GNC2014**. This relates back to the notions of hidden and enacted curriculum described in the literature review (Cotton, Winter and Bailey, 2013) and reinforces the holistic nature of geography as a subject in which it is often difficult, and not desirable, to learn and apply particular skills in isolation.

Just one statement in **DfE-KS4** was coded as DK-GeoSk-Eval, which specified that the skill of evaluation is assessed through fieldwork: 'reflecting critically on fieldwork data, methods used, conclusions drawn and knowledge gained' (**DfE-KS4**, p. 9). There is also reference to DK-GeoSk-Eval in relation to fieldwork at KS5, which states that geographers are required to

‘demonstrate the ability to interrogate and critically examine field data in order to comment on its accuracy and/or the extent to which it is representative, and use the experience to extend geographical understanding’ (**DfE-KS5**, p. 19).

Ethics is another element of continuity in DK-GeoSk-Eval between school geography (particularly at KS5, as articulated in **ALCAB** and **DfE-KS5**) and academic geography (as set out in **SBS**). **ALCAB** made the recommendation that geographers should have ‘an understanding of the ethical dimensions of field research’ (**ALCAB**, p. 36) and this is seen in **DfE-KS5** as the requirement to ‘evaluate and reflect on fieldwork investigations, explain how the results relate to the wider context and show an understanding of the ethical dimensions of field research’ (**DfE-KS5**, p. 19). **SBS** views ethical practice as extending beyond the fieldwork context into all areas of geography education: ‘A geographical education develops a range of subject-specific skills, including… recognising the moral, ethical and safety issues involved in all aspects of geographical enquiry…’ (**SBS**, p. 23).

There are evidently strong links between DK-GeoSk-Eval and other broad codes and sub-codes, for example links to fieldwork (DK-GeoSk-Fwk) but also links to some of the aspects of disciplinary identity (DI) explored in further detail in section 4.8.

### 4.4.6 Fieldwork

In the context of disciplinary knowledge, fieldwork is widely viewed by the subject community, and the GA (2022a), as an integral aspect of geographical practice and ‘being a

geographer' (Widdowson and Parkinson, 2013) rather than as either a bounded activity or a set of skills and competencies. This is asserted strongly in **ALCAB** (p. 32):

> The ability to conduct field investigations in order to test ideas, build evidence, reflect on concepts, and create new geographical knowledge is one of the defining characteristics of a geographer. This message came through as the strongest single response from higher education institutions and from teachers and the panel fully endorses this view.

Throughout this chapter – indeed, throughout the thesis – the term fieldwork should be seen as a shorthand for a multifaceted form of geographical practice. The importance – and continuity – of the geographical practice of fieldwork in school geography and academic geography is signalled by the extensive references to fieldwork across all five documents (Table 4.10).

| **Document** | **Number of times the word 'fieldwork' occurs** | **Number of references to fieldwork coded the broad theme of DK-GeoSk** | **Number of references coded as the sub-theme of DK-GeoSk-Fwk** |
|---|---|---|---|
| **GNC2014** | 9 (over 7 pages) | 2 | 5 |
| **DfE-KS4** | 30 (over 12 pages) | 0 | 7 |
| **ALCAB** | 67 (over 50 pages) | 4 | 13 |
| **DfE-KS5** | 22 (over 20 pages) | 1 | 8 |
| **SBS** | 41 (over 37 pages) | 5 | 9 |

Table 4.10: References to 'fieldwork' in the documents.

The centrality of fieldwork as geographical practice in the discipline is captured by **SBS**:

> Fieldwork is integral to all Geography courses. It provides geographers with a unique opportunity for experiential active learning that inspires students' practical engagement with the subject. It reflects that real-world learning and context-based applied learning is fundamental to understanding, and changing, our world (**SBS**, pp. 18-19).

The GACF (p. 10) also recognises this centrality, stating that '[f]ieldwork is widely recognised as an essential component of the practice of geography', and explicitly includes the planning of fieldwork as an aspect of curriculum development and planning at the *classroom teacher level*. It could be argued that fieldwork should be – and indeed is – also addressed at the *planning and development level* (by awarding bodies, subject associations, and organisations such as the Field Studies Council) and at *national level* (through stipulations regarding the scope of fieldwork, in formal curriculum documents such as **DfE-KS4** and **DfE-KS5**). It seems unlikely that the lead author and advisory group who produced the GACF would disagree that fieldwork is also feature of curriculum development and planning at these levels, and in fact that they would support the notion that fieldwork must be addressed at national and planning and development levels, particularly in an educational climate where fieldwork is at risk of being marginalised in the curriculum, found recently by Ofsted (2023) in their recent subject report for geography.

Given the brevity of **GNC2014** as a document, fieldwork is proportionally quite a strong focus, although the level of prescription regarding the nature of fieldwork is low. The need for fieldwork at each KS (1, 2 and 3) is specified, progressing from 'simple fieldwork' at KS1 (**GNC2014**, p. 3) to the use of fieldwork at KS2 to '…observe, measure record and present the human and physical features in the local area using a range of methods, including sketch maps, plans and graphs, and digital technologies' (**GNC2014**, p. 5) and the provision of opportunities at KS3 for learners to 'build on their knowledge of globes, maps and atlases, and apply and develop this knowledge routinely in the classroom and in the field' (**GNC2014**, p. 6). By KS3 there is also an expectation that fieldwork takes place in '…contrasting

locations…' (**GNC2014**, p. 7) and this stipulation is continued in **DfE-KS4** which requires that '…fieldwork [is] undertaken in at least two contrasting environments…' (**DfE-KS4**, p. 5). Practical considerations and stipulations regarding fieldwork feature heavily in **DfE-KS4** and **DfE-KS5**. At KS4, the requirement is that, in addition to taking place in contrasting environments: 'Fieldwork overall should include exploration of physical and human processes and the interactions between them and should involve the collection of primary physical and human data (but these requirements need not all be addressed in each piece of fieldwork)' (**DfE-KS4**, p. 5). Additionally, there are clear requirements for how fieldwork should be assessed:

> The scheme of assessment must include an identifiable element or elements assessing fieldwork. This must include assessment of students' own experiences of fieldwork covering at least two (but not all) of the bullet points below, as well as including assessment of fieldwork in unfamiliar contexts which may be based on exemplar data. Fieldwork will be assessed through examination only. It will comprise 15% of the total assessment weighting (of which 5% is allocated to skills and 10% allocated to application) (**DfE-KS4**, p. 9).

There are similar practical considerations stated in **DfE-KS5**, predominantly in relation to the methods of assessment for the fieldwork component of A-level geography. However, **DfE-KS4** and **DfE-KS5** both move beyond the practical considerations, to consider the place of fieldwork in the discipline and its intended impacts on geographical learning and on the learner themselves. In **DfE-KS4**, for example, it is suggested that 'In undertaking fieldwork, students practise a range of skills, gain new geographical insights and begin to appreciate different perspectives on the world around them' (**DfE-KS4**, p. 8) and that '…fieldwork is an essential aspect of geography which ensures that young people are given the opportunity to consolidate and extend their achievement by relating learning to real experiences of the world…' (**DfE-KS4**, p. 10). These aspects of fieldwork are also captured in **DfE-KS5**, where the

expectation is that learners will 'understand the fundamental role of fieldwork as a tool to understand and generate new knowledge about the real world, and become skilled at planning, undertaking and evaluating fieldwork in appropriate situations' (**DfE-KS5**, p. 3). **ALCAB** (p. 32) characterises fieldwork as being central to the identity of geographers and this view of fieldwork as central and integral to the discipline is continued in **SBS**, featuring in nine statements; for example, in describing the characteristics of a geography degree, **SBS** states that: 'Fieldwork and experiential learning in the development of knowledge and understanding are essential aspects of geography' (**SBS**, p. 5). This is later expanded:

> Fieldwork is integral to all Geography courses. It provides geographers with a unique opportunity for experiential active learning that inspires students' practical engagement with the subject. It reflects that real-world learning and context-based applied learning is fundamental to understanding, and changing, our world (**SBS**, pp. 18-19).

All documents seem to be aligned in the view that learning *in the field* is a distinctive aspect of geography education. The document analysis reveals that fieldwork as an essential component of the geography is an aspect of continuity between school geography and academic geography.

### 4.4.7 Summary discussion of Disciplinary Knowledge: Geographical Practice and Geographical Skills (DK-GeoSk)

References to geographical practice and geographical skills as a form of disciplinary knowledge (coded as DK-GeoSk) are extensive throughout all of the documents. There are, however, some gaps in the continuity of DK-GeoSk, particularly in relation to the geographical skill of evaluation (DK-GeoSk-Eval). It is also important to reassert that

geographical practice is holistic and geographical skills are rarely applied in isolation. More than one of the documents analysed called for the integration of DK-GeoSk throughout the curriculum, with **ALCAB** (p. 8) explicitly stating that: 'Geographical skills must be embedded within the content so that it is clear why these are an important part of geographical understanding'. **ALCAB** further extend this call for the integration of skills: 'Geographical skills must be understood in the context of geographical knowledge covered in both the core and non-core content…skills teaching should be embedded and not a stand-alone component…' (**ALCAB**, p. 41). This recommendation from **ALCAB** was applied to **DfE-KS5**, which states that 'Competence in using geographical skills should be developed during study of core content and non-core content, not as a separate theme or topic' (**DfE-KS5**, p. 15). A similar view is expressed in **SBS**:

> The skills dimension is best planned in conjunction with the knowledge-based curriculum, so that the relationship between the two is given detailed consideration. Skills are taught, practiced and assessed within a curriculum framework that is balanced, coherent, inclusive and progressive, so that the level of challenge and achievement is gradually increased throughout, taking students to the frontiers of research (**SBS**, pp. 21-22).

It can therefore be concluded that this view of geographical practice and geographical skills as an integrative feature of geography is a clear aspect of continuity between school geography and academic geography.

## 4.5 Disciplinary Knowledge: Application

The GACF (p. 11) describes application as 'the element of the curriculum framework that promotes awareness of the potential of geography and inspires learners to use their

capabilities in their own lives', and goes on to distinguish between *learning about* application and *learning how to apply* geographical knowledge and understanding. These aspects of disciplinary knowledge are distinct from the geographical practice and geographical skills (DK-GeoSk) examined in the preceding section. A grasp of geographical skills can *enable* the application of geographical knowledge, but DK-GeoSk captures the disciplinary knowledge required to 'work like a geographer', in contrast to DK-A which enables an individual to *apply* that knowledge to the real-world. In the initial stages of the document analysis, 'learning about' (DK-A-LA) and 'learning how to apply' (DK-A-LT) were used as two sub-themes of the broader theme of application of disciplinary knowledge (DK-A), as these were phrases used in the GACF. However, as the coding progressed, the boundaries between DK-A-LA and DK-A-LT became increasingly difficult to define, and the distinctions being made between the two codes during the document analysis appeared to be arbitrary rather than systematic. To address this, three alternative sub-themes were identified during the document analysis: application of spatial data (DK-A-SD); application of geography to real-world issues (DK-A-Iss); careers and employability (DK-A-Emp). A summary of the sub-themes, key terms and associated concepts for DK-A can be found in Table 4.11, along with the number of references found to each sub-theme in the document analysis.

*NB: 15 key terms and associated concepts were identified for DK-A. Three of these key terms and associated concepts – predicting, thinking creatively, problem solving – were originally linked in the GACF with geographical practice; however, it was felt that these terms were better aligned with the broad principles behind application and therefore better coded as DK-A. Given the focus in the GACF (p. 11) on the application of an understanding of the discipline's place in wider historical contexts, including its links to colonialism and imperialism, the term 'knowledge production' was added to DK-A as an associated concept, although this is also a key term for the additional code relating to power as an aspect of disciplinary identity (DI-Pow). Four of the key terms and associated concepts for DK-A have origins in SBS, and relate to the application of geography in careers, entrepreneurship, enterprise, and education for sustainable development (ESD). ESD also has strong links to four of the associated concepts of DK-A that are found in the GACF (p. 4) – real world challenges and issues; living peacefully with others; living productively with others; ensuring our future on the planet.*

| Sub-theme | Number of references in document analysis | | Key terms and associated concepts |
|---|---|---|---|
| Application of spatial data (DK-A-SD) | GNC2014 | 2 | Geographical Information Systems (GIS)<br>Geographical Information Science (GSci) |
| | DfE-KS4 | 1 | |
| | ALCAB | 1 | |
| | DfE-KS5 | 1 | |
| | SBS | 1 | |
| Application of geography to 'real world issues' (DK-A-Iss) | GNC2014 | 0 | Real world challenges and issues<br>Living peacefully with others<br>Living productively with others<br>Ensuring our future on the planet<br>Education for sustainable development (ESD) |
| | DfE-KS4 | 1 | |
| | ALCAB | 3 | |
| | DfE-KS5 | 1 | |
| | SBS | 13 | |
| Careers and employability (DK-A-Emp) | GNC2014 | 0 | How geographers apply knowledge<br>Making use of geography<br>Careers<br>Employability<br>Entrepreneurship<br>Predicting<br>Thinking creatively<br>Problem-solving |
| | DfE-KS4 | 1 | |
| | ALCAB | 3 | |
| | DfE-KS5 | 1 | |
| | SBS | 10 | |

Table 4.11: Disciplinary Knowledge: Application - A summary of the sub-themes, key terms and associated concepts, along with the number of references found to each sub-theme.

### 4.5.1 Application of spatial data

Lengthy consideration was given to how any references to geographical information systems (GIS) and geographical information science (GISci) were coded in the document analysis, along with references to maps. As has been addressed elsewhere in this chapter, there were contexts in which references to maps were most closely related to locational knowledge (SK-LK) and other contexts in which the use of maps was being described as a geographical skill

(DK-GeoSk), including as a means of presenting spatial data (DK-GeoSk-Pres). GIS and GISci were included as key terms for DK-A, although not every reference to GIS was coded in this way. Several references to GIS can be found in DK-GeoSk, for example, where these references relate to the use of GIS more passively as a source of data than to the active application of GIS as a tool to further geographical understanding. However, the GACF (p. 11) considers GIS as having place in geographical application, stating that:

> Geographers are centrally involved in dealing with data and representation in a digital world using Geographical Information Systems (GIS), remote sensing and a variety of ways of presenting spatial data and using social media… the chance to apply their learning to digital worlds will assist in preparing young people to apply geographical learning to the world around them.

The application of GIS as a tool for presenting and understanding spatial data is an aspect of continuity between school geography and academic geography, featuring in all five of the documents analysed. In **GNC2014**, GIS is referenced in one of the subject aims: that learners should be '…competent in the geographical skills needed to interpret a range of sources of geographical information, including maps, diagrams, globes, aerial photographs and Geographical Information Systems (GIS)' (**GNC2014**, p. 2). GIS is again referenced explicitly at KS3, with the expectation that learners are able to 'use Geographical Information Systems (GIS) to view, analyse and interpret places and data' (**GNC2014**, p. 7). Around the time that **GNC2014** was introduced in schools, there was still a sense within the subject community that GIS was difficult for schools to access; Fargher (2017, p. 151) referenced the barriers of cost, technical access, and the lack of training for teachers in the use of GIS, but also indicated that there was evidence that these barriers were beginning to be addressed. However, Ofsted (2023) in their recent geography subject report – drawing on 50 research visits to schools in England between December 2022 and May 2023 – found that

‘[g]eographic information systems (GIS) were not on most secondary schools’ curriculums, despite being part of the national curriculum at this phase’ (Ofsted, 2023, n.p.) and reported that teachers (in those schools visited) were receiving very little subject-specific CPD, identifying GIS as one of the areas with the greatest need for this kind of training.

**DfE-KS4** specifies that ‘GCSE specifications in geography should enable students to build on their KS3 knowledge and skills to… develop and extend their competence in a range of skills including…in using maps and Geographical Information Systems (GIS)’ (**DfE-KS4**, p. 2). This assumption that there will be progression in knowledge and skills from KS3 to KS4 highlights a threat to continuity; if, as was found by Ofsted (2023), GIS remains a weaker aspect of the geography curriculum at KS3, then learners embarking on further study of the subject at KS4 will already lack experience of GIS as a form of DK-A and will not therefore have a solid foundation on which to build their practice with GIS. GIS is referenced elsewhere in **DfE-KS4** in relation to maps, fieldwork and geographical *skills*, but with little contextual information regarding the *application* of GIS as a tool for furthering geographical knowledge and understanding, therefore these references were coded as forms of DK-GeoSk rather than as DK-A.

Geographical information science (GISci) only appears in **ALCAB** and **SBS**, so cannot be viewed as an aspect of continuity in the same way as GIS. **ALCAB** is the only document to refer more broadly to GISci in addition to GIS:

> Geographical information science is an important part of geography and an important arena for the employment of geographers at all levels. This area includes geographical information systems, remote sensing and the collection and handling of geo-located data. There is a need for students to engage with these key technologies (**ALCAB**, p. 8).

Whilst **ALCAB** takes this broader view to include GISci, the provision for spatial technologies in **DfE-KS5** is more narrow, stipulating only that learners 'understand what makes data geographical and the geospatial technologies (e.g. GIS) that are used to collect, analyse and present geographical data' (**DfE-KS5**, p. 16). This is the sole reference to GIS in **DfE-KS5**, and GISci is not referenced at all in that document. **SBS** addresses both GIS and GISci, offering a helpful distinction between the two:

> Geolocated data and geospatial technologies are increasingly central to geography in a digital and data-rich world. Geographers study how digital worlds are created and analysed through the study of geographic information science (GISci) and apply that knowledge through the use of geographic information systems (GIS) and remote sensing (**SBS**, p. 17).

The competence with which geography graduates handle spatial data is also highlighted by **SBS** as being highly sought after by employers: 'Geography graduates are able to collect, analyse and manipulate a range of quantitative and qualitative data. Their approach to spatial analytics is distinctive, and highly valued…' (**SBS**, p. 8). This statement draws together the themes that were developed from the document analysis in relation to DK-A: the application of spatial data, and the real-world value of that application, for example in the context of careers and employability.

There are other threats to ensuring the continuity of GIS between school geography and academic geography, relating to digital exclusion. Recent research (ECDL, 2018, in Coleman,

2021; Yates and Lockley, 2018; Yates, 2020) challenges the notion that young people are 'digital natives', with Yates (2020) suggesting that there are distinct differences in types of digital literacy, in part connected to age. Yates and Lockley (2018) categorised digital technology users into five groups, and found that the group of 'social and media' users is young, with most users in the group being under the age of 25. It was this 'social and media' group that was found to have the lowest levels of data literacy. Data literacy was defined as having three strands: 'data thinking' (critical thinking, for example about how social media companies might gather and use data on users); 'data doing' (practical skills involving data handling); 'data participation' (the shared experience of a data society, for example contributing to online forums). GIS as a form of DK-A can be categorised as a form of 'data doing', and if the research of Yates and Lockley (2018) is applicable to young people in 2024, then it is possible that learners in schools and in universities lack the data literacy to be considered digital natives in their use of GIS. Writing on the cusp of Covid-19 lockdowns being introduced in late March 2020, Yates drew on their earlier work (Yates and Lockley, 2018) in reasserting that 'social and media users are a group marked by narrow and limited digital media use and a lack of data literacy' (Yates, 2020, n.p.). The Covid-19 pandemic revealed a stark digital divide in the UK, as extensively reviewed by Coleman (2021). The vast inequalities caused by this digital divide persist, with a recent inquiry into digital exclusion finding that:

> Basic digital skills are set to become the UK's largest skills gap by 2030. This all has profound consequences for individual wellbeing and multi-billion pound implications for UK productivity, economic growth, public health, levelling up, education and net-zero objectives (Parliament. House of Lords, 2023, n.p.).

In 2023, 1.7 million households in the UK had no mobile or broadband internet at home (Parliament. House of Lords, 2023, n.p.) and a cost-of-living crisis has exacerbated digital

exclusion, with Citizens Advice (2023) reporting that one million people in the UK had disconnected their broadband in the last year because they could no longer afford it. Young people learning geography in schools and in universities cannot be considered to be digital natives and it cannot be assumed that every young person has access to the necessary infrastructure to enable them to develop the levels of digital literacy needed to be proficient users of technologies such as GIS.

### 4.5.2 Application of geography to real-world issues

No statements in **GNC2014** were coded as DK-A-Iss. It could be argued that the opening statement of the Purpose of Study (**GNC2014**, p. 1) alludes to some of the key terms and associated concepts linked to the application of geography to real-world issues as a form of DK-A:

> A high-quality geography education should inspire in pupils a curiosity and fascination about the world and its people that will remain with them for the rest of their lives.

Underpinning this purpose might also be a sense that 'inspiring curiosity and fascination' might act as the beginning of what Walshe and Sund (2022) term 'transformative learning' in the context of environmental and sustainability education (ESE):

> Transformative learning is a potentially important aspect of ESE as it encourages learners to move beyond the simple acquisition of knowledge to a deeper and more holistic learning experience which has the potential to change the way they understand and conceptualise their world. As such, it signifies a change in worldview for the learner which has greater potential to impact the way they live within it (Walshe and Sund, 2022, pp. 1-2).

**DfE-KS4** seems to suggest that this kind of transformative learning has a place in the geography curriculum at KS4, suggesting that it '…enables young people to become globally and environmentally informed and thoughtful, enquiring citizens' (**DfE-KS4**, p. 1). 'Real world issues and concerns' are referenced in **ALCAB** in several statements, for example in stating that one of the academic aims of geography A-level should be that it '…enables learners to think geographically, to be inspired by their geographical understanding of the world they live in and to engage critically with real world issues and real world locations through the application of geographical knowledge, theory and concepts' (**ALCAB**, p. 12). This is continued into **DfE-KS5** which states that learners should '…engage critically with real world issues and places, and to apply their geographical knowledge, theory and skills to the world around them' (**DfE-KS5**, p. 1).

Although some authors guard against the politicisation of the geography curriculum and its (mis)use as a tool for enforcing 'moral messages' (Standish, 2009, p. 40), others highlight the central role that the study of the environment has played in the discipline (Rawding, 2018, p. 241) and acknowledge more contemporary moves towards concepts such as 'ecocentric environmentalism' (Lambert and Morgan, 2010, p. 142). Recently, the academic discipline is seeing a shift towards 'more-than-human' geographies (MTHG) as a prominent field of study (Lorimer and Hodgetts, 2024) and in school geography, a consideration of children's 'more-than-human encounters' has recently been proposed by Clarke and Witt (2023, p. 216) in relation to fieldwork. These examples give weight to the desirability of further developing DK-A-Iss as an element of continuity between school geography and academic geography. **SBS** makes reference to these real-world issues in at least 14 of the 27 statements coded as

DK-A, including that geography graduates will develop '…appropriate skills, attributes and values to examine how the world is, and how to shape a better, more socially just and sustainable world' (**SBS**, p. 15) and that:

> Geography graduates are a crucial part of the multidisciplinary approach needed to tackle the big issues faced by the economy and society, leading ambitious environmental policies, supporting inclusive and sustainable communities and economies, and strengthening relationships and partnerships across the globe (**SBS**, p. 23).

### 4.5.3 Careers and employability

There are no references to DK-A-Emp in **GNC2014** or **DfE-KS4**. It is not until the study of geography at KS5 that consideration of DK-A-Emp is made in any of the national level documents analysed. **ALCAB** makes a strong case for the employability of geographers as a foundation for the purpose of A-level geography, stating that:

> …geography delivers a range of specifically geographical skills… [but additionally] by engaging with a diverse range of subject matter, requires students to practice and have a mastery of a broad range of numerical, graphical, and reading skills as well as knowledge of the world and global issues. This is what makes geographers strongly employable (**ALCAB**, p. 11).

Based on the 'methods and meetings' adopted by **ALCAB** (pp. 3-5) it seems that this view of the purpose of geography is shared across the subject community, including that it is '…recognised by teachers that A/AS level geography had a wider purpose than simply entry to higher education and that the content should take account of this' (**ALCAB**, p. 9). There is a strong recommendation in **ALCAB** that geography's links to careers and employability should be recognised, including that the study of geography at A-level should '…provide an appropriate geographical education to the 80 per cent of A/AS level candidates who do not

go on to higher education geography courses. This is an important part of education for life and employment…' (**ALCAB**, p. 11). However, that there is no direct reference to DK-A-Emp in **DfE-KS5** seems to leave somewhat to chance that teachers will highlight the kinds of transferable skills and knowledge that learners are developing through the study of geography at this level. This might have potential implications for the uptake of geography at university, as young people are increasingly selective about not only the decision to embark on HE, but also the subject which they choose to study. A 2018 report by the Institute for Fiscal Studies (IFS) describes the decision to go to university as a 'significant investment' with 'considerable implications for the students' later-life outcomes' (IFS, 2018, p. 5). The IFS report goes on to highlight that:

> Students typically make the decision about where and what to study at university at an early age. This decision is influenced by many things, reflecting the various expected benefits associated with a higher education, but a key one will be the potential impact on their future employment prospects (IFS, 2018, p. 5).

In this respect, geography performs well, with the same IFS report finding that geography has the third lowest dropout rate across the subjects for which data was examined (IFS, 2018, pp. 19-20). The IFS report applies the same HECoS coding system used by HESA that was discussed in Chapter 2. Additionally, it was found that average earnings are higher for geography graduates than for the average graduate, dramatically so for female geography graduates (+10% greater earnings than the average female graduate) and to a lesser, but still marked, extent for male geography graduates (+2% greater earnings than the average male graduate) (IFS, 2018).

Given the importance with which prospective graduates view future earnings (IFS, 2018, p. 5) and the evidence presented by IFS (2018) regarding positive outcomes for geography graduates, it is unsurprising that the links between geography and employability should be promoted in **SBS** as part of its strong arguments for the application of geography. Additionally, QAA have introduced a cross-cutting theme of 'employability, entrepreneurship and enterprise education' into all Subject Benchmark Statements that have been revised since 2022 (QAA, 2023), further raising the prominence of careers and employability in **SBS**. **SBS** makes eight statements that have been coded as DK-A-Emp, with implicit references found in a number of other statements coded as other forms of DK-A. Some of the explicit references to DK-A-Emp in **SBS** relate to the competencies and characteristics expected of geography graduates that are likely to be valued by employers, for example as a consequence of the focus on partnerships recommended by **SBS**: '[Partnerships] facilitate the long-term progression of students beyond their degree into the wider world of work, increasing student experience, employability and enhancing their ability to see the place of geography outside academia and in the wider world' (**SBS**, p. 12). This focus on employers is shared by **ALCAB**, exemplified not only by the suggestion that the purpose and aims of geography A-level makes geographers 'strongly employable' (**ALCAB**, p. 11) but also more specifically in relation to its recommendations that GSci and GIS should be features of the study of geography at KS5:

> Geographical information science is an important part of geography and an important arena for the employment of geographers at all levels. This area includes geographical information systems, remote sensing and the collection and handling of geo-located data. There is a need for students to engage with these key technologies (**ALCAB**, p. 8).

However, **SBS** also addresses DK-A-Emp from the graduate's own perspective, suggesting that the skills gained by geography graduates are likely to lead to '…a rewarding, self-determined professional life' (**SBS**, p. 4). What could be described as the affective dimension of careers and employability – that geography can directly lead to a professional life that generates positive emotional impacts on an individual – can perhaps be summed up by this clear statement in **SBS**:

> [Geographers] acquire both subject-specific and wider intellectual and transferable skills that together provide the basis for academic achievement, career prospects and contributions to the wider economy and society… and the ability to think holistically, creatively and critically about themselves, their societies and the world (**SBS**, p. 21).

However, characterising the study of geography as principally a route into employment is an approach guarded against by Johnston (1997, p. 245, in Lyon, 2018, p. 213) who believed that '[g]eography is an academic discipline, not a profession, and one of its traditional strengths in British higher education is its use as a vehicle for the development of critical intellectual skills'. There have, of course, been significant changes (for example to government, curriculum, and assessment) in the education landscape since Johnston made this claim in 1997. There have also been recent moves to professionalise geographers through professional accreditation, for example the Government Geography Profession (GGP) of the UK's Geospatial Commission (HM Government, 2022), or the Chartered Geographer (CGeog) accreditation of the RGS-IBG. However, Johnston's belief in geography's intrinsic intellectual value is an important counterbalance to a utilitarian educational ideology that would present geography merely as a set of transferrable skills desired by employers, and this is something challenged in recent work (Rawlings Smith and Collins, 2024).

### 4.5.4 Summary discussion of Disciplinary Knowledge: Application (DK-A)

Adaptations to the coding of DK-A were made during the document analysis, leading to three alternative themes to capture the application of disciplinary knowledge: application of spatial data; application of geography to real-world issues; careers and employability. The first two of these themes were seen as elements of continuity and progression between school geography and academic geography. Careers and employability were only referenced in school geography from KS5. In 2014, the Gatsby Charitable Foundation published its report into careers, authored by Holman (2014), structured as eight benchmarks for good careers guidance (often referred to as the Gatsby Benchmarks). In the report it is stated that: 'Pupils have different career guidance needs at different stages. Opportunities for advice and support need to be tailored to the needs of each pupil. A school's careers programme should embed equality and diversity considerations throughout' (Holman, 2014, p. 7). The findings from the document analysis seem to reveal an opportunity to more clearly embed good careers guidance into school geography (Gatsby Benchmark 3) including through linking curriculum learning with careers (Gatsby Benchmark 4).

## 4.6 Substantive Knowledge

The categories of substantive knowledge specified in the GACF are locational and place knowledge, and human, physical, and environmental processes. A summary of the sub-themes, key terms and associated concepts can be found in Table 4.12, along with the number of references found to each sub-theme in the document analysis. It should be noted

that no statements were coded as SK in **SBS**, but this may be related to that document's purpose; **SBS** is not proposing a curriculum for academic geography, therefore it would not be expected that the document should make proposals regarding particular substantive knowledge.

| **Sub-theme** | **Number of references in document analysis** | | **Key terms and associated concepts** |
|---|---|---|---|
| Locational knowledge (SK-LK) | GNC2014 | 9 | Geographical features<br>Rivers<br>Seas/Oceans<br>Mountains<br>Cities<br>Positioning systems |
| | DfE-KS4 | 3 | |
| | ALCAB | 0 | |
| | DfE-KS5 | 0 | |
| | SBS | 0 | |
| Place knowledge (SK-PK) | GNC2014 | 5 | The connection of location and physical and/or human processes with personal experience<br>Named case studies (on any scale)<br>Country studies<br>Continent studies |
| | DfE-KS4 | 5 | |
| | ALCAB | 4 | |
| | DfE-KS5 | 2 | |
| | SBS | 0 | |
| Human processes (SK-HP) | GNC2014 | 3 | *See Appendix 10 for exemplar content* |
| | DfE-KS4 | 2 | |
| | ALCAB | 5 | |
| | DfE-KS5 | 6 | |
| | SBS | 0 | |
| Physical processes (SK-PP) | GNC2014 | 5 | *See Appendix 10 for exemplar content* |
| | DfE-KS4 | 3 | |
| | ALCAB | 5 | |
| | DfE-KS5 | 7 | |
| | SBS | 0 | |
| Environmental processes (SK-EP) | GNC2014 | 0 | *See Appendix 10 for exemplar content* |
| | DfE-KS4 | 2 | |
| | ALCAB | 0 | |
| | DfE-KS5 | 1 | |
| | SBS | 0 | |

Table 4.12: Substantive Knowledge - A summary of the sub-themes, key terms and associated concepts, along with the number of references found to each sub-theme.

### 4.6.1 Locational knowledge

Eight statements in **GNC2014** were coded as SK-LK across its seven pages; these references address geographical features and positioning systems (for example, compass directions and grid references) and include named examples of continents, global regions, and countries that are relevant to locational knowledge but that differ from place knowledge. The GACF (p. 6) defines locational knowledge as 'knowing where things are'. It is possible, therefore, that some references in the documents to map skills, including the use of globes, atlases, and geographical information systems, might have links to locational knowledge; for example, in **GNC2014** it is stated that learners at KS1 should '…use world maps, atlases and globes to identify the United Kingdom…countries, continents and oceans…simple compass directions… locational and directional language…to describe the location of features and routes on a map' (**GNC2014**, p. 3). Few geographers would debate the inherent connections between locational knowledge and maps (and atlases, and globes) as tools to develop that locational knowledge. However, not all references to maps do relate to locational knowledge, as can be seen in this example from KS2, stating that learners must 'use fieldwork to observe, measure record and present the human and physical features in the local area using a range of methods, including sketch maps, plans and graphs, and digital technologies' (**GNC2014**, p. 5). In this instance, the use of maps is coded as DK-GeoSk rather than SK-LK.

References to SK-LK in **DfE-KS4** are very broad, for example that the scope of study should include '…the world's continents, countries, regions and their physical, environmental and human features…' (**DfE-KS4**, p. 4) and that '…students must also study the UK as a country

and draw across physical and human characteristics to summarise significant geographical features and issues' (**DfE-KS4**, p. 6).

Overall, **ALCAB**, **DfE-KS5** and **SBS** offer less guidance regarding any sub-codes of substantive knowledge than **GNC2014** and **DfE-KS4**, with no references coded as locational knowledge (SK-LK) at all.

### 4.6.2 Place knowledge

Some aspects of place knowledge are very easily identifiable within the documents, such as named case studies, country studies, and continent studies. These references to SK-PK can be found in **GNC2014** where, for example, a '…focus on Europe (including the location of Russia)' is specified (**GNC2014**, p. 4), and in **DfE-KS4** which stipulates that learners must have '…contextual knowledge of any countries from which case studies and exemplars are chosen. It is required that exemplars and case studies relate to at least two countries other than the UK' (**DfE-KS4**, p. 4).

Place knowledge becomes less prescriptive at KS5, although references to SK-PK were coded in both **ALCAB** and **DfE-KS5**. **ALCAB** makes four recommendations regarding SK-PK in the proposed (core) content, and **DfE-KS5** reinforces two aspects of these SK-PK recommendations in particular, as shown in Table 4.13.

| SK-PK in ALCAB | SK-PK in DfE-KS5 |
|---|---|
| 'The topic [of landscape systems] must examine landscapes beyond the UK, thereby introducing students to new content not covered at previous levels, but may also use UK examples since UK locations may be important for fieldwork opportunities'<br>(Proposed Content, p. 21) | '[Study of landscape systems must] include landscapes from beyond the UK but may also include UK examples'<br>(Subject Content, p. 9) |
| '[Changing Place, Changing Places] will be based on a locality, most likely where the students live, and an alternate contrasting location'<br>(Proposed Content, p. 24) | '…starting study [of changing place, changing places] from the local place within which students live or study and at least one further contrasting place through which to develop the required knowledge and understanding…(Note that a local place may be a locality, neighbourhood or small community, either urban or rural)'<br>(Subject Content, p. 12) |
| 'The focus on global systems is not intended to be geographically comprehensive. By using case studies, students will learn how the world is shaped around us'<br>(Proposed Content, p. 25) | |
| 'The place within which students live and study are likely to be the starting point for investigation [for Changing Place, Changing Places] but at least one further contrasting place must also be studied'<br>(Proposed Content, p. 29) | |

Table 4.13: A comparison of SK-PK in **ALCAB** and **DfE-KS5**.

### 4.6.3 Human processes

A notable characteristic of the substantive knowledge relating to human processes (SK-HP) in **GNC2014** is the progression across KS1-KS3. At KS1, SK-HP consists of what could be considered to be static features relating to human geography – 'city, town, village, factory, farm, house, office, port, harbour and shop' (**GNC2014**, p. 3) – but by KS2, SK-HP becomes more dynamic and focused on processes, such as '…types of settlement and land use,

economic activity including trade links, and the distribution of natural resources including energy, food, minerals and water…' (**GNC2014**, p. 5). SK-HP at KS3 introduces human processes at a broader scale: '…population and urbanisation; international development; economic activity in the primary, secondary, tertiary and quaternary sectors; and the use of natural resources' (**GNC2014**, p. 6). The GACF (particularly in Figure 8, p. 15) reinforces this expectation of progression in substantive knowledge across the key stages, suggesting that learners will move from '[p]hysical and human features, mostly small, local scale' to '[r]egional/national-scale studies building on small/local and learners' experiences' and '[p]hysical, human and environmental geography'. That appears to be the case with SK-HP in **GNC2014**.

Only two statements in **DfE-KS4** have been coded as SK-HP, relating to each of the two core themes of the specified area of 'Human geography: processes and change'. These core themes are 'cities and urban society', and 'global economic development issues'. SK-HP in **DfE-KS4** picks up themes of SK-HP from **GNC2014**, requiring learners, for example, to '…examine ways of life and contemporary challenges arising from and influencing urban change…' through developing '…an understanding of the causes and impacts of national and international migration…' (**DfE-KS4**, p. 8) which should allow learners to build on the SK-HP relating to 'population and urbanisation' from KS3 (**GNC2014**, p. 6). What begins as an understanding of '…economic activity including trade links…' at KS2 (**GNC2014**, p. 5) is built on at KS3 through learning about '…international development; economic activity in the primary, secondary, tertiary and quaternary sectors…' (**GNC2014**, p. 6), and this SK-HP progresses into an understanding of 'the changing nature of industry and investment, and the characteristics of international trade' by KS4 (**DfE-KS4**, p. 8).

There are more frequent references to SK-HP in **ALCAB** (n=5) and **DfE-KS5** (n=6) than in **GNC2014** (n=3) or **DfE-KS4** (n=2). This is perhaps unsurprising given the introduction of two new topics to the core content for A-level geography: neither 'Changing Place, Changing Places' nor 'Global Systems and Global Governance' had been features of the previous geography curriculum at KS5, and this perhaps explains the greater level of depth in **ALCAB** and **DfE-KS5** regarding SK-HP.

### 4.6.4 Physical processes

There was a clear progression in SK-HP across the three key stages in **GNC2014** and a similar progression is evident in the substantive knowledge relating to physical processes (SK-PP), in that SK-PP begins at KS1 with physical features such as 'beach, cliff, coast, forest, hill, mountain, sea, ocean, river, soil, valley, vegetation, season and weather' (**GNC2014**, p. 3). By KS2, learners should be progressing on to SK-PP on a larger scale, for example '…climate zones, biomes and vegetation belts, rivers, mountains, volcanoes and earthquakes…' (**GNC2014**, p. 5) and by KS3, the expectation is that learners will understand '…geological timescales and plate tectonics; rocks, weathering and soils; weather and climate, including the change in climate from the Ice Age to the present; and glaciation, hydrology and coasts' (**GNC2014**, p. 6).

In **DfE-KS4**, SK-PP relates to the two core themes of the specified area of 'Physical geography: processes and change'. These are 'geomorphic processes and landscape', and

'changing weather and climate'. The specified content in **DfE-KS4** for these two core themes includes statements that have been coded, not as SK-PP, but as other aspects of disciplinary knowledge. For example, in SK-PP terms, **DfE-KS4** states that learners should understand 'The causes, consequences of and responses to extreme weather conditions and natural weather hazards' (**DfE-KS4**, p. 7). However, the full articulation of the topic (changing weather and climate) continues:

> …recognising their changing distribution in time [DK-OC-Ti] and space [DK-KC-Sp] and drawing on an understanding of the global circulation of the atmosphere [DK-KC-ES]. The spatial [DK-KC-Sp] and temporal [DK-OC-Ti] characteristics, of climatic change [DK-KC-Env] and evidence for different causes [DK-OC-IntP], including human activity, from the beginning of the Quaternary period (2.6 million years ago) to the present day [DK-OC-Ti] (**DfE-KS4**, Scope of study, p. 7).

This is a useful example of the need to view substantive knowledge and disciplinary knowledge in relation to, and in the context of, one another and to acknowledge the potential limitation of an approach to document analysis using a framework which seeks to make these kinds of distinctions between different forms of knowledge.

Physical processes (SK-PP) feature quite prominently in both **ALCAB** and **DfE-KS5**, not least as these two documents introduced new core content relating to dryland landscapes, and the water and carbon cycles. Five statements in **ALCAB** were coded as SK-PP and all relate to one of these two areas of core content; the statements are detailed, and draw attention to the rationale for the proposed content. This level of subject content detail in relation to SK-PP is also seen in **DfE-KS5**, in which seven detailed statements were coded as SK-PP.

### 4.6.5 Environmental processes

Environmental processes as an aspect of substantive knowledge (SK-EP) are closely related to the key concept of environment as an aspect of disciplinary knowledge (DK-KC-Env). Statements were coded as SK-EP rather than DK-KC-Env when there was evidence of knowledge being set in a specific context, for example when linked to a particular location (SK-LK) and/or a particular case study (SK-PK). The difficulty in distinguishing between SK-EP and DK-KC-Env was seen in the following statement: 'In this way pupils will continue to enrich their locational knowledge and spatial and environmental understanding' (**GNC2014**, p. 5), which was initially coded as including elements of DK-KC Sp (in relation to the locational knowledge) and DK-KC-Env (in relation to the environmental understanding) but also as including some SK-EP. It was later determined that there was not sufficient evidence for SK-EP, and following greater engagement with and reflection on the codes, this was re-coded as DK-KC-Env (see Appendix 5). As the document analysis progressed, so did the understanding of the essence of the codes being used, and the distinctions between them, particularly between those aspects of disciplinary knowledge and substantive knowledge that are closely related.

Perhaps the most useful term found in the documents themselves to articulate the distinction between SK-EP and DK-KC-Env is 'people-environment issues', for example as used in **DfE-KS5** in setting out expectations for the nature of subject content to be determined by awarding bodies, who are required to 'ensure that at least half of the 40% [non-core theme] material selected for a specification addresses people-environment questions and issues' (**DfE-KS5**, p. 5). Integral to DK-KC-Env is an understanding of

interactions between people and the environment; this is also often articulated by geographers as human [people] and physical [environment] interactions. The GACF (p. 14) defines the key concept of environment in these terms: 'Understanding the concept of Environment necessitates study of topics and issues in which physical and human interactions and interrelationships are clearly apparent (e.g. flooding, deforestation, water shortage, food supply)'. It can be argued that the examples provided – flooding, deforestation, water shortage, food supply – could comprise the substantive knowledge of environmental processes (SK-EP) that might be taught in order for learners to grasp the key concept of environment (DK-KC-Env). If that distinction is adopted and applied to the document analysis, very little evidence of SK-EP is found in any of the documents, in spite of DK-KC-Env being extensively addressed within and across all five documents.

One explanation for this might be that understanding 'people-environment', or 'human-physical', interactions is inherently more conceptual than understanding (for example) individual human or physical processes. The 'interaction' requires of learners a more holistic, integrative understanding. Keeping in mind the definition from the GACF (p. 14) which references such environmental processes as 'flooding, deforestation, water shortage, food supply', the most persuasive examples of SK-EP in the documents can be found in **DfE-KS4**, for example:

> Detailed study of one of either food, energy or water, recognising the changing characteristics and distribution of demand and supply, past and present impacts of human intervention, and issues related to their sustainable use and management at a variety of scales (**DfE-KS4**, p. 7).

Applying the same principle of looking for reference to specific environmental processes rather than a broader environmental understanding, this statement from **DfE-KS4** was also coded as SK-EP:

> For two selected ecosystems, draw out the interdependence of climate, soil, water, plants, animals and humans; the processes and interactions that operate within them at different scales; and issues related to biodiversity and to their sustainable use and management (**DfE-KS4**, p. 7).

These references from **DfE-KS4** represent two of the three statements coded as SK-EP in the document analysis, with the third being that awarding bodies must 'ensure that at least half of the 40% [non-core theme] material selected for a specification addresses people-environment questions and issues' (**DfE-KS5**, p. 5).

This focus on environment as a key concept (DK-KC-Env) rather than as substantive knowledge (SK-EP) can be considered as an aspect of continuity between school geography and academic geography. There appears to be a shared understanding that environment is a distinctive aspect of geography, but one that must be engaged with on a deeper conceptual level in order for it to be fully understood.

### 4.6.6 Summary discussion of Substantive Knowledge (SK)

The GACF suggests that some indication of substantive knowledge is imperative in any national-level curriculum, as a means of ensuring equity of provision. All five documents analysed address national-level curricula, and therefore it might be expected that some

reference to substantive knowledge can be found in each document. The GACF (p. 6) states that:

> It is suggested that a minimum entitlement of substantive knowledge is always proposed for a national-level curriculum if it is desired to ensure consistency across schools or, for example, to include some important aspects of the geography of the home nation, or to assess outcomes in any way. However, there should also be ample space left for those using national curricula to select further content at appropriate levels (e.g. publishers, examination boards, teachers' groups, schools and individual teachers).

This quote alludes to the necessity of both flexibility and rigidity, and both choice and prescription. Flexibility and rigidity are both featured as associated concepts of learner diversity as an aspect of disciplinary identity (DI-LD, section 4.8.3). Choice and prescription feature as associated concepts of subject community as an aspect of disciplinary identity (DI-Comm, section 4.8.4).

Substantive knowledge is addressed in general terms in **ALCAB**, **DfE-KS5**, and **SBS**. The balance of the content of A-level geography appears to be the main consideration of substantive knowledge in both **ALCAB** and **DfE-KS5**. **ALCAB** focuses on issues such as: the balance of content across human and physical geography themes, whilst retaining a strong focus on people-environment themes; the specification of particular topics as core content, namely 'global systems and global governance; changing places; landscape systems; and water and carbon cycling' (**ALCAB**, p. 2); practical considerations for the teaching of A-level geography, including the time available for teaching the required substantive knowledge, and the element of flexibility and choice (through the non-core content) in the substantive knowledge to be taught; and the recommendation of topics desirable as non-core content.

**DfE-KS5** refers to 'content knowledge'; in light of the review of literature regarding types of knowledge (Chapter 2, section 2.2) and assuming parallels with Shulman's (1986; 1987) view of knowledge, what **DfE-KS5** presents as content knowledge is equivalent to substantive knowledge, in that the focus is on subject content as opposed to pedagogical content knowledge (PCK) or curriculum knowledge. General references to substantive knowledge in **DfE-KS5** include: that geographical skills and fieldwork should be embedded in content knowledge; that there should be a balance across core and non-core content between human and physical geography; and that '…core themes are equal in weight and depth of content…' (**DfE-KS5**, p. 5).

**SBS** makes three general statements that can be viewed as alluding to substantive knowledge. The first statement is that the purpose of the **SBS**, revised in 2022, is '…a comprehensive review updating the context and purposes of Geography, including [course design and] content…' (**SBS**, p. 1). The second general statement, in addressing the purposes of a geography degree, proposes:

> A major intellectual task within the subject is to encompass the diversity of contexts and the different types of knowledge that inform the study of environments and societies, and the interactions between the two, at a range of scales (**SBS**, p. 4).

This could be an allusion to the nature of the substantive knowledge that forms the basis of 'the subject', with substantive knowledge being encompassed in the 'different types of knowledge' referenced in this statement. The third general statement in **SBS** that can be viewed as linked to substantive knowledge is that: 'Geography is characterised by a breadth of subject matter which recognise the complex intersections of society and environment

relations' (**SBS**, p. 5). This breadth of subject matter is also considered as an aspect of the disciplinary identity of geography, in section 4.8.1.

## 4.7 Progression

The aspects of progression specified in the GACF are: conceptual understanding (P-CU); curriculum experiences (P-CE); outcome (P-O); transition (P-T). A summary of the sub-themes, key terms and associated concepts can be found in Table 4.14, along with the number of references found to each sub-theme in the document analysis.

| *NB: Progression is coded throughout the documents in four main ways. Three codes were generated from the GACF: 'progression in conceptual understanding' (P-CU); 'progression in curriculum experiences' (P-CE); 'progression in outcome' (P-O). An additional code, 'progression through transition' (P-T), was generated inductively through the process of the document analysis, as it was felt that a number of the documents focused on this aspect of progression in a way that was not captured in the GACF.* | | | |
|---|---|---|---|
| **Sub-theme** | **Number of references in document analysis** | | **Key terms and associated concepts** |
| Progression: Conceptual Understanding (P-CU) | GNC2014 | 3 | The inherent structure of the subject<br>Hierarchy of concepts/ideas<br>Hierarchy of skills<br>'Terraces not ladders'<br>Exploring horizontally (breadth and range) and then vertically (a 'step up') |
| | DfE-KS4 | 3 | |
| | ALCAB | 6 | |
| | DfE-KS5 | 3 | |
| | SBS | 6 | |
| Progression: Curriculum Experiences (P-CE) | GNC2014 | 0 | Experiences planned by the teacher<br>Teaching and learning experiences |
| | DfE-KS4 | 0 | |
| | ALCAB | 3 | |
| | DfE-KS5 | 0 | |
| | SBS | 11 | |

| | | | |
|---|---|---|---|
| Progression: Outcome (P-O) | GNC2014 | 1 | Key features of learner performance Threshold levels of performance |
| | DfE-KS4 | 0 | |
| | ALCAB | 4 | |
| | DfE-KS5 | 0 | |
| | SBS | 9 | |
| Progression: Transition (P-T) | GNC2014 | 0 | Preparation for subsequent stage of education |
| | DfE-KS4 | 1 | |
| | ALCAB | 21 | |
| | DfE-KS5 | 0 | |
| | SBS | 0 | |

Table 4.14: Progression - A summary of the sub-themes, key terms and associated concepts, along with the number of references found to each sub-theme.

Evidence of progression is found throughout all of the documents, particularly in relation to conceptual understanding (P-CU), and linked to all aspects of disciplinary knowledge (key concepts and organising concepts, geographical skills and application) and substantive knowledge. There were observed gaps in progression in curriculum experiences (P-CE), progression in outcome (P-O) and progression through transition (P-T), and these are discussed in greater detail below. Whilst it has been appropriate, and possible, to consider progression in these four different aspects, it is worth noting the close connection between each, as suggested by Pring (2018, p. 10):

> To be rational, one needs to set out the intended learning outcomes or targets with such precision that one can 'measure' whether or not they have been attained. One needs, secondly, to choose the 'content' and 'teaching methods' which will ensure the attainment of these 'outcomes'.

It could be suggested that P-CU relates to the 'content', P-CE relates to the 'teaching methods', and P-O can be seen as the 'measurable outcomes or targets' to which Pring (2018, p. 10) refers as being necessary to ensure attainment.

### 4.7.1 Progression in conceptual understanding

Progression in conceptual understanding (P-CU) is referenced extensively across all five of the documents, with a total of 21 statements coded as P-CU, many of them detailed and lengthy (Appendix 10). **GNC2014** favours simple statements regarding the expectation that learners' knowledge will 'grow' and 'extend' from KS1 to KS3. A lengthy 'progression statement' in **DfE-KS4** (pp. 2-3) makes reference to P-CU in relation to, among other things, locational contexts, process studies, 'human-physical' relationships, increased involvement in independent enquiry, and intellectual and communication skills.

**ALCAB** is much more specific than either **GNC2014** or **DfE-KS4** about expectations around P-CU; of the six references coded as P-CU in **ALCAB**, five of them are attached explicitly to proposed content, with the remaining one reference to P-CU taking the form of an overarching statement that the KS5 curriculum '…must have a balance of human geography and physical geography at an appropriate level of demand…' (**ALCAB**, p. 6). In contrast, however, **DfE-KS5** only refers to P-CU on three occasions, and each of these references is found in the 'Aims and Objectives' of the document (**DfE-KS5**, pp. 2-3). Taking into consideration that the **ALCAB** report was a set of proposals and recommendations, and that **DfE-KS5** is the articulation of core content that was developed following these proposals and recommendations, it is possible that the lack of reference to P-CU in **DfE-KS5** is because the detail around what progression should look like at this key stage is delegated to the awarding bodies that will have responsibility for the assessment of learners.

There are six statements in **SBS** that have been coded as P-CU. The greatest depth regarding progression in **SBS** can be found in the final pages of the document (pp. 31-37) where two tables of information set out the knowledge and understanding, subject specific skills, and generic skills expected of threshold, typical, and excellent geography graduates. It is possible that some of the content of these two tables could be viewed as P-CU, but a decision was made not to code the tables because their format enables them to be viewed as discreet and 'ready-made' summaries of progression in academic geography. The six instances of P-CU in **SBS** were found in other sections of the document, related to Design (p. 9), Progression (pp. 10-11) and Assessment (pp. 27-28). Additionally, **SBS** articulates P-CU in the context of geography as a dynamic, living, academic discipline: 'As they progress, students develop a greater depth of knowledge and gain an understanding of the vital contribution made by research in their subject' (**SBS**, p. 14). This is the only reference to P-CU that explicitly links learning, teaching, and research.

### 4.7.2 Progression in curriculum experiences

No statements in **GNC2014** were coded as progression in curriculum experiences (P-CE). The key terms and associated concepts used to apply this code were broad, encompassing 'experiences planned by the teacher' and 'teaching and learning experiences'. The absence of P-CE in **GNC2014** can perhaps be explained by the purpose and scope of the document itself. It was determined through the literature review in Chapter 2 that the purpose of the curriculum is to outline *what* to teach rather than *how* to teach it (Lambert and Hopkin, 2014) and that pedagogical decisions, including appropriate curriculum experiences, should therefore be left to individual teachers. Adopting Lambert and Hopkins' (2014) view of

curriculum as a framework, it should not be expected that **GNC2014** should feature substantial reference to (nor suggestions for) the curriculum experiences that might facilitate or indicate progression in geography education. However, the experience of learners is a key aspect of curriculum-making (GA, 2009a; Biddulph, Lambert and Balderstone, 2015; 2021) so the absence of guidance regarding curriculum experiences in **GNC2014** indicates that curriculum documents must be supplemented by other planning processes and intellectual engagement on the part of teachers, in order to ensure progression in (and through) the curriculum experiences available to the learner.

Similarly, there were no statements coded as P-CE in **DfE-KS4**, and it seems reasonable to conclude that this may be for the same reasons of purpose and scope as apply above to **GNC2014**. It is not the purpose of **DfE-KS4** to prescribe the pedagogical approaches that should be taken by teachers. Given the purpose and scope of **DfE-KS4** and **DfE-KS5** are very similar, it is perhaps unsurprising that there are also no explicit references coded as P-CE in **DfE-KS5**. However, what is of note is that **ALCAB**, a document which pre-dates and informed **DfE-KS5**, *does* seem to include consideration of the curriculum experiences that might influence progression in geography education. In its Guiding Principles (p. 6) **ALCAB** specifies that geography A-level '…must be part of a clear progression from age 11 to 19 and minimise repetition of material from earlier key stages', with a reasonable implication being that repetition of material can be achieved not only by careful, coherent curriculum planning, but also through ensuring a variety of curriculum experiences. There are a further two examples in **ALCAB** of P-CE. The first relates to the selection of content, namely the recommendation in **ALCAB** that fluvial landscapes are excluded from the topic of 'landscape systems', with the

justification that '…this particular system already receives considerable coverage elsewhere at Key Stages 2-4 and that an important element of the new A level content was that it introduces new content that broadens student experience of key geographical issues' (**ALCAB**, p. 21). This justification explicitly states that fluvial landscapes will have been covered by previous curriculum experiences; the proposed exclusion of fluvial landscapes (and by association, the inclusion of landscape systems not specified in curriculum documents preceding **DfE-KS5**, i.e. **DfE-KS4** and **GNC2014**) encourages progression, not through the deepening conceptual understanding that arises from studying the same content across key stages (Bennetts, 2005; Rawling, 2007; 2016; GA, 2022a) but instead through the specification of diverse curriculum experiences for each key stage of geography education. The recommendation in **ALCAB** that fluvial landscapes are excluded from geography A-level is honoured in **DfE-KS5**, but the justification is not clearly articulated to the reader and therefore the underpinning connection to the role of curriculum experiences in progression (P-CE) is lost.

### 4.7.3 Progression by outcome

Progression by outcome is recognisable to most educators, with outcomes routinely measured numerically (for example, percentages) or by grades, and within a variety of frameworks for assessment (for example, norm-referencing and criterion referencing). Defining 'progression by outcome' (P-O) for the purpose of the document analysis proved challenging, but was based on the following suggestion from GA (2022a, p. 16):

> Progression in relation to learners' performance: setting out the key features of the kind of performance we expect to see in a learner's work as they make progress in geography is identifying the outcomes of teaching and learning. For example, the

> level descriptions in the English National Curriculum 1995–2007 provide this kind of statement.

The coding of progression in outcome (P-O) was therefore based on references to 'key features of learner performance' and 'threshold levels of performance'. At times, this was easy to find in documents; for example, **SBS** (pp. 31-36) features a comprehensive summary of the benchmark standards expected of threshold, typical, and excellent graduates. **GNC2014** also features a brief yet clear statement about intended learner performance: 'By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study' (**GNC2014**, p. 2). **GNC2014** differs from previous iterations of the GNC in that attainment level descriptors, prevalent in GNC2007 and GNC2000 in particular, have been removed. However, progression by outcome is still underpinned by the notion that geographical understanding can be measured in terms of what learners 'know, understand and can do', echoed in the language used in **GNC2014** (p. 2).

The complexity in defining progression is further exemplified by the fact that even when progression was explicitly referred to in a document, it was not immediately clear which aspect of progression was being outlined and further scrutiny revealed that progression by outcome (P-O) was rarely being articulated in isolation from other measures. The content of the progression statement in DfE-KS4 (pp. 2-3) refers not to progression in outcome (P-O) in the terms described above by the GACF (p. 16) but rather focuses on progression in conceptual understanding (P-CU); for example, the suggestion that there should be a 'broadening and deepening understanding of locational contexts…greater awareness of the

importance of scale and the concept of global…' (**DfE-KS4**, pp. 2-3). There is no explicit reference to progression in outcome (P-O) in either **DfE-KS4** or **DfE-KS5**. Instead, the assessment of learner performance at these key stages is managed by awarding bodies, and it is therefore anticipated that a document analysis of awarding body specifications might include greater reference to progression in outcome than has been observed in curriculum documents. This is to be expected, as the purpose of a curriculum document is not the same as the purpose of a specification, as Pring (2018, pp. 16-17) reminds us:

> Perhaps it is important no longer to confuse 'curriculum' with 'syllabus' or with tightly controlled pursuit of targets (frequently confused with standards), but rather to see it as a tentative programme of learning which embodies, first, those values which embody what it means to be human; second, the suggested content to which the learners should be exposed in the pursuit of those values; third, the pedagogical approaches which respect those values and lead to their attainment; and finally, the critical examination, in the light of evidence of different kinds, as to the achievement of those values.

In light of this view of 'curriculum', and in order to explore further the absence of progression in outcome in the selected curriculum documents, a document analysis of GCSE and A-level specifications from a range of awarding bodies may therefore be an interesting avenue for further research, and this is discussed further in Chapter 7.

Progression by outcome (P-O) is however of central importance in **ALCAB**. This seems to arise from the importance **ALCAB** places on the need to ensure that the study of geography A-level '…must provide a balanced geographical education for students who do not progress to higher level study' (p. 6), suggesting that learning geography at KS5 '…is an important part of education for life and employment given the 'real world' engagement of geography and

the geography curriculum (p. 11). In making these statements, **ALCAB** seems to value not only progression in conceptual understanding (P-CU) and progression for transition (P-T), and the related implications for progression in curriculum experiences (P-CE), but explicitly outlines the expectations for progression in outcome (P-O) by considering the level of learner performance required for there to have been a successful, meaningful, and impactful outcome for those who have studied (and conclude their geography education journey) at KS5.

Progression by outcome is set in a very delineated context in **SBS**, including a detailed summary of the benchmark standards expected of threshold, typical, and excellent geography graduates (**SBS**, pp. 28-36). The extent to which **SBS** can or should be used to determine outcomes is addressed at the start of the document: '[**SBS**] provide general guidance for articulating the learning outcomes associated with a course but are not intended to represent a national curriculum in a subject or to prescribe set approaches to teaching, learning or assessment' (**SBS**, p. 2). However, some indication of what progression by outcome in academic geography might 'look' like can be found throughout **SBS**. In addressing the design of HE geography courses, **SBS** advises that: 'Courses should be built on progressively more complex learning outcomes which are aligned with teaching methods and assessment…' (**SBS**, p. 9). In terms of progression, the expectation is that: 'By the end of a course, students are able to situate their chosen specialisms within a wider understanding of geography, its approach, history and theoretical underpinnings' (**SBS**, p. 10). This understanding of how one's learning relates to the discipline more broadly is a dimension of progress not seen in any of the other documents analysed.

### 4.7.4 Progression through transition

Progression through transition (P-T) was identified as an additional code as the document analysis progressed. There was no reference to transition in **GNC2014**, either between the individual key stages covered by the document (KS1-3) or the potential transition from the compulsory study of geography in the NC to the optional study of geography at KS4: in England, most often through the study of geography at the level of GCSE, although there are a small number of qualifications at this level in cognate disciplines, such as GCSE Geology and the proposed new GCSE in Natural History from 2025 (DfE, 2022b). **DfE-KS4** (p. 1) acknowledges its KS4 position as one stage in the geography education journey by describing itself as '…a framework within which awarding organisations create the detail of their specifications, so ensuring progression from key stage 3 national curriculum requirements and the possibilities for development into A level'.

However, the most extensive consideration of progression through transition is found in **ALCAB**, although this is not translated into the related document **DfE-KS5**. Over twenty references to progression through transition (P-T) were identified in **ALCAB**, distributed throughout the document and appearing in multiple sections, ranging from the Executive Summary and initial Guiding Principles, through to several aspects of proposed and core content. One such reference to P-T can be found in the 'Purpose and aims of geography A level' (**ALCAB**, p. 10): 'Content must allow clear progression from Key Stage 4 through to higher education. An attractive curriculum also meets the needs of higher education for the preparation of appropriately qualified and engaged geographers for higher education

courses'. That these clear considerations of progression through transition in **ALCAB** are absent from **DfE-KS5** is of interest, not least as the literature review in Chapter 2 confirmed that the 16-19 transition has been, and continues to be, an area of focus for the geography education research community.

**SBS** raises transition in a more context-specific way; rather than to consider the transition to further study (although clearly some geography graduates will go on to post-graduate studies in geography or cognate disciplines), **SBS** offers some clear statements regarding the need for a transition to employment and career development for geography graduates. These have been coded as DK-A (relating to careers and employability) rather than as a form of progression through transition, and therefore no references were coded as P-T in **SBS**.

### 4.7.5 Summary discussion of Progression (P)

References to progression were coded throughout the documents, to varying degrees. The least prevalent aspects of progression were P-O and P-CE, and it might be concluded that this is because these aspects of progression are beyond the scope of the documents analysed. References coded as P-CU were found throughout all five documents, although not always prescriptively. P-T was an aspect of progression not specified in the GACF, but which was generated from the literature review. References to P-T were only identified in **ALCAB** (n=21) and a single reference in **DfE-KS4** (which alludes to the geography education journey proposed by this research). The lack of continuity in P-T between school geography and academic geography is less noteworthy (due to the scope and remit of the documents) than

the lack of continuity between **ALCAB** and the resultant **DfE-KS5**. Extensive consideration of P-T in the former and an absence of any coded references to P-T in the latter may further underpin any ongoing issues relating to the 16-19 transition, in that although transition was clearly of central importance to the ALCAB panel in 2014, their recommendations regarding transition were not included in the subsequent KS5 geography curriculum.

## 4.8 Disciplinary Identity

As justified throughout this thesis, the GACF was an appropriate and useful starting point for identifying themes of disciplinary knowledge and substantive knowledge for the document analysis. However, as the document analysis progressed, it became evident that the documents featured themes that had not been captured by the GACF; this is not in itself a weakness of the GACF as it has been designed to serve a particular purpose, distinct from its application in this research. It became necessary to develop, however, a supplementary set of themes and sub-themes that were able to capture other aspects of the nature of school geography and academic geography as portrayed in the documents selected for analysis. The process by which this was achieved is outlined in Chapter 3. The broad theme that emerged was that of disciplinary identity (DI), and six sub-themes were distilled from the documents (Table 4.15).

| **Sub-theme** | **Number of references in document analysis** | | **Key terms and associated concepts** |
|---|---|---|---|
| Geography as a discipline (DI-Geo) | GNC2014 | 0 | History<br>Purpose<br>Core values<br>Fundamental<br>Defining<br>Characteristic<br>Distinctive<br>Thinking geographically |
| | DfE-KS4 | 0 | |
| | ALCAB | 12 | |
| | DfE-KS5 | 2 | |
| | SBS | 11 | |

| | | | |
|---|---|---|---|
| | | | Relevance<br>Innovation<br>Contemporary<br>Breadth<br>Depth |
| Learner attributes (DI-LA) | GNC2014 | 1 | Curiosity<br>Fascination<br>Inspiration<br>Enjoyment<br>Satisfaction<br>Sense of achievement<br>Informed<br>Engaged<br>Lifelong learning<br>Impact<br>Independence<br>Learner attributes |
| | DfE-KS4 | 0 | |
| | ALCAB | 3 | |
| | DfE-KS5 | 2 | |
| | SBS | 0 | |
| Learner diversity (DI-LD) | GNC2014 | 0 | Accessibility<br>Life experience<br>Circumstances<br>Learning contexts<br>Learner diversity<br>Access<br>Anticipatory practice<br>Appropriate<br>Equity<br>Inclusion<br>Exclusion<br>Equality<br>Protected characteristics<br>Self/other<br>Well-being<br>Risk<br>Safety<br>Flexibility<br>Rigidity |
| | DfE-KS4 | 0 | |
| | ALCAB | 4 | |
| | DfE-KS5 | 0 | |
| | SBS | 23 | |
| Subject community (DI-Comm) | GNC2014 | 0 | External perspective<br>Monitoring<br>Review<br>Quality assurance<br>CPD<br>Training<br>Subject associations<br>Capacity<br>Subject community<br>Curriculum resources<br>Specialism<br>Expertise<br>Partnership |
| | DfE-KS4 | 0 | |
| | ALCAB | 10 | |
| | DfE-KS5 | 0 | |
| | SBS | 17 | |

| | | | |
|---|---|---|---|
| | | | Funding<br>Choice<br>Prescription<br>Shared understanding |
| Power (DI-Pow) | GNC2014 | 2 | Representation<br>Decision making<br>Decision makers<br>Control<br>Significance<br>De/Colonialism<br>Imperialism<br>Empire<br>Anti-racism<br>Knowledge production<br>Plurality<br>Positionality<br>Relationality<br>Respect<br>Discomfort<br>In/Justice<br>Disadvantage<br>Responsibility<br>Ethics<br>Critical thinking<br>Theoretical perspectives<br>Alternative perspectives |
| | DfE-KS4 | 2 | |
| | ALCAB | 4 | |
| | DfE-KS5 | 0 | |
| | SBS | 10 | |
| Interdisciplinarity (DI-Int) | GNC2014 | 0 | Integrated<br>Holistic<br>STEM<br>SHAPE<br>Cross-disciplinarity<br>Inter-disciplinarity<br>Multi-disciplinarity<br>Cognate disciplines |
| | DfE-KS4 | 0 | |
| | ALCAB | 0 | |
| | DfE-KS5 | 0 | |
| | SBS | 11 | |

Table 4.15: Disciplinary Identity - A summary of the sub-themes, key terms and associated concepts, along with the number of references found to each sub-theme.

### 4.8.1 Geography as a discipline

Statements relating to the disciplinary identity of geography (DI-Geo) were found in **ALCAB**, **DfE-KS5**, and **SBS**. There were no references to DI-Geo coded in **GNC2014** or **DfE-KS4**, somewhat in conflict with the recently updated view of curriculum-making proposed by

Biddulph, Lambert and Balderstone (2021, p. 35) in which 'within the context of the discipline of geography' has been added to the widely recognised curriculum-making model developed by the GA fifteen years ago (GA, 2009a; Biddulph, Lambert and Balderstone, 2015, p. 38). Whether this renewed focus on the place of the wider discipline as part of the curriculum-making process is incorporated into any future [national] school geography curriculum remains to be seen. Findings from the document analysis would suggest that learners of school geography are not engaged with 'the discipline' until the post-16 phase of their geography education journey, at which stage **ALCAB** (p. 7) recommends that: 'Students at A and AS level must have an understanding of geography as a discipline and as a distinctive body of knowledge'. **ALCAB** (p. 12) also specify the need for '[c]ontent that enables learners to think geographically, to be inspired by their geographical understanding of the world they live in…'. This links to the theme of geography's disciplinary identity explored in Chapter 2, with 'thinking geographically' as a distinctive feature of the discipline being underpinned by the work of Jackson (2006). **ALCAB** highlights the 'breadth of the discipline' (p. 15; pp. 43-44) and the 'defining characteristics of a geographer' (p. 32). **ALCAB** (p. 46) also, however, recognises that school geography and academic geography have become 'increasingly divergent', reminiscent of some of the more emotive language (gap, divide, chasm) around the relationship highlighted in Chapter 2. The more extensive reference to DI-Geo in **ALCAB** (n=12) is not seen in **DfE-KS5**, which features only two references to geography as a discipline, both found in the Aims and Objectives of the document (p. 1 and p. 3). These general statements in **DfE-KS5** regarding the characteristics of geography do not seem to move learners on from similar general statements found elsewhere, for example coded as learner attributes (DI-LA) rather than as relating in more fundamental ways to the nature of geography as a discipline.

In **SBS**, however, there are rich descriptions of the discipline, in which 11 statements made reference to the key terms and associated concepts identified for DI-Geo. These include links to the review of literature surrounding geography's place in the academy:

> BA and BSc degree courses (and also MA in Scotland) are prevalent, alongside integrated master's programmes. This reflects geography's sustained engagement with the natural and social sciences, the arts and humanities. The subject's breadth means that many of its core constituents may be approached through several routes (**SBS**, p. 4).

Although presented in **SBS** as a strength of the discipline, this disciplinary breadth has also been articulated in Chapter 2 as contributing to an ongoing debate around geography's academic identity. In particular, Tate and Swords (2013) found that their undergraduate participants felt that academic geography bore little resemblance to the subject they had studied in school, and it could be considered that the lack of reference to DI-Geo in school geography might have continued to perpetuate the 'increasing divergence' from academic geography that **ALCAB** noted in 2014.

### 4.8.2 Learner attributes

Learner attributes (DI-LA) was identified as an additional theme in relation to the characteristics that were referenced across several of the documents as being desirable in learners of geography. This begins with the intention of **GNC2014** (p. 1) that geography will '…inspire in pupils a curiosity and fascination about the world and its people…' and the hope that geography education leads to life-long learning. Inspiration also featured as DI-LA in **ALCAB** and **DfE-KS5** (as well as prominently in the questionnaire responses analysed in

Chapter 5; see Appendix 22). Other desirable learner attributes identified in the document analysis include independence (**ALCAB** and **DfE-KS5**), enjoyment, satisfaction, sense of achievement (**DfE-KS5**). **DfE-KS5** (p. 1) also states the aspiration for A-level geography to develop learners as 'informed and engaged citizens'. Dictating learner attributes can be considered as beyond the scope of a curriculum document, as discussed in Chapter 2 and particularly in the view of Lambert and Hopkin (2014) who suggested that the focus of curriculum should be on *what* to teach. The literature review highlighted that a lack of reference to pedagogical approaches is not to be seen as a deficit in school geography, and in the same way, a lack of reference to DI-LA in these documents should not be read as a disregard for the qualities and characteristics that can be gained from geography education. However, it is of interest to note that neither **DfE-KS4** nor **SBS** included any statements that were coded as DI-LA, although the latter does feature extensive consideration of learner *diversity* and therefore perhaps addresses learner *attributes* in a slightly different way.

### 4.8.3 Learner diversity

Learner diversity (DI-LD) was only coded explicitly in **ALCAB** (n=4) and **SBS**, with the latter referencing DI-LD far more extensively (n=23). **SBS** features a strong statement on p. 1 of the document: 'This Benchmark Statement for Geography expects the geography learning community to commit to equity, inclusive access, and practices that anticipate the diverse needs of their community members'. QAA have introduced equity, equality, diversity and inclusion as a cross-cutting theme in all of their updated Subject Benchmark Statements from 2022 (QAA, 2022c) and eight of the 23 references to DI-LD can be found in this section of **SBS**. Other references coded as DI-LD appear in sections relating to accessibility (n=3) and

flexibility (n=3), as well as to fieldwork, partnerships, teaching and learning, skills and geocapabilities. This distribution of DI-LD throughout the entirety of **SBS** suggests a greater consideration of the diversity of the discipline and those in the subject community, beginning from the initial consideration of the context for **SBS** (p. 4) where it is stated that geography 'attracts students from a wide range of intellectual backgrounds with diverse interests and experiences'.

### 4.8.4 Subject community

Statements coded as subject community (DI-Comm) are prevalent throughout **ALCAB** (n=10) and **SBS** (n=17) but – like DI-LD – are absent from the other documents. The purpose of **ALCAB** was to make recommendations for the implementation of the newly reformed A-level in 2014, so references to the role that the subject community could play in supporting this are to be expected. References to DI-Comm in **ALCAB** include practical suggestions of how teachers' professional development might be supported by the GA, RGS-IBG and the HE community, and about the content and levels of prescription that collectively the subject community felt were desirable and necessary for the study of geography at A-level. One statement in particular seems to allude to a lack of continuity between school geography and academic geography:

> Because of the way that parts of the A level geography curriculum have become increasingly divergent from geography in higher education there is likely to be a need for investment in CPD and resources in order to support teachers in delivering elements of the new curriculum (**ALCAB**, p. 46).

This statement was made in relation to potential professional development needs, but also suggests that a decade ago, there was a recognition (at least from the ALCAB panel) that a disconnection existed between school geography and academic geography. Although there are a great number of references to DI-Comm in **SBS** (published in 2022) few of these seem to suggest any reconnection has occurred between school geography and academic geography in the eight years since the publication of **ALCAB** (in 2014). Some statements in **SBS** might allude to experiences that learners of academic geography will have had elsewhere in their geography education journey, for example: 'Pedagogic methods for teaching geography will generally reflect the needs of the student body, with an inclusive curriculum that prioritises the accessibility, equity, appropriateness and resourcing of learning and teaching resources and materials being key' (**SBS**, p. 9). However, there is little explicit consideration in **SBS** as to how the academic geography community can familiarise themselves with students' prior learning experiences as a way of determining these 'needs of the student body' and facilitating continuity and progression between school geography and academic geography.

### 4.8.5 Power

Power emerged as a theme of importance early in the document analysis, prompted by a reflection on this statement in **GNC2014** (p. 1) that the aim of geography is to 'develop contextual knowledge of the location of globally significant places'. The three words *globally significant places* mask a much more complex challenge for the discipline of geography; questions arise here, including *who determines which places are globally significant?* and *significant to who?* Small numbers of references to DI-Pow have been identified in the four

documents relating to school geography (n=8) but the greatest number of references to DI-Pow were found in **SBS** (n=10). Many of the associated concepts for DI-Pow relate to geography's disciplinary history and origins, for example de/colonialism, imperialism and empire, and the origins of knowledge production in the discipline. One statement has been selected to exemplify the engagement with DI-Pow in **SBS**, and to consider the extent to which this aspect of DI-Pow is addressed in the other documents:

> Contemporary geography draws from knowledge traditions formed through colonial enlightenment science. Geographical concepts and techniques contributed to the overseas expansion of British and European empires, which was justified using narratives of white, able and heteronormative superiority. Colonial and imperial geographies, and their contemporary legacies of systemic disadvantage, for example, racism, classism, ablism, homophobia and patriarchy, must therefore be acknowledged and countered by fostering an inclusive learning community encompassing a range of participants, such as students, academics, technicians, professional staff, visitors and external partners (**SBS**, pp. 5-6).

In setting out the membership of the 'inclusive learning community', there is a notable absence of consideration of the learning communities from which undergraduates have recently moved, i.e. the school geography context. This is potentially problematic in two ways. Firstly, these themes are arguably too important to wait to address them until an individual enters HE. Secondly, these issues also act as systemic barriers that prevent individuals from continuing their geography education journey, so therefore a HE geography community may consequently lack diverse membership. It is possible that **SBS** includes the school geography community in the 'external partners' mentioned above, but the inclusion of an extensive section on 'Partnerships' in **SBS**, in which those partnership are defined as 'internships, work or industry placements, civic engagement projects and research placements, as well as contributions by industry professionals and experts in related fields'

(p. 8) with a focus on industry placements, suggests that it is unlikely that **SBS** considers the school geography community to be an external partner in the context of this statement.

### 4.8.6 Interdisciplinarity

**SBS** is the only document in which statements were coded as interdisciplinarity (DI-Int). There are 11 references to DI-Int in **SBS**, ranging from simple statements such as '[t]here are often overlaps with cognate disciplines' to more epistemological reflections such as '[t]he discipline is uniquely holistic and integrative in its reach, but with a number of overarching concepts that define its boundaries' (**SBS**, p. 9). What is considered as interdisciplinarity (or multi-disciplinarity, or cross-disciplinarity) in academic geography might be articulated as 'cross-curricular' in school geography. However, none of the documents related to school geography seemed to make reference to cross-curricular working.

### 4.8.7 Summary discussion of Disciplinary Identity (DI)

Across all six themes, the greatest number of references to DI were found in either **ALCAB**, **SBS**, or both. Examining the prevalence of DI in these two sources and the comparative absence of DI in **GNC2014**, **DfE-KS4** and **DfE-KS5**, it could be inferred that there is a lack of continuity in DI between school geography and academic geography. However, as has been noted elsewhere in this thesis, the selection of the documents to be analysed has implications, as the documents lack a common purpose and therefore a 'like-for-like' comparison would be misleading. **ALCAB** is a set of recommendations and not a curriculum, although those recommendations did contribute to the core content specified by **DfE-KS5**.

Again, as has been noted elsewhere in this thesis, the links between **ALCAB** and **DfE-KS5** do allow for interesting comparisons regarding which recommendations from **ALCAB** were included in **DfE-KS5**, and which were excluded. This was the rationale for including **ALCAB** in the document analysis, but to imply its function as a curriculum document in its own right would be misleading. Similarly, the **SBS** is not positioned as a curriculum document. That references to DI were coded more frequently in both **ALCAB** and **SBS** can be explained by their broader remit. Nevertheless, the analysis of DI in the documents has highlighted a number of themes that could be compatible with the scope of a written curriculum. How geography as a discipline (DI-Geo) is represented, and how important aspects of power and representation (DI-Pow) are addressed, have implications for national-level curricula, which in turn are reflected at planning and development level, and at classroom level.

## 4.9 Chapter summary: What are the elements of continuity and progression between school geography and academic geography?

The document analysis has revealed eight particularly strong elements of continuity and progression between school geography and academic geography. These are outlined in Table 4.16.

| | **Elements of Continuity and Progression Between School Geography and Academic Geography** |
|---|---|
| **DK-KC** | There is sustained evidence throughout all five documents that there is a shared understanding between school geography and academic geography regarding some key concepts. There is some similarity in language across the documents, broadly around locations, places, processes, and environments, and this shared language extends beyond disciplinary knowledge into the substantive knowledge of the subject at all key stages and phases. It was, however, noted that this continuity of language might risk an overly reductive view of the key concepts of geography's disciplinary knowledge. |

| | |
|---|---|
| **DK-KC-Sp** | It is a common consensus across all five documents that geography is a spatial science, and it is this spatial dimension that characterises the discipline and sets it apart from other subjects. |
| **DK-KC-Env** | Environment, particularly the associated concept of interaction which acts as a thread between several aspects of disciplinary knowledge and substantive knowledge, is an element of continuity between school geography and academic geography. Although it has been stated that environment 'transcends disciplinary boundaries' (Lambert and Morgan, 2010), it is clear from the document analysis that DK-KC-Env has aspects that are inherently geographical in nature, and these aspects are seen across all five documents. |
| **DK-GeoSk** | Geographical practice and geographical skills are an element of continuity between school geography and academic geography. Continuity in DK-GeoSk was particularly strong in relation to observing and geographical enquiry (DK-GeoSk-Obs) and the ways in which geographers present the findings of geographical enquiry (DK-GeoSk-Pres). |
| **DI-Pow and DI-LD** | The need for ethical practice in the discipline is an element of continuity between school geography at KS5 and academic geography. There are links here too to aspects of disciplinary identity – power (DI-Pow) and learner diversity (DI-LD) in particular – especially the need for geographers to actively contribute to an ethical, responsible, and inclusive subject community. |
| **DK-GeoSk-Fwk** | The centrality of fieldwork to the subject is an element of continuity between school geography and academic geography. All five documents contained extensive coding for DK-GeoSk-Fwk, and all made similar claims that fieldwork was an integral, essential, and fundamental part of the discipline of geography. |
| **DK-A-SD** | The application of spatial data, especially through the use of GIS and other spatial technologies, features in all five documents and can be considered as an element of continuity between school geography and academic geography. |
| **DK-A-Iss** | The application of geography to 'real-world' issues was highlighted in both school geography and academic geography, with a consensus that geography has the power to inspire 'transformative learning' (Walshe and Sund, 2022) that extends beyond the study of the subject in schools and universities. |

Table 4.16: Elements of continuity and progression between school geography and academic geography.

As has been highlighted in this chapter, the completed document analysis revealed some aspects of disciplinary knowledge (DK) and substantive knowledge (SK) that were referenced less often than others in particular key stages or phases. These were most readily observed as 'gaps' in the summary (Appendix 10) and it might be inferred that these gaps indicate areas of disciplinary knowledge and/or substantive knowledge that were of less relevance or concern to the authors of the respective documents.

| | **Gaps in Continuity and Progression Between School Geography and Academic Geography** |
|---|---|
| **DK-OC-Div** | There are no explicit considerations of diversity as an organising concept in school geography until KS5 (**ALCAB** and **DfE-KS5**). There are no references to DK-OC-Div coded in **SBS**. DK-OC-Div refers to concepts of geographical diversity – key terms and associated concepts used to apply this code included 'similarity' and 'difference', 'contrast', 'comparison', 'cultures' and 'identities' – yet **SBS** does contain frequent reference to aspects of learner diversity, and these became coded as the additionally generated code of DI-LD rather than as DK-OC-Div. This may reflect a shift in focus between school geography and academic geography regarding what the disciplinary interpretation of diversity should be. |
| **DK-OC-Int** | There appears to be no reference to DK-OC-Int in **SBS**, when applying the key terms and associated concepts generated from the GACF (changing narratives, different values, range of viewpoints, range of interpretations, contrasting imaginations, geographical similarities and differences). There are, however, close connections to the key terms for the additionally generated code of Disciplinary Identity: Power (DI-Pow). There appears therefore to be an opportunity to address a gap in understanding across the subject community regarding the nuance in how DK-OC-Int might be articulated and addressed between school geography and academic geography. |
| **DK-GeoSk-Eval** | **GNC2014** contains no explicit references to DK-GeoSk-Eval. The evaluative skills specified by the key terms and associated concepts for DK-GeoSk-Eval are inherent in enquiry learning and it is therefore likely that there is more continuity in DK-GeoSk-Eval than is indicated by **GNC2014**, but there is a gap in the way that this is articulated in the curriculum documents and that is a gap that the subject community may wish to address. |
| **DK-A-Iss** | No statements in **GNC2014** were coded as DK-A-Iss. Although there are areas of **GNC2014** that implicitly reference real-world issues, and there are again (as is the case for DK-GeoSk-Eval) inherently opportunities to address DK-A-Iss through an enquiry learning approach to **GNC2014**, there seems to be a gap (in school geography) in explicit reference to the application of real-world issues as an aspect of disciplinary knowledge. |
| **DK-A-Emp** | There are no references to careers or employability in **GNC2014** or **DfE-KS4**. **ALCAB** made strong claims regarding the links between application of disciplinary knowledge to careers and employability, but these claims are absent from **DfE-KS5**. Given that careers and employability appear extensively in **SBS**, there is clearly a gap in how explicitly DK-A-Emp is integrated into school geography. |
| **SK-LK** | **ALCAB**, **DfE-KS5** and **SBS** offer less guidance regarding any sub-codes of substantive knowledge than **GNC2014** and **DfE-KS4**, and these three documents make no reference to locational knowledge (SK-LK) at all. |
| **SK** | There is a gap in the level of prescription of substantive knowledge, evident to different degrees in school geography, but missing from academic geography. There may, however, be persuasive arguments for the maintenance of this 'gap', given the scope and purpose of the documents analysed. |

| | |
|---|---|
| **P-CE** | There is overall a gap in the extent to which curriculum experiences (experiences planned by the teacher, teaching and learning experiences) are addressed in the documents. Again, there may be persuasive arguments for the maintenance of this 'gap', given the scope and purpose of the documents analysed, but could also be opportunities to develop a shared understanding of pedagogy between school geography and academic geography. |
| **P-O** | There are gaps and inconsistencies in how progression by outcome is articulated in the documents. This is perhaps to be expected, given this is the aspect of progression which relates most strongly to summative assessment of outcomes and will vary within school geography and between school geography and academic geography. It is also beyond the scope of most of these documents to set out benchmarks for P-O, although SBS does do so for threshold, typical, and excellent graduates. Something similar might be developed for school geography, with co-construction from across the subject community. |
| **P-T** | There are gaps throughout the documents in the recognition of transition as a form of progression, and the need to plan for effective transition at all stages of the geography education journey. This finding gives weight to the contribution of **original knowledge** that the findings of RQ2 and RQ3 might make to the subject community. |
| **DI** | To some extent, disciplinary identity was observed as gap across the documents, as it emerged from the document analysis as an additional theme. It can therefore be inferred that the six aspects of disciplinary identity created from the document analysis are a) an **original contribution** from this research and b) gaps that might be addressed in order to strengthen continuity and progression between school geography and academic geography. |
| **DI-Geo** | Statements relating to the disciplinary identity of geography (DI-Geo) only appear in **ALCAB**, **DfE-KS5**, and **SBS**. There were no references to DI-Geo in **GNC2014** or **DfE-KS4** suggesting that, certainly in the earlier stages of school geography, there is not an explicit requirement for learners to engage with the nature of geography as a subject. |
| **DI-LA** | There are gaps in the extent to which learner attributes are addressed by the documents; DI-LA is missing from **DfE-KS4** and **SBS**. This is a gap that could be addressed by greater dialogue across the subject community regarding the learner attributes that can be developed through geography education, and how these might evolve across the geography education journey. |
| **DI-LD** | There are gaps in the documents relating to learner diversity (DI-LD). Given ongoing criticisms of the discipline's colonial legacy and lack of diversity, this is a gap that should be addressed in national level documents, although it is evident from interview and questionnaire data (Chapter 5) that there are areas of good practice regarding DI-LD at the classroom/individual level. |
| **DI-Comm** | There are gaps in the way that aspects of subject community have been integrated into the documents. The key terms and associated concepts (such as CPD, training, and expertise, and the role of subject association and partnership) seem to be essential components of a more closely connected curriculum, and therefore there are benefits to making these aspects of DI-Comm more visible and integral to school geography and academic geography. |

| | |
|---|---|
| **DI-Pow** | The extent to which issues of power and representation are evident in **SBS** should be taken as an incentive for these themes to be explicitly addressed in school geography, including in future curriculum documents. As was the case with DI-LD, data from the questionnaire and interviews suggests that there is good practice in school geography which could be disseminated. |
| **DI-Int** | Interdisciplinarity is a gap across all documents except **SBS**. There is little evidence from this data that the issues relating to geography's 'identity crisis' that are outlined in Chapter 2 have yet been resolved in the documents that set out the nature of school geography. |

Table 4.17: Gaps in continuity and progression between school geography and academic geography.

# CHAPTER 5: CONNECTING SCHOOL GEOGRAPHY AND ACADEMIC GEOGRAPHY

## 5.1 Introduction

This chapter presents the outcomes of the questionnaire (n=66) and the phenomenographical interview data (n=7), the principal methods used to answer RQ2:

> **What do stakeholders perceive to be the benefits and limitations of more closely connecting school geography and academic geography?**

Profiles for four key 'communities' are presented in section 5.2, in which the characteristics of the population of each community are described. GNC2014 (DfE, 2013a) and QAA Subject Benchmark Statements (QAA, 2022a; 2022b) are used as proxies for the terms 'school geography' and 'academic geography' that are found in the RQ and were used in the questionnaire to determine the degree to which each participant is familiar with the phenomenon on which they are being asked to reflect. This is in line with the phenomenographical research design in which the aim is for participants to describe their experiences of the phenomenon being researched (the transition between school geography and academic geography). The communities' self-reported familiarity with the context in which that phenomenon is nested – the geography curriculum – is therefore also presented in section 5.2. In section 5.3, the interview participants (n=7) are introduced through self-created 'pen portraits'. All participants who completed the questionnaire (n=66) were given the opportunity to articulate what they believed the school geography curriculum 'should be', resulting in

creative and wide ranging aspirations for school geography. These are summarised briefly in section 5.4, with more detailed reflections found in Appendix 22. The chapter concludes by explicitly addressing the RQ, focusing on participants' views of the limitations (or challenges) of more closely connecting school geography and academic geography (section 5.5) and the benefits (and opportunities) of doing so that the participants identified (section 5.6). Thematic codes have been used to delimit participants' experiences, as an alternative form of the categories of description expected in a phenomenographical study (an approach justified in Chapter 3). In order to be able to draw comparisons across the document analysis, questionnaire data, and interview data, the same thematic codes generated from the GA Curriculum Framework (GACF) (GA, 2022a) were applied. The reader will therefore note the use of codes throughout the chapter, and the summary of these codes can be found in Appendix 4. The coded questionnaire data can be found in Appendix 14, and the coded interview data in Appendices 15 and 16.

### 5.1.1 Who are the 'stakeholders'? Getting to know the participants

The questionnaire captured responses from across the majority of the stakeholders identified in the research design, and the characteristics of the sample can be seen in Table 5.1.

| Community | Rationale | Original category (Q8) | Number of participants | Participant Identifier |
|---|---|---|---|---|
| **Student (n=18)** | Participants who identified as a student in any stage of their geographical education were grouped together.<br><br>Student (or trainee) teachers were categorised as teachers, not students. | Student completing a geography or geography-related post-16 qualification (e.g., A-level) | 0 | |
| | | Undergraduate completing a geography or geography-related degree programme (e.g., BA (Hons) Geography, BSc (Hons) Geology) | 17 | S-09 S-10<br>S-17 S-20<br>S-21 S-22<br>S-23 S-26<br>S-27 S-29<br>S-30 S-32<br>S-34 S-38<br>S-39 S-46<br>S-59 |
| | | Postgraduate completing a geography or geography-related programme (e.g., MA/MSc, PhD) | 1 | S-45 |
| **Teacher (n=42)** | All participants who identified as a qualified teacher were working in a primary or secondary education context.<br><br>Student (or trainee) teachers were categorised as teachers, not students.<br><br>All participants who stated they used geography as part of their profession did so in an education/teaching context.<br><br>Any participant whose identity included an aspect of teacher education was | Student teacher / trainee teacher | 1 | T-60 |
| | | Qualified teacher (any phase (primary, secondary, FE) or subject) | 37<br>*Early Years (n=1)*<br>*General Primary (n=4)*<br>*Primary with a specialism (geography and history, n=1; science, n=1)*<br>*Secondary (geography, n=27; human geography, n=1; physical geography, n=1; geography and politics, n=1)* | T-01 T-03<br>T-04 T-05<br>T-06 T-07<br>T-08 T-13<br>T-14 T-15<br>T-16 T-18<br>T-19 T-24<br>T-25 T-28<br>T-33 T-35<br>T-36 T-37<br>T-41 T-42<br>T-43 T-44 |

| | | | | |
|---|---|---|---|---|
| | categorised as a 'teacher educator' rather than teacher. | | | T-47 T-48<br>T-49 T-50<br>T-53 T-54<br>T-55 T-57<br>T-60 T-61<br>T-63 T-64<br>T-65 T-66 |
| | | I use geography as part of my profession, employment, or other work | 4<br>*Teacher (n=3)*<br>*Teaching Assistant (n=1)* | T-02 T-11<br>T-12 T-40 |
| **Teacher educator (n=4)** | Any participant whose identity included an aspect of teacher education was categorised as a 'teacher educator' regardless of which other category they had selected. | | 4<br>*Qualified teacher (n=1)*<br>*Academic (n=2)*<br>*I don't strongly identify with any of these categories (n=1)* | TE-51<br>TE-52<br>TE-58<br>TE-62 |
| **Academic (n=2)** | All participants who identified as academics were working in a higher education context.<br><br>Any participant who identified as an academic working in teacher education was categorised as 'teacher educator' rather than 'academic'. | Academic | 2 | A-31<br>A-56 |

Table 5.1: The categorisation of questionnaire participants into four key 'communities'. Each participant was allocated a participant identifier, starting with a letter (or letters) to signify the community to which they were allocated, and using a number that correlated to the overall order in which the questionnaire responses were submitted. The participant identifiers for the interview participants (n=7) are underlined.

One participant stated that they did not strongly identify with any of the seven categories offered for selection, elaborating further when prompted in the questionnaire:

> *Completed postgraduate (PhD) qualification, then completed 15 years as a secondary Geography teacher. I now work in Geography teacher education, but not at a university* **(TE-52)**.

This highlights the complexity of stakeholder identity, particularly for those who have experienced school geography and academic geography in a number and variety of contexts. The wording of the questionnaire in relation to identity had been carefully considered to allow for this complexity to be captured, by asking participants with which of the categories they 'most strongly' identified, but also offering – through the category 'other' – the opportunity for a participant to represent themselves in a way in which they felt comfortable and which enabled them to articulate any plurality of identity. This is also aligned with the recommendations of Reed *et al*. (2024, p. 1486) that researchers should: 'Design, advocate for, and engage in processes that enable relevant parties to self-identify how they would like to be referred. For example, make co-developed vocabulary an explicit part of engagement, with the aim of recognising pluralities'. However, given the distribution of participants across the categories, and in order to streamline the analysis of the questionnaire data, participants were further categorised into four broader 'communities' for the purposes of analysis and discussion (Table 5.1), and participant **TE-52** was ultimately placed in the **teacher educator** community. When statements are made in this chapter that apply to these broad communities, the name of the community is formatted in bold, as are the participant identifiers.

## 5.2 Getting to know the communities

After the communities had been identified, but before any detailed analysis of participant data was undertaken, time was spent 'getting to know' the communities. Grouping participants into communities was an important aspect of the phenomenographical aspect of the research design, as one of the methodological foundations of the approach is that participants' experiences of a phenomenon are always relational (Marton, 1981). This relationality exists between participants' data, and also between the participants and the researcher, who cannot therefore be subjective in the process (Åkerlind, 2022; 2024). Additionally, phenomenographical research seeks to identify a *collective* understanding of a phenomenon, not individual experiences (Marton, 1981; Marton, 1986) and therefore allocating participants to communities allowed for this focus on collective experience.

A number of questions were asked with a view to facilitating familiarity with the participants and their data, including some basic biographical details such as length of time since qualification (for teachers) or a description of academic work (for academics), and questions to determine participants' familiarity with the documents that formed the document analysis. An advantage of a relatively small sample size (n=66) was that the data could, when appropriate, be manually handled rather than being reliant on automated data management and data analysis techniques. This allowed me to develop a familiarity with the participants, and in turn to produce the following profiles of the four main communities through which collective

experiences could be examined. The specific questions that were used to create the profiles of the communities are outlined below in Table 5.2.

| **Contribution to profile** | **Community to which this is relevant** | **Questionnaire** |
|---|---|---|
| How a participant identifies themselves | All | Q8, Q17, Q18, Q19 |
| What kind of geography or geography related discipline(s) a participant is studying | Student | Q9, Q10, Q11 |
| What a participant's route into teaching has been | Teacher | Q12, Q13, Q14, Q15, Q16 |
| What a participant considers a curriculum to be | All | Q20 |
| To what extent is a participant familiar with school geography (GNC) and academic geography (QAA Subject Benchmark Statement) | All | Q21, Q24 |

Table 5.2: The questions used to create profiles of each of the four communities.

These profiles are crucial in setting participants' responses in the context of a collective identity in addition to their individual identity, and – as shown in Table 5.3, Figure 5.1 and Figure 5.2 – their initial conceptions of and familiarity with the phenomenon (transitions between school geography and academic geography, identified by continuity and progression in the geography curriculum) that is the focus of the research aim.

| **Definition of curriculum (and source of definition)** | **Participant responses by community** | | | |
|---|---|---|---|---|
| | **Student** | **Teacher** | **Teacher Educator** | **Academic** |
| a curriculum directs teachers as to what students should be taught (a hybrid definition created for the purposes of the questionnaire) | S-22<br>S-23<br>S-26<br>S-27<br>S-32 | T-19<br>T-42<br>T-60 | | |
| a curriculum is a set of subjects and standards used so students learn the same things (from the national curriculum - DfE, 2014) | S-29<br>S-30<br>S-39 | T-05<br>T-37 | | |
| a curriculum comprises all learning and other experiences that a school plans for its students (from the national curriculum - DfE, 2014) | S-34<br>S-45 | T-06 T-08 T-15<br>T-25 T-33 T-43<br>T-47 T-49 T-63 | TE-51 | |
| a curriculum should promote the spiritual, moral, cultural, mental and physical development of students and of society, and should prepare students for the opportunities, responsibilities and experiences of later life (from *Education Act 2002*) | S-17<br>S-21 | T-02 T-04 T-12<br>T-14 T-16 T-18<br>T-24 T-28 T-35<br>T-41 T-50 T-61<br>T-64 | | |
| a curriculum describes the nature of study and the academic standards expected of students - what they should know, do and understand - in specific subject areas (from the purpose of the QAA Subject Benchmark Statement - QAA, 2023) | S-09<br>S-10<br>S-20<br>S-38<br>S-46<br>S-59 | T-01 T-03 T-07<br>T-11 T-13 T-36<br>T-40 T-44 T-48<br>T-53 T-54 T-55<br>T-57 T-65 T-66 | TE-52<br>TE-58<br>TE-62 | A-31<br>A-56 |

Table 5.3: Responses from the four communities to Q20 – ‘There are many and varied definitions of 'curriculum'. Which one of the following definitions best aligns with your view of what a curriculum is?’. The participant identifiers for the interview participants (n=7) are underlined.

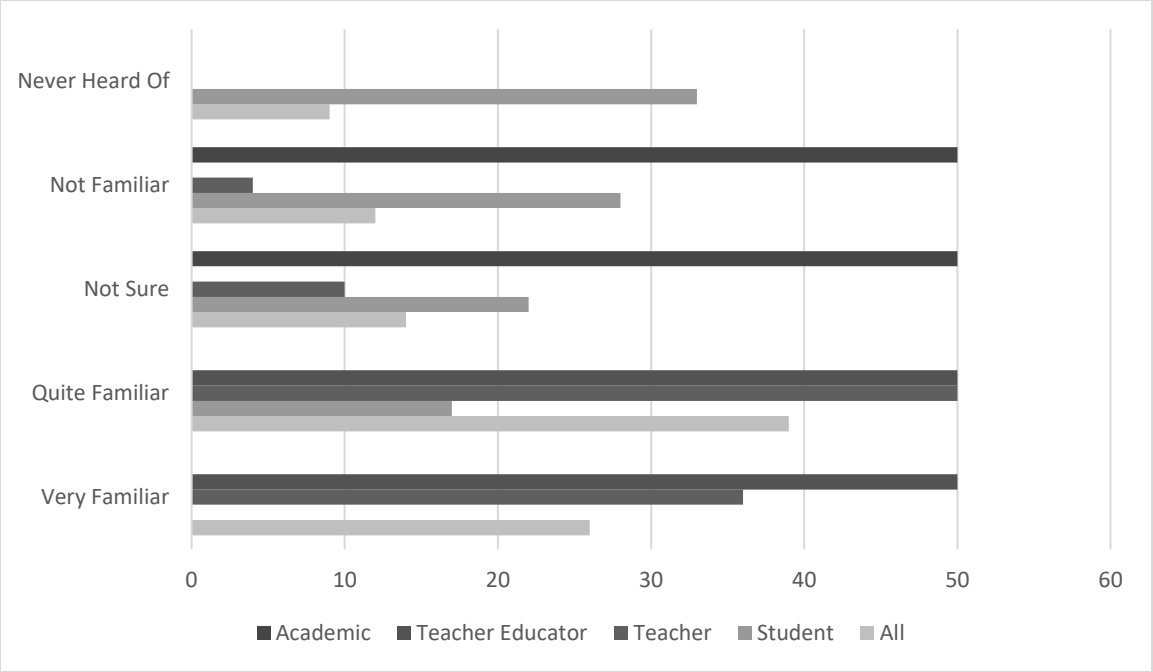



Figure 5.1: Participant responses to Q21: 'To what extent are you familiar with the GNC for England?

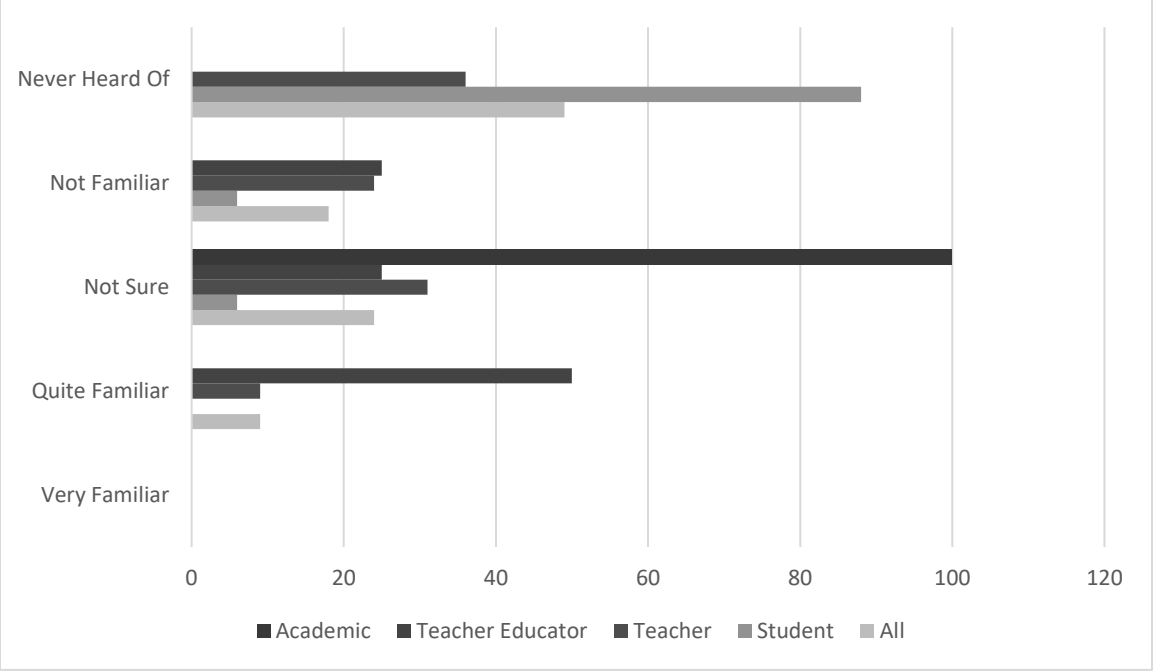



Figure 5.2: Participant responses to Q24: 'To what extent are you familiar with QAA Subject Benchmark Statements?

### 5.2.1 **Student** community

Responses from the **student** community revealed a variety of perceptions of curriculum, with responses distributed across all five available definitions (Table 5.3). When asked to what extent they were aware of the GNC (Q21), the **student** community largely reported a lack of familiarity with it (Figure 5.1). Participants were not asked for any biographical information that would determine whether they were likely to have encountered the GNC in their own education; it is possible that some members of this **student** community might have completed their school education in an academy, independent, or free school that was not required to follow the NC, or that they may have completed their school education in a country other than England. However, if an assumption is made (in light of the methods used to circulate the questionnaire and the likely population that will have been captured by those methods) that a number of the **student** community are likely to have completed their education in a state school in England within the last ten years, then they will have almost certainly followed a programme of study for geography that was underpinned by the GNC until KS3, even in schools that are not obliged to follow the NC, for example academies. Ofsted (2023, point 78) found that, across 50 research visits to schools in England between December 2022 and May 2023, 'Every school visited, whether an academy or not, said that they intended to cover the national curriculum for geography in key stage 3'. That the majority of the **student** community did not, to some extent, feel they were familiar with the GNC does not necessarily mean that they are disengaged with or unaware of the school geography curriculum, but it can perhaps be inferred that the **student** community had not considered the GNC explicitly as a phenomenon, either during or since their

own school geography education. More surprisingly, the majority of the **student** community reported having 'never heard of QAA Subject Benchmark Statements' (Figure 5.2). The QAA Subject Benchmark Statements will underpin the course design for the programmes on which these **student** participants are currently enrolled, regardless of home institution (a detail that participants were not asked to provide). The lack of awareness of the QAA Subject Benchmark Statements implies that the **student** community may not have been given opportunities to engage explicitly in discussion about the geography curriculum being offered by their home institution(s).

### 5.2.2 **Teacher** community

The teachers who responded to the questionnaire were working in a variety of phases and contexts (Table 5.1) and held a variety of perceptions of curriculum (Table 5.3). Just over a quarter of the **teacher** participants (n=11, or 26.2%) selected one of the two definitions taken from the NC (DfE, 2014). This finding is perhaps unsurprising given that the **teacher** community reported high levels of familiarity with the GNC (Figure 5.1), and it is possible therefore that their own views of what a curriculum is have been shaped by their exposure to formal curriculum documents from the DfE.

The **teacher** community was less confident in reporting familiarity with QAA Subject Benchmark Statements (Figure 5.2). No **teacher** participants reported being 'very familiar' with the Statements, although as has been identified above and in Table 5.3, 35.7% of the **teacher**

participants aligned themselves most closely with the definition of curriculum taken from the QAA (2023); in spite of a lack of familiarity with the source, it seems that many of the **teacher** participants are in agreement with the position of the QAA Subject Benchmark Statements in terms of its view of what a curriculum is.

### 5.2.3 **Teacher educator** community

Although not provided in the questionnaire as a category of identity in its own right, further biographical detail provided by four of the participants revealed that their work positioned them in a 'teacher educator' role. **TE-51** initially identified themselves as an academic, but then specified further:

> *I am a lecturer who has worked across geography and education departments, working in teacher education and exploring the relationships between geography and education* (**TE-51**).

**TE-62** also identified as an academic, specifying that they are a '*senior lecturer in Education*'. Both **TE-51** and **TE-62** were therefore moved from the **academic** community to the **teacher educator** community based on information they had themselves provided to further refine their identity.

Initially responding that they did not strongly identify with any of the categories provided, **TE-52** proceeded to articulate a more complex identity:

> *Completed postgraduate (PhD) qualification, then completed 15 years as a secondary Geography teacher. I now work in Geography teacher education, but not at a university.* (**TE-52**).

This kind of plurality or 'multi-dimensionality' is often reported by, or in relation to, teachers (Berger and Lê Van, 2019) and teacher educators (Amott and Ang, 2020). Amott and Ang (2020, p. 3) describe teacher educator identity variously as 'unstable and constantly changing', 'complex and shifting', and note that it is socially-constructed in nature and shaped by context. A comprehensive and systematic review of literature into teacher identity by Rushton *et al*. (2023) serves to further highlight the complexity of teacher identity. Similarly, **TE-58** reported being a 'qualified teacher' in their response to Q8, but went on to clarify in Q16 that their current role was best described as a '*teacher trainer* – [name of non-HEI provider redacted]'. Both **TE-52** and **TE-58** are representative of an increasingly diverse community of teacher educators in England, resulting in part from what has been described by Mutton *et al*. (2021, p. 69) as the 'complex and confused policy landscape' of teacher education in England. Rawlings Smith and Rushton (2023) observed similar diversity and complexity, more specifically in relation to geography teacher educator identity. It may be this diversity in the field that prompted the following reflection during the interview with Juniper, when asked to articulate her view of the relationship between schools and universities:

> *And teacher education itself is a broad church in terms of who are teacher educators. Now, are they academics doing research? Are they someone that's just come from the classroom? Are they on secondment from a school doing two days a week in the university? Are they a retired head teacher just topping up their pension with a couple of days of extra work? And what kind of pathways are there? Because each of them will negotiate this relationship in different ways* (Juniper, 330-334).

Given the further biographical detail provided by **TE-58** in Q16, and in the absence of any mechanism to identify and contact them, it did not feel unduly autocratic nor inappropriate to move them from the **teacher** community to the **teacher educator** community. **TE-52** however, had expressed an interest in participating in further data collection and had therefore provided their contact details. I felt it was important therefore to offer **TE-52** agency over how they were categorised, rather than to make a decision on their behalf regarding which of the multiple facets of identity they had outlined in their questionnaire response should be used to determine their community group. A discussion therefore took place by email with **TE-52** to explain the purpose of the community groupings, and **TE-52** ultimately selected the **teacher educator** community as the category in which they would currently place themselves.

The **teacher educator** community, although a small sample, demonstrated a degree of congruence in their perception of what a curriculum is, with **TE-52**, **TE-58** and **TE-62** aligning themselves with the QAA (2023, n.p.) definition that 'a curriculum describes the nature of study and the academic standards expected of students - what they should know, do and understand - in specific subject areas'. **TE-51** selected one of the two definitions from the NC (Table 5.3). The **teacher educator** participants expressed confidence in their familiarity with the GNC (Figure 5.1). Teacher education in England includes supporting beginning teachers, regardless of phase or subject specialism, in developing their subject and curriculum knowledge, as required by the current Teachers' Standards (DfE, 2011) and by the forthcoming *Initial Teacher Training and Early Career Framework* (ITTECF), the framework to be implemented by all accredited providers in England from September 2025 (DfE, 2024a). It is to be expected, therefore, that teacher

educators will have a good grasp of the curriculum for their phase and subject specialism. The **teacher educator** community varied in their familiarity with the QAA Subject Benchmark Statements however (Figure 5.2), and it seems possible that this may have been influenced by the context in which each of the participants is working. **TE-51** and **TE-62** both identified themselves as academics with experience of working in teacher education in the HE setting; both **TE-51** and **TE-62** also expressed that they believe themselves to be 'quite familiar' with QAA Subject Benchmark Statements, documents which are applicable to HE courses. It is possible that the self-reported lack of familiarity with QAA Subject Benchmark Statements by **TE-52** and **TE-58** may be attributed to them working as teacher educators outside of the HE context, where exposure to these documents would not be typical.

It must again be noted that the **teacher educator** community was a very small sample (n=4) and that therefore the findings in relation to that community should not be over-generalised.

### 5.2.4 **Academic** community

The same caution regarding sample size applies to the **academic** community. Although four participants initially identified as academics, **TE-51** and **TE-62** were moved out of this community into the **teacher educator** community, leaving just two academics in the sample of 66. In order to retain anonymity, specific details of the academic fields provided by both **academic** participants in their questionnaire responses are not stated here; broadly, however,

**A-31** is an academic working in a cognate discipline as a PGT programme lead, and **A-56** is Professor in a recognised sub-discipline of human geography.

Neither **A-31** nor **A-56** indicated familiarity with the GNC (Figure 5.1). Interestingly, given the seniority and implied experience of both **academic** participants, each reported the same response to Q24: 'I am not sure I am particularly familiar with QAA Subject Benchmark Statements' (Figure 5.2). The **academic** participants both, however, most closely aligned themselves with the definition of curriculum from the QAA Subject Benchmark Statements (Table 5.3). It cannot be determined by this research whether this alignment indicates a greater familiarity with the document than was self-reported by both **A-31** and **A-56**, or is simply a coincidental alignment of their own views with the wider context of the geography curriculum in HE.

## 5.3 Getting to know the interview participants

Each of the seven interview participants was actively involved in the way they are represented in the research, and in how their data have been used. This active involvement included each interview participant reviewing the transcript of their interview for their approval, discussion (when required) regarding any details that were to be redacted in order to protect the participant's anonymity, and the participant being given the freedom to construct their own 'pen-portrait' (replicated below, written in the third person) and to choose a pseudonym. These

decisions were both ethical and methodological, and are further articulated in Chapter 3. Details were redacted from the transcript if they made the interview participant readily identifiable, and where reference was made to other individuals, for example colleagues. As an additional measure for confidentiality and anonymity, the interview transcripts are not provided as appendices; selected interview data can be found in Appendices 15 and 16, and an example of a full transcript can be found in Appendix 21 (provided with the consent of the participant). The interview participants' pen-portraits are presented below in Table 5.4.

| |
|---|
| **Charlie** worked in several secondary schools teaching geography for 18 years. During her successful career in schools she held several leadership roles in both academic and pastoral positions before she moved into her current role in teacher education in an HEI in England. Charlie has experience of working with exam boards and developed geography exemplar material for other schools across the UK. She has research and teaching interest in the role of geographical subject knowledge and developing teacher identity, inclusive education with a focus on supporting disadvantaged students and is committed to training successful geography teachers and developing networks to develop good practice across both schools and colleges. |
| **Cole** is a passionate geography teacher who has worked for a decade at a large single-sex school in England with a wide catchment. Previous to becoming a teacher, Cole gained invaluable experience as a classroom Teaching Assistant. She is currently second in charge of the geography department, with responsibility for key stage 4. Cole adores fieldwork and provides as many opportunities as she can for her students. In addition to her qualified teacher status, Cole has an education-related master's degree and a National Professional Qualification (NPQ) in Leading Teaching, both obtained since her qualification as a teacher. |
| **Corran** is a geography teacher in a secondary school setting in England. As part of their teaching role, they have always been heavily involved in the pastoral aspects of education, and they identify that this has steered their purpose in the classroom. Corran describes geography as being quite unique in its position within the curriculum, with numerous cross-curricular links and opportunities for learning outside the classroom, both of which they believe enhance the appeal of the subject. Corran has always enjoyed continuing their own learning journey, and enjoys being involved in research and delivery of CPD. Corran feels they have gained a huge amount through the opportunities provided by their own education and teaching, and enjoys supporting others, students and professionals, in their development. |
| **Duncan** is an experienced secondary geography teacher working in England who has been employed a variety of types of school during his career. Duncan has long been actively involved in the subject community, including engagement with subject associations and local HEIs. |

| |
|---|
| **Marie** is a Head of Department and geography teacher working in a single-sex secondary school in England. Since qualifying as a teacher, Marie has retained a strong commitment to her professional development and values scholarship highly, both personally and as a quality to develop in students. Marie has a strong commitment to social mobility, driven in part by the contexts in which she has worked. |
| **Juniper** works in HE, primarily in teacher education, following a successful career as a school teacher. Juniper has worked across education phases, and in different countries and settings. She has research and teaching interests across geography and education, and is committed to researching with educators and young people and engaging with diverse voices to co-create more just futures in, and through, education. |
| **Philip** read Geography at university, before doing postgraduate work in climate science. He trained as a secondary Geography teacher, and taught in 11-18 schools for over a decade, including work with university admissions and outreach programmes. Philip has now moved to teacher education, and is interested in the power of subject associations to connect and inspire new and experienced teachers alike. |

Table 5.4: The interview participants' pen-portraits.

## 5.4 "The school geography curriculum should…"

Q23 in the questionnaire invited participants to complete this sentence in any way that they wished:

*The school geography curriculum should…*

The majority (89.4%) of participants responded to this non-compulsory question. The responses were collated and coded (Appendix 14) using the thematic coding generated from the GACF along with the additional themes that were generated iteratively during the document analysis. It is possible that the conceptions that participants hold about the phenomenon of the geography curriculum might reveal additional aspects of continuity and progression (RQ1) as well as establishing the broader context for participants' views of the benefits and limitations of more closely connecting school geography and academic geography (RQ2). Therefore, although

the findings of this question are not central to the discussion in this chapter, the reflections that emerged from the analysis set the context for the phenomenographical analysis of further data. What the analysis of Q23 revealed about participants' conceptions of the geography curriculum can be reviewed in Appendix 22.

The chapter now turns to a closer examination of the data used to answer RQ2, drawn from a number of sources, outlined below in Table 5.5. The questionnaire data, particularly the responses to Q28/29 and Q31/32, contributed less to answering RQ2 than the interview data, as there were no clear themes emerging from those questions nor a clear consensus from participants regarding challenges or the benefits that they would prioritise. However, the analysis of the phenomenographic interview data (described in Chapter 3, and found in Appendices 15 and 16) revealed rich descriptions of the relationship (and transitions) between school geography and academic geography. These are the themes, therefore, that form the structure for the remainder of the discussion in this chapter.

| **Source of data** | **Link to answering RQ2** |
|---|---|
| Previous research has identified some of the challenges of progressing from school geography to academic geography. Based on your opinion, please choose the two most challenging and two least challenging factors. (Questionnaire Q28)<br><br>If you selected 'other challenge(s) not specified' in the previous question, would you like to elaborate further here? (Questionnaire Q29) | Those that were identified as being 'most challenging' might reveal what participants believe to be the strongest limitations to more closely connecting school geography and academic geography.<br><br>This included any 'other challenges' that participants wished to raise, that might not have been captured by previous academic work. |

| | |
|---|---|
| If you have obtained, or are currently completing, a degree in geography or a geography related discipline, what aspect(s) of academic geography did you feel least prepared for when you began your degree? (Questionnaire Q30) | The aspects of academic geography for which participants felt least prepared might reveal areas of the school geography curriculum which need strengthening, particularly in terms of transition. |
| Previous research has identified some of the benefits that might arise from more closely<br>connecting school geography to academic geography. Based on your opinion, please choose the two benefits you would prioritise. (Questionnaire Q31)<br><br>If you selected 'other benefit(s) not specified' in the previous question, would you like to elaborate further here?<br>(Questionnaire Q32) | Those that were identified as priorities might reveal any consensus or conflict between groups of stakeholders regarding the benefits of more closely connecting school geography and academic geography. |
| To the extent that you are able to comment, what aspects of academic geography do you feel are 'missing' from school geography and from which, were they included, young people could benefit learning about? (Questionnaire Q33) | The aspects of academic geography which participants felt are missing from school geography might present opportunities for curriculum enhancement that can more closely connect school geography and academic geography. |
| One of the themes that has emerged from the literature I have read about the relationship between school subjects and academic disciplines is the idea of 'boundary-crossing'.<br><br>Before I share any more about what the literature has to say about this, could you tell me what 'boundary-crossing' might mean to you, in the context of you and your work? (Interview Question) | In line with a phenomenographic interview, these questions are 'as open-ended as possible, in order to let the subject choose the dimensions of the question they want to answer' (Marton, 1986, p. 42).<br><br>A phenomenographic interview 'focuses on the relationship between the individuals being interviewed and the theme of the interview', and 'how the theme appears to, or is experienced by, the individuals being interviewed rather than the focus being on the individuals or the theme itself' (Bruce, 1996, pp. 5–6, in Hajar, 2021, p. 1426) |
| The literature on this theme often uses descriptive, emotive words such as 'divide', 'gap', 'chasm'. One description is even that schools and | |

| | |
|---|---|
| universities are 'frenemies'. Another suggestion is that we should look for 'joined-up geography'.<br><br>Can you offer your own analogy or adjective to describe the nature of the relationship between school geography and academic geography?<br><br>Is your view of the relationship broadly positive, or broadly negative? Why? (Interview Question) | |

Table 5.5: The sources of data used to answer the research question 'What do stakeholders perceive to be the limitations of more closely connecting school geography and academic geography?'.

## 5.5 What do stakeholders perceive to be the limitations (or 'challenges') of more closely connecting school geography and academic geography?

The scope of this RQ evolved somewhat throughout the research process. Whilst the term 'limitation' is a useful shorthand, in reality both academic literature and the collected data demonstrate clearly that a more nuanced view is required. Participants, particularly in the interviews, spoke not only of limitations, but also challenges, disadvantages, barriers, problems, drawbacks, and negative experiences. In this section, the data pertaining to limitations to more closely connecting school geography and academic geography are outlined and discussed. These limitations have been grouped into five broad themes: i) subject community; ii) geography's identity; iii) application of disciplinary knowledge; iv) the 16-19 transition; v) continuity and progression in knowledge between school geography and academic geography.

### 5.5.1 Subject community

Data relating to the limitations evident in the subject community are summarised below in Table 5.6. Five sub-themes were generated: i) time, capacity, and success (or lack of) with approaches for engagement; ii) knowledge transfer and gatekeeping; iii) incentivisation (or lack of) for engagement between different parts of the subject community; iv) communication and awareness (or lack of) between different parts of the subject community; v) education workforce issues.

| **Theme** | **Participant Quotes** |
|---|---|
| Time, capacity, and success (or lack of) with approaches for engagement | *I'm not saying it hasn't been done or it can't be done, but it's very much dependent on lots of factors … my department's time or my time to do that, phone calling, sending all those emails, that chasing, so absolutely. That's another boundary, if you want to call it that.* (Cole, 476-479) |
| | *…the day to day job stops me from engaging in that, because of the demands of the job … actually marking the amount of papers I have to mark, and all of that kind of stuff. So I think that universities could be more active in contacting us to promote those things…* (Marie, 450-458) |
| | *I think it's a barrier in both ways. The universities need to know what's going on in schools. And school teachers and students need to know what goes on in university. The barrier, or boundary, between schools… It needs a lot of work and teachers* [inaudible] *haven't got the time. That's absolutely one of the issues. Both sides are busy and if you want it to work, it needs a lot of work to get it to work, and I think that's often where it falls apart.* (Duncan, 91-96) |
| | *…you send an email. You never get a reply. You send another email. You never get a reply. They say they're doing stuff, but actually, when you actually try to get them to do something, it's more difficult … You speak to the person who's supposed to be organising it, and they say, oh, I'll get someone, then nothing happens. Nothing happens. Nothing happens. It's very hit and miss.* (Duncan, 55-62) |
| | *We have the university very close to us but trying to get engagement from university to a state comprehensive is much harder than my* |

| | |
|---|---|
| | *colleagues in private schools that are down the road, where they have a lot more engagement, a lot more discussion between the university and their school…*<br>(Cole, 434-452) |
| | *In my experience, in contrast to a colleague of mine who works in a private school, I would say that is … that door, to use your analogy, is much more open for them. And when I approached the same person or the same university, I found it much more difficult to get engagement from the university because I've got my school name attached, rather than their name attached from their school. So absolutely, I think that is another boundary to cross.*<br>(Cole, 464-468) |
| | [University X] *are in a little ivory tower, and they do some things, but it's on their terms and not necessarily what teachers would like. From more local experience, from* [University Y]*, they are much more forthcoming and wanting to work with schools, wanting to help and see what teachers want, what teachers want support with, and are more forthcoming with their help.*<br>(Duncan, 49-52) |
| Knowledge transfer and gatekeeping | *…it is about levelling the playing field of access and saying if a really interesting geography book is £75 to buy, you're not going to buy it. If really interesting geography articles require a hugely complex journal subscription, you're not going to buy them. If you can get other content freer and easier, and you can read it at a more engaged academic level with big ideas and get into another big concept, then you'll be captured by that. And if you gate-keep in the academic sense and say, 'oh no, we must restrict publication or we must…' How many great geographers are doing good outreach and good stuff? … How many people talk about Tim Marshall and his popular stuff? How many people talk about David Attenborough and Iain Stewart as examples of people doing great geography and asking really interesting things without being intimidating or hugely expensive?*<br>(Philip, 348-359) |
| | *It's also what's free and what's available open-access. What's written, whether people want to read academic - there's some academic journal articles that you think, oh, that's quite easy to read, I can read that … on the bus. There's others that you think I'll need to sit in a darkened room and read that eight times before I've got a vague sense of what that means. But even then, I think organisations - the journal Teaching Geography, which I think is brilliant … the GA have got to make money, but should it be free? I think we're shaped by these wider forces and I want to be clear that I do want the Geographical Association to exist, but it's not always ideal to have to* |

| | |
|---|---|
| | *pay for journals. What if your school doesn't? And what if you're a single mum with two kids?*<br>(Juniper, 197-208) |
| | *I'm old enough to remember that when I first joined the Royal Geographical Society you had joint membership with the GA. Can't do that now. That's not a thing. And again, you know in a zero-sum game where there's only so much money to be spent on memberships, why would you choose one versus another? And they each have to get their elbows out a little bit for their members and Fellows, don't they?*<br>(Philip, 530-534) |
| Incentivisation (or lack of) for engagement between different parts of the subject community | *And then the nature of how higher education is assessed and scrutinised. It's all about research. You put inclusion, accessibility and how many kids from your local area are studying your subject, onto the research and evaluation framework, and you watch the difference. We get what we incentivise, right? And if you incentivise research to the exclusion of everything else then that's what you're going to get. I get it, like OK, sort of.*<br>(Philip, 481-493) |
| | *From my experience when I've worked with people from academia, and what I mean by academia, I mean universities, some are very willing to work with teachers. Some feel it is a chore that they have to do because they have been told to have to do it. What they're actually bothered about is their research, their research funding, and what the university - if it's not going to up their RAE they don't want to do it. And if they are doing it, it's because they've been told to – not because they want to, because that's not always the case.*<br>(Duncan, 42-47) |
| | *And it's not the departments' fault. At the end of the day, universities are ranked on the RAE, on the research. And teaching is something often they have to do, not that they'd like to do, and if they're told they have to do it, it may be more centralised.*<br>(Duncan, 52-55) |
| | *I think it's not necessarily departmental issues. It's what the university is telling them, what the hierarchy are telling departments, and whether that person is actually trying to get up the ladder. Unfortunately, I think that the obstacle is the focus of the universities. Students don't bring money in. Outreach activities don't bring money in. Research brings money in. That's my experience.*<br>(Duncan, 70-74) |
| | *My colleagues that lead on the undergraduate* [course]*, they seem to want to have an idea, and they want to run things that are to do with education, but they don't want to engage with secondary schools, or they don't know how to engage with secondary schools, or they don't* |

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| | *have the time or the capacity. I'm not really sure what the barriers are, but it's not happening.*<br>(Charlie, 118-122) |
| | *I have tried for the last couple of years to set up the movement from universities to schools, to use what we have at university and what happens at undergraduate level, especially to support the NEA, the A-level, and also that is your cohort. They are potentially coming through, especially cost of living, especially because we live in* [location redacted]*. Chances of people maybe moving away from home is reduced. So 'I could put you in touch with all of these schools. You could provide a one-off something on skills, or place, or whatever it is, or field work, or...'. And it never ever comes to fruition. Never.*<br>(Charlie, 69-75) |
| Communication and awareness (or lack of) between different parts of the subject community | *I think there is a lot of overlap that happens between what's taught at A-level and then what is then re-taught again at degree level. And I think partly that is due to there is a massive lack of communication between what happens at university level and what happens in schools. And I think universities don't see themselves as part of that world and they make assumptions that when students come to them, they assume that they don't know a lot of this information. However, I think that actually there is some amazing teaching and some amazing subject areas that are taught at a really, really high level in schools, even at GCSE and going through to A-level – definitely going through to A-level – that I think is ignored.*<br>(Charlie, 37-44) |
| | *So I think students do really well at taking their knowledge from what they've learnt in schools and transferring it to university. And I think that is a great … that's a great movement of knowledge and understanding. However, I think there's a lack of understanding about what happens in schools at university level, so they almost dumb it down a bit. And then they don't realise where these students have come from, what they have and what they can do and how they've been taught. So there is this one-way movement. But then I think there's almost a barrier to the boundaries from the university to the schools.*<br>(Charlie, 50-56) |
| Education workforce issues | *The only one thing I would say, is sometimes teacher training is very, very good as a department, because it can inspire us and reinvigorate us. But sometimes… we had a trainee a few years ago, and actually it was an absolute slog, I'm not saying it destroyed the department, but it did take a lot out of the department. We were* supporting [name of provider redacted] *with that, and they were coming and sending students to us, and we'd have 10 students and 3 in this classroom, 3 in that classroom… It was a few years ago, and they were getting* |

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| | *£28,000 to train to be geography teacher, and when they were sitting around without us in their break time, just hearing snippets of the conversation… Some of them were taking geography because it paid better than English. They were going to qualify as a geographer and then teach English because their degree is in English, but they got geography place for some reason. Or, 'oh, I just didn't want to move back in with my parents after university. I don't know if I want to be a teacher'. But £28,000 tax free is a lot of money. That did frustrate us a little bit, especially when one of the trainees who was saying similar things to this was our own trainee... and we had to fight really hard to get him through, to do the basic requirements, and* [the provider] *almost let him fail? And so that was… he was getting paid more than us, because he was tax-free £28,000 over nine months, and yet we were working harder than him. So yeah, I think that's part of the broken bit of the system that doesn't help departments because that did cause a few conflicts between us in the department over how best to deal with it. We joke about it now, but at time it was a bit fraught on occasion.*<br>(Corran, 401-417) |
| | *There's almost a personal stigma around it as well. I don't think teachers remember that they're well educated and that they have access to that level. So they don't feel like they have the right to reach out and be scholars… it's almost like teachers get so bogged down in the day to day job that they forget that they're scholars themselves.*<br>(Marie, 467-469; 477-478) |
| | *I do think that's a result of the political will of the Department of Education. They don't value the level of scholarship that is required to be a teacher. They don't understand it, they don't engage with it, they don't want to admit to it, and they actively discourage it from their policy. I think that does have a direct correlation with the recruitment and retention crisis. We don't get any option to stretch that educational muscle, that research muscle. And then people forget that they can do stuff. And then when they go and do stuff they're like, Oh, my God, I did stuff. I agree with you, I think it's a crying shame and I think that hand in hand undervaluing the teachers and their skill leads to a gap in research and a gap in progression. For all subjects. I don't think that's specifically a geography thing. I think that is an all subject thing.*<br>(Marie, 488-496) |
| | *"It feels a bit sad that I don't influence the education. I don't know really. I think it's just really hard. I think the nature of my role within teacher training is so complex and so varied, and it changes on a yearly basis and it changes on who you're working with.*<br>(Charlie, 204-206) |

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| | *When I stopped teaching, my family would say you're not a teacher anymore. And I'd go, no, I am. I am a teacher. I'm still a teacher. That's still what I do. But my influence is to do with what's going on in schools, but I don't have any influence within the university to do with the geography education. But my identity I think is absolutely held up with geography and being a geography teacher. And that's really important to me…*<br>(Charlie, 220-224) |
| | *…there are boundaries in terms of getting people involved in various different things. Training is the wrong word: mentor education, mentor development, which is obviously changing within the new ITE curricula. But when you're not bringing people in* [to universities] *to have conversations like at* [name of institution redacted] *we used to do new mentor training, we used to look at the guidelines and the forms that you're going to fill in, but we also used to do work for experienced mentors that might be subject or pedagogical content knowledge updates. And we can't do that unless there's a reason to bring people in. And I guess that there's these unseen boundaries that make it harder for people to work together.*<br>(Juniper, 62-71) |
| | *But there is what happens in reality when budgets are cut and there's a landscape of higher education and people are just on tenuous contracts doing three hours of school visits a week for…yeah.*<br>(Juniper, 107-112) |
| | *But look, I get it. Like if you are being measured … There's a couple of geographies of higher education that I think are set against us in this space. The first is the expectation that being an academic should be some form of sacrifice and that the sacrifice may, and often does, involve significant locational change, that if you want another job or if you want security of job, you have to move all around the country all of the time. And so your ability to develop roots in a place and connect to - well, 'I'm the governor of this school and my kids are at this school' or 'I've got a connection to bringing these people into your university'. You've been there on a temporary contract and probably treated not particularly well on that contract, or whatever it might be. The nature of higher education itself is set against that…*<br>(Philip, 481-493) |

Table 5.6: Limitations to more closely connecting school geography and academic geography: Subject Community.

#### *5.5.1.1 Time, capacity, and success (or lack of) with attempts at boundary-crossing*

Cole, Marie and Duncan, all **teacher** participants, were in agreement that they face time pressures when seeking out opportunities to engage with academic geography, despite any desire they might have for such boundary-crossing. It should be noted that none of the interview participants were from the **academic** community, therefore this group has no 'right of reply' in the data, regarding similar time pressures faced by academics. Nevertheless, the workload issues facing the teaching profession are widely acknowledged, as seen in a recent systematic review by Creagh *et al.* (2023). Relating to time and capacity, some participants also gave examples of where the time and effort they had taken to reach out to universities had ultimately not been successful (Table 5.6). It can be inferred from the data from Cole and Duncan that, as well as having encountered barriers to connecting school geography with academic geography, these experiences have somewhat negatively impacted their view of local institutions; this information may be of concern to leaders in HEIs, who strive to build a strong and positive institutional reputation and to embed the institution in local communities. These findings suggest that issues around time, capacity, and success (or lack of) with approaches for engagement are a limitation to more closely connecting school geography and academic geography.

#### *5.5.1.2 Knowledge transfer and gatekeeping*

Participants raised concerns, often relating to cost, about the accessibility of academic geography outputs, published research, and other resources for the school geography

community (Philip, 530-534; Juniper, 197-208). The school and HE sectors both face financial and budgetary challenges as do organisations in the subject community, such as the GA and RGS-IBG. Notwithstanding the pressures on the education sector and the subject community during such financially challenging times, these findings suggest that issues around knowledge transfer and gatekeeping are a limitation to more closely connecting school geography and academic geography.

#### *5.5.1.3 Incentivisation (or lack of) for boundary-crossing between different parts of the subject community*

Previous academic work has attributed the lack of connection between schools and universities to issues of incentivisation (Butt and Collins, 2013; 2018) and this was echoed by Duncan, Charlie, and Philip. Ferreira (2018, p. 378) found that there were variations in stakeholder perceptions regarding where in the subject community responsibility was held for the 16-19 transition. Similar findings were observed in this research; Duncan felt that the responsibility lies with academia more broadly, rather than with individual academics. However, the frustration felt by Duncan (55-62) was echoed by Charlie (118-122) who also reported a lack of success in her attempts to connect her home institution with local schools (Charlie, 69-75), despite her using her position as a teacher educator to make practical suggestions of how connections could be built. Philip expressed a nuanced understanding of the tensions around academic outreach and engagement but also stated, in simple terms, his belief that there remains an issue of incentivisation (or lack of) for boundary-crossing between different parts of the subject community (Philip, 488). It seems, therefore, that Duncan, Charlie, and Philip are in

agreement that a lack of incentivisation is a limitation to more closely connecting school geography and academic geography, but this may also be attributed to an ongoing lack of clarity regarding which part(s) of the subject community should take responsibility for the transition. This limitation seems to have been lacking resolution for some time, as similar findings were observed by Ferreira (2018).

#### *5.5.1.4 Communication and awareness (or lack of) between different parts of the subject community*

Aspects of communication between schools and universities were raised in relation to the theme of time, capacity, and success (or lack of) with approaches for engagement, but a different aspect of communication was highlighted by Charlie (37-44) relating to the assumptions she felt were being made by universities regarding the quality of teaching in schools. Charlie suggests that communication is necessary in order for schools and universities to develop an awareness of each other's work; without this, Charlie suggests, there are interruptions to continuity and progression, for example through the unnecessary re-teaching of topics. Many HEIs would point towards their outreach and engagement work as evidence that they wish to engage with schools, and many schools take advantage of this kind of work; indeed, the interview participants referenced a range of outreach activities with which they had engaged. However, Hill and Jones (2010, p. 30) described outreach as an 'asymmetrical' relationship from which it can be difficult to develop effective school-university links, and Charlie's experience suggests that this may still be the case. Marie and Charlie both criticised the stage in the geography education journey at which universities choose to focus their

outreach and engagement activities. When asked about the nature of the relationship between school geography and university geography, Marie replied:

> *The immediate answer for me is too little too late. There is too little involvement from university level, too late in school education* (Marie, 428-429).

Charlie (107-122) expressed a similar sentiment. For Charlie, there seems to be a missed opportunity that could be addressed by raising awareness in universities of the pedagogical experiences that learners have in schools, and their resulting knowledge on arrival at university (Charlie, 50-56). Pedagogical differences were identified by Tate and Swords (2013) as an aspect of the cognitive skills gap impacting the 16-19 transition. Ferreira (2018) also recognised these differences, proposing that there may be a need for those in HE to have a greater awareness about the subject content and pedagogy of schools. Charlie's data seems to suggest that – over a decade on from Tate and Swords (2013), and more than five years since Ferreira (2018) – this awareness has not yet been developed, but that there was scope for communication between schools and universities to be strengthened.

#### *5.5.1.5 Education workforce issues*

Education workforce issues were raised by a number of participants. Corran provided a powerful example of geography teacher recruitment issues and the tensions generated by 'training bursaries' as an incentive; the full comments can be found in Table 5.6 (Corran, 401-417). To some extent, Corran's experience aligns with themes from Chapter 2 relating to teacher recruitment issues and the need to prioritise the recruitment of subject-specialists, but suggests

that the allocation of bursaries as an incentivisation for recruitment is flawed. Corran's account demonstrates how misuse of incentives for recruitment can generate conflict in the subject community, between student teachers and qualified teachers, and also between student teachers in different subject areas with higher or lower bursaries. Marie also flagged recruitment and retention issues, particularly in relation to her sense that the teaching profession was becoming de-professionalised and that scholarship in the profession was becoming marginalised.

Juniper (62-71) placed workforce issues in the context of recent changes to ITTE in England, and the concomitant reduction in opportunities for teachers to engage with subject-specific input from HEIs through the process of mentoring student teachers. Charlie (220-224) suggested that these limitations to the effective use of ITTE as a mechanism to more closely connect school geography and academic geography also extend to teacher educators themselves, and it can be assumed that the shifting landscape described by Mutton *et al.* (2021) may compound these limitations. Philip highlighted workforce issues that can impact those working in academic geography, in particular the precarious and temporary nature of many academic contracts. This can often result in a transient workforce which makes it difficult to create and maintain effective links between schools and universities, which is a limitation to more closely connecting school geography and academic geography, and also creates issues for curriculum design (Philip, 70-79). The impacts of these workforce issues might be seen in the resultant curricula, but the issue itself resonates with other education workforce issues raised by participants, and in the review of literature (Chapter 2).

## 5.5.2 Geography's identity

Data relating to the limitations arising from geography's identity are summarised below in Table 5.7. Four sub-themes were generated: i) geography's breadth and depth; ii) challenges of interdisciplinarity; iii) engagement (or lack of) with the academic discipline in school geography; iv) challenges of representation.

| **Theme** | **Participant Quotes** |
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| Geography's breadth and depth | *…we package GCSE and A level geography as if it is all one subject and then often what students really are surprised by at university level is the fact that they can do human geography or physical geography. They don't have to do both. "What, you mean I can apply for a BSc and I don't have to do any human geography after my first year module?" Yeah. And I think we have that weird boundary-crossing from university - from school to university: the idea that you can specialise.* (Philip, 39-57) |
| | *But then at university level we have the same issue that the discipline crosses beyond the geography department and the geography 'box'. So you might be working in physical geography, but you're working with colleagues in meteorology or you're working with colleagues in the maths department because they're the ones who've got the computer modelling expertise. So I did a PhD in climate science and I could have been in a physics department, a maths department or a geography department, and it would have made no difference to the PhD. And that's such a weird thing to conceive of for a student who thinks that climate science belongs to one subject by itself. So I think we have a strange thing where we cross boundaries in two ways. We box people in, in the school curriculum, and then we unbox them and then repackage it, I suppose, at university. And it's a weird one to conceive of for a lot of students.* (Philip, 39-57) |
| | *…who is drawing those boundaries … for me? What if I want to do some stuff on the representation of place through art or music? Why have I been stuck … when geography is such a big discipline. It's people, place and environment, so there is a physical geography element, but constructing geography as part of social studies, well, what about the* |

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| | *age that we're living in, entanglements between people, humans and more-than-humans? What about people that call themselves geoscientists or earth scientists? Would they identify in social studies? No, I don't think so. I can't speak for them, but my imagination is that they would be a bit annoyed.*<br>(Juniper, 453-459) |
| Challenges of interdisciplinarity | [Students] *don't see the value of geography as a science, if you see what I mean, which is something that I try and encourage through scholarship in terms of the way that we do fieldwork… so we lean into those statistical skills that we try and focus on in the GCSE, especially through the fieldwork. And I'm like, 'this is what science is', and I am always very conscious with my vocabulary, to make geography a science, and I'm always saying to the boys – because I teach in an all-boys school – and I'm always saying 'geography is just like biology. It's a science. It's like physics, it's a science. It's like chemistry, it's a science.', but they don't see the real world value of geography.*<br>(Marie, 68-75) |
| | *I don't know if the students have got an understanding of the disciplines that make up … or the concepts or the key ideas that make up geography or history to be able to do the interdisciplinary work.*<br>(Juniper, 451-453) |
| | *I think there's a terrain-capturing we're seeing certainly in the school curriculum - I don't know the extent to which it's reflected at university level - but the GCSE for Natural Science, for example, was launched in the Natural History Museum with only science departments and no representation from geography as a subject. And that's odd, that's unusual when you look at the content of that. So I think there is an element of bidding for funding maybe? Are some projects more attractive than others if they're multidisciplinary, or if they come with a green label on them, or a sustainability label on them? Is that a way to get money in university departments? I don't know. It certainly seems to be the way for the curriculum material.*<br>(Philip, 79-86) |
| Engagement (or lack of) with the academic discipline in school geography | *I think that is something that in terms of the explicit curriculum, that isn't in the curriculum. That drive to help them understand where they are, within the discipline and what their role is, and how they move through the discipline. That isn't taught.*<br>(Marie, 182-184) |
| | *I think there's an identity thing. And also in schools, we don't in general talk about the histories and the disciplinary turns of the discipline. And we don't talk about things like feminist geographies etcetera. And we've got very limited, very limited discussion of how geographers produce* |

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| | *research. We don't just all look at maps or do GIS or do some fieldwork. And the idea of fieldwork is generally 'ranging poles'. It's very limited.* (Juniper, 405-409) |
| Challenges of representation | *I think there's an extent to which the Decolonising Geography movement is doing that for the human spaces of geography by forcing people to say there isn't one geography, there's multiple geographies. Are we reflecting the geographies of the global South? Are we reflecting geographies of people on the other side of this equation that we don't normally tell the story of? I don't think people are doing it as Kuhn might have done in terms of the paradigms of the discipline and what it means to be ontologically scientific and so on. And I think that probably is slightly too mind blowing for an A-level student, like that's 'head stuff'. I think people are starting to get comfortable with the idea of representing multiple views in multiple places and multiple perspectives of humans, and through that, to recognise that fundamentally geography is a constructed discipline and is a constructed narrative. That diagram from the GA Manifesto of 'the subject, the teacher, the pupil' and 'the experience' is at the heart - it's a construction. There's no* one *geography.* (Philip, 150-160) |
| | *I think, with geography specifically, it's that* [students]*… they don't see the value in the subject. A lot of the time they'll feel like they want to be doctors, or they want to be lawyers, but they don't see the value of how geography actually fits into that plan. And I think it's because they get a lot of parental pressure. They get a lot of parental pressure to go into very specific careers, you know, lawyers, doctors, things like that, and they don't see how geography actually can be helpful and relate to that.* (Marie, 64-68) |
| | *In our location there are students who with regards to their socio-economic background have the engagement or have the opportunities to see aspirational geographers from a range of different places, so they can go 'oh, okay, there's someone like me, they live near me, they work near me, this is something that I can do'… so maybe that's something that you've found in your research, that some schools do it better because they are more affluent, or some schools have a better engagement because of certain socio-economic factors.* (Cole, 434-452) |
| | *…even my school, which is a state comprehensive, all inclusive. So we've got girls that have been on Broadway and in theatres and we've got girls that have very much compromised learning or abilities… we've got everyone. And I guess the point being some of those experiences you've just mentioned, some of those opportunities for some of our geography students is very much to do with their social economic backgrounds. … So sometimes, I feel, maybe socio-economic or even geographical* |

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| | *location can be a barrier to engagement or skills between school and sixth form or university. In our location there are students who with regards to their socio-economic background have the engagement or have the opportunities to see aspirational geographers from a range of different places, so they can go 'oh, okay, there's someone like me, they live near me, they work near me, this is something that I can do'…* (Cole, 434-452) |

Table 5.7: Limitations to more closely connecting school geography and academic geography: Geography's Identity.

*5.5.2.1 Geography's breadth and depth*

The review of literature in Chapter 2 highlighted an identity crisis in academic geography, and participants were in agreement that these identity issues persist. Geography's breadth and depth was, in other ways, celebrated by participants (section 5.6) but there was an awareness that the discipline's breadth in particular, also generated problems in some contexts. Philip (39-57) articulated the false boundaries that are often drawn in school geography – including those around the human/physical divide explored in Chapter 2 – and the challenges that these boundaries can pose for learners when they are subsequently removed or redefined in academic geography. Juniper (453-459) also questioned boundaries, particularly in relation to who is drawing those boundaries across a discipline with such breadth and depth.

*5.5.2.2 Challenges of interdisciplinarity*

It is important to note that not all participants felt that interdisciplinarity was appropriate for school geography (Juniper, 451-453). Marie, however, viewed interdisciplinarity as desirable, and was attempting to develop this in her practice through the framework of STEM subjects.

Marie (68-75) reported that there is a continued resistance, in her experience, to young people seeing geography as a science, despite her commitment to raising students' awareness of geography's STEM status. There are links between Marie's endeavours and the ongoing call (RGS-IBG, 2011; QAA, 2022b) to consolidate geography's STEM status. Marie's experience would suggest that there is still work to be done to develop this aspect of disciplinary identity in school geography. The tensions that can arise between geography and the sciences were articulated too by Philip (79-86), who described these tensions as 'terrain-capturing'. The connections that Philip makes here to the curriculum are explored in greater depth in section 5.5.5, in relation to continuity and progression in knowledge between school geography and academic geography. The opportunities for a curriculum that more closely connects school geography and academic geography, including harnessing the opportunities of interdisciplinarity through curriculum-making, are further explored in RQ3.

*5.5.2.3 Engagement (or lack of) with the academic discipline in school geography*

Geography's disciplinary identity was a key theme in the document analysis, and was also raised by two interview participants. Juniper articulated it in the following way:

> *I think there's an identity thing. And also in schools, we don't in general talk about the histories and the disciplinary turns of the discipline. And we don't talk about things like feminist geographies etcetera. And we've got very limited, very limited discussion of how geographers produce research. We don't just all look at maps or do GIS or do some fieldwork. And the idea of fieldwork is generally 'ranging poles'. It's very limited* (Juniper, 405-409).

Marie is in agreement that this is an issue, having observed it in her own practice:

> *I think that is something that in terms of the explicit curriculum, that isn't in the curriculum. That drive to help them understand where they are, within the discipline and what their role is, and how they move through the discipline. That isn't taught* (Marie, 182-184).

There are connections here to an aspect of the cognitive skills gap in the 16-19 transition identified by Tate and Swords (2013), in that Juniper and Marie have implicitly identified a lack of opportunity to expose students to disciplinary literacy and the breadth of literature with which students are required to engage at university. Again there are links here to continuity and progression in knowledge between school geography and academic geography (section 5.5.5), particularly in connection to levels of prescription and restriction in geography curricula. These links have implications for (and are addressed by) RQ3.

*5.5.2.4 Challenges of representation*

Marie and Cole both raised the challenges of representation in relation to their own students. Marie identified the issue of application of disciplinary knowledge to careers (section 5.5.3) but appeared to suggest that students' inability to see geography's relation to the career pathways they wish to pursue is a symptom of a broader issue around representation (Marie, 64-68). That Marie's students (and their parents/carers) cannot 'see the value in the subject' perhaps speaks to a lack of visibility and diversity in geography, something that Cole (434-452) also identified with her students. In contrast, Philip (150-160) suggested that progress is being made in the discipline to address the challenges of representation. This is aligned with the literature review

in Chapter 2, and the work of groups like Decolonising Geography (2022) suggests that curriculum-making can be an area in which challenges of representation can be addressed.

### 5.5.3 Application of disciplinary knowledge

Data relating to the limitations of application of disciplinary knowledge are summarised below in Table 5.8. In this context, application relates to the GACF theme of application as a form of disciplinary knowledge; in Chapter 4, this was further categorised as application of spatial data, application of real-world issues, and careers and employability as the sub-themes that were generated from the document analysis. Two of these sub-themes also featured in the interview data: i) careers and employability; ii) application of spatial data.

| **Theme** | **Participant Quotes** |
|---|---|
| Careers and employability | *I think, with geography specifically, it's that* [students]*… they don't see the value in the subject. A lot of the time they'll feel like they want to be doctors, or they want to be lawyers, but they don't see the value of how geography actually fits into that plan. And I think it's because they get a lot of parental pressure. They get a lot of parental pressure to go into very specific careers, you know, lawyers, doctors, things like that, and they don't see how geography actually can be helpful and relate to that.*<br>(Marie, 64-68) |
| | *And that breadth, capturing the earth and environmental sciences and the wider disciplines and the stuff of sustainability and greenness and the things that young people want to take forward into a tent that is broader than just pure geography at a higher level and at a careers level. Green careers are going to be a big thing for the future. We have thousands of people who work in geography jobs. They just don't call themselves geographers.*<br>(Philip, 539-543) |
| | *…even my school, which is a state comprehensive, all inclusive. So we've got girls that have been on Broadway and in theatres and we've got girls that have very much compromised learning or abilities… we've got everyone. And I guess the point being some of those experiences you've just mentioned, some of those opportunities for some of our geography students is very much to do with their social economic backgrounds. And I have tried really hard with my* |

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| | *engagement with careers and so on to break those invisible barriers, or those actually physical barriers… In our location there are students who with regards to their socio-economic background have the engagement or have the opportunities to see aspirational geographers from a range of different places, so they can go 'oh, okay, there's someone like me, they live near me, they work near me, this is something that I can do'…*<br>(Cole, 434-452) |
| | *One thing you've just made me think about, a lot of young people now are looking at the apprenticeship option instead of the university option. They're coming out with three years' work experience, with pay, no fifty, sixty grand debt, minimum, and they're at the same point if not further than the young person coming out of university three years later. It'll be interesting to see in terms of that interaction when will universities start to realise, actually, we've got to do something here because we're not getting young people in, they're taking the other option. Because actually, I'll be honest, if I was a student now, I wouldn't go to university. Why would I want fifty, sixty grand's worth of debt? I'll go straight to a company that will offer me an apprenticeship with one day release. I'll come out with a degree at the end of it anyway but no debt. It's an interesting concept. I mean geography, some universities don't need to recruit because they've got such a pull. It'll become more and more… And if that barrier isn't broken down, will it become more of a problem in the future to get young people to do geography or will universities find actually, we haven't got the pipeline of young people, or mature students coming from a change of career... it'll be interesting.*<br>(Duncan, 373-385) |
| Application of spatial data | *I went to my key stage 5 team about it and we all agreed that access to technology or technology such as GIS is very dependent or limited by the school you're in. Some schools have better or more access to certain technology or computer hardware or software than we have. Our school has spent, or our Trust I should say, has just spent a lot of money investing in touchscreens, laptops for all of us rather than desktop computers. So we are moving to a more technology-focused school, but if I go back to lockdown and my experiences of teaching, some girls didn't have a laptop or a PC or a printer or even a geography book at home with them, certainly during the first lockdown. Some of them were on their phone, listening into the lessons. Some of them were sharing devices. So technology is another boundary, you could say, and those who have experience of some software at school may find it easier whilst they're at university or vice versa. So that's something you might want to think about. It's something my department … that's something we are trying to address as a Trust… it can be a socio-economic based boundary or access boundary.*<br>(Cole, 510-522) |

Table 5.8: Limitations to more closely connecting school geography and academic geography: Application of Disciplinary Knowledge.

*5.5.3.1 Careers and employability*

Over half of the interview participants (n=4) made some kind of reference to careers or employability. It is interesting to note that in each case, other related themes – geography's identity, challenges of representation, geography's breadth and depth, changes to education and training in England – were inherent in what participants said about careers and employability. Marie made connections to geography's identity and the challenges of representation as she reflected on her students' ability to see how geography could have relevance to their chosen career paths, often law and medicine (Marie, 64-68). Philip (539-543) suggested that geography's identity, particularly the breadth of the discipline, could be creating limitations (and benefits, section 5.6) regarding the application of geography in a future careers context. Duncan (373-385) saw changes in education and training in England as a potential threat to how academic geography might market itself in relation to careers and employability, particularly with regards to apprenticeships and the financial burden of HE for students (IFS, 2018). Challenges of representation arose again in Cole's reflections around careers and employability:

> *And I have tried really hard with my engagement with careers and so on to break those invisible barriers, or those actually physical barriers… In our location there are students who with regards to their socio-economic background have the engagement or have the opportunities to see aspirational geographers from a range of different places, so they can go 'oh, okay, there's someone like me, they live near me, they work near me, this is something that I can do'…* (Cole, 434-452).

Cole had generated practical suggestions for making visible to young people the pathways that might enable them to apply their geographical knowledge in a career, as had Marie.

#### *5.5.3.2 Application of spatial data*

Only one participant, Cole (510-522) highlighted the application of spatial data as a limitation or barrier that they were experiencing between school geography and academic geography, specifically that the Covid-19 lockdowns in 2020 had revealed aspects of digital poverty among her students. However, the application of spatial data was a strong theme in the academic literature, with weaknesses in the implementation of GIS in school geography observed more recently by Ofsted (2023) and more historically by Tate and Swords (2013) as one of the practical skills gaps in the 16-19 transition. Cole's experience exemplified the findings of Holmes and Burgess (2021) that 'digital poverty' is still experienced in some parts of the UK, and there are clearly links here too to aspects of learner diversity, and equality and inclusion in the discipline.

### 5.5.4 The 16-19 transition

Data relating to the limitations associated with the 16-19 transition are summarised below in Table 5.9. The participants' focus was predominantly on the development of the practical skills previously identified by Tate and Swords (2013) as being missing in the 16-19 transition and more recently by the teachers who contributed to the research of Oakes and Rawlings Smith (2022). These are the skills that would adequately prepare learners for the transition to academic geography.

| Theme | Participant Quotes |
|---|---|
| The development of the geographical practice, geographical skills, and academic skills that would adequately prepare learners for the transition to academic geography. | [In relation to introducing students to scholarship]: *And when I'm observed, I get questioned: Why are you doing that? What's the point - that's not going to be relevant to the GCSE, why are you doing that? And I'm like, but it is relevant, because they do need to know. But I always have to justify that, which is frustrating.* (Marie, 357-360) |
| | *One area that I think, if I think about my Year 12s and my Year 13s, one of those skills that I worry about when they apply to university, even if they don't do geography or they do another course is they're … as a learner, not necessarily as a geographer, but how to interpret and read through a journal, how to interpret chapters of books or how to engage with articles or how to … the skill of critically assessing a document or assessing a theory or written articles and things. I think that's what …We've spent a lot of time in the department making sure that we have specific activities or specific tasks that … here's some articles about this, here's a chapter from this book … the skill of critically analysing those. I remember finding that jump from A-level to … at least college to university really difficult. I would just go, 'this is my opinion' not critically assess … A lot are able to give their opinion, able to agree or disagree with the theory or a concept or something, but they're not necessarily able to, as well, accurately cross examine - that bit is good about this research, that bit is weaker, I guess.* (Cole, 255-266) |
| | *I think it does need to be looked into, why there still is this barrier between … We're providing young people to go to the universities. And they often say, well the students aren't prepared, they can't write, they've got no experience of GIS, they've got no experience of this – but well, you don't work with the… only a small number of people worked on the ALCAB, when the A-level was being developed. So I think both could help each other.* (Duncan, 352-358) |

Table 5.9: Limitations to more closely connecting school geography and academic geography: The 16-19 Transition.

*5.5.4.1 The development of the geographical practice, geographical skills, and academic skills that would adequately prepare learners for the transition to academic geography*

Tate and Swords (2013) suggested that one of the practical skills gaps impacting the 16-19 transition was a lack of preparation at school for the academic writing and academic literacy skills required at university. Some participants seemed to be conscious of this; Duncan (352-358) appeared to suggest that this skills gap is still evident, but that there should be a joint responsibility – between school geography and academic geography – to address the gap. Cole (255-266) described her own approaches to addressing the practical skills gap, and Marie (357-360) clearly shares this commitment to developing her students' academic skills, with both participants identifying pragmatic approaches that were taken into consideration in answering RQ3.

## 5.5.5 Continuity and progression

Data relating to the limitations of continuity and progression between school geography and academic geography are summarised below in Table 5.10. Three sub-themes were generated: i) the introduction of unfamiliar core content in the 2014 reforms to A-level; ii) epistemic differences between school geography and academic geography; iii) prescription and restriction (or lack of) in geography curricula. To a degree, these sub-themes relate to the cognitive skills gap identified by Tate and Swords (2013), one aspect of which was the differences in pedagogical experiences between school and university. These were described by interview participants as relating to barriers to communication and awareness in the subject community, and are therefore discussed in section 5.5.1.4.

| Theme | Participant Quotes |
|---|---|
| The introduction of unfamiliar core content in the 2014 reforms to A-level | *So trying to teach 16… only just turned 17 sixth-formers the abstract concepts like sense of place through things like music, art and other forms of media… It's really a very difficult topic to teach, because at 16, 17 years old, you look outside your window, and it's the town, or it's the countryside, and then you can build on that. But then, trying to get them to think of these really abstract ideas that we can represent place through music, that took a lot of time to plan effectively and decide how we were going to teach it, to kind of hold their hands along the way.* (Corran, 56-61) |
| | *I mean, it was a mindset shift for us as teachers as well. This is new to us… how do we deliver* [new A-level content] *effectively, and so that was a challenge. It almost felt that there was* [sic] *significant elements of sociology being brought in. So it was that that boundary-crossing between topic areas as well. And if you're in a department which is primarily physical geographers, who has the adaptability and the flexibility to take on board that element of sociology and human geography when it's completely alien to us as well, possibly.* (Corran, 121-126) |
| | [In relation to the need for CPD support] *Especially with the effect of filtering down, A-level content suddenly in GCSE, and in preparation for GCSE some of it was being taught by non-specialists in Years 7 and 8, because you need to plant the seed with some of those sets.* (Corran, 149-151) |
| Epistemic differences between school geography and academic geography | *…and yet, I think we've lost something in the A-level specification change. If I go back to when I started teaching the old AQA 2030 spec, with David Redfern as chief examiner and "Evaluate the theory of plate tectonics and how it evolved", "Evaluate the theory of this" and there were questions, even in the physical geography topics, where you were forced to say, well, Wegener argued this, and then Vine and Matthews argued this, and how do we construct and weigh those things up, and to recognise that humanity in that construction. So I think it can be done. I just … yeah, I don't know.* (Philip, 161-167) |
| | *If and when I think of the words 'boundary crossing' in the context of school geography or academic geography, my mind goes to theories or concepts that are taught in school that are potentially taught or re-taught or research that breaks the misconception of – at university level – I remember at university, literally the lecturer in one of the first weeks of the undergrad going, 'everything you learned about the urban environment you can ignore, you can forget. So whatever you've learned at A-level, I'm going to teach you what you need to know and what is correct. What you've learned is essentially wrong, or not what we need.' And I'm like, 'Oh my God. okay.' So if I'm thinking about the word boundary-crossing, the difference between … or the skill level,* |

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| | *essentially the skills required for school and skill required for academic learning or academic courses, those two, I guess.*<br>(Cole, 202-211) |
| | *Plate tectonics or plate theory has.. not changed, it's always been there, but the concept or the theories behind are very watered down at lower school but will get a bit more ramped up for GCSE level, and then we sort of unpick those at A-level. And certainly the geology side of our subject, the way it interacts at university at academic level. The other thing which you mentioned, what we're having to teach the girls right now, that will be different in a year or two years' time is in the AQA spec at GCSE we talk about the UK being interconnected within the wider world and being a member of a trade group or trade associations, and since that was published, we've left the EU and lots of trade links are still developing [inaudible] and so for us … literally you'd have to go, I know we've left the EU but this is what AQA want you to learn. And it's not true to the current geography that we have.*<br>(Cole, 225-234) |
| | *So I think students do really well at taking their knowledge from what they've learnt in schools and transferring it to university. And I think that is a great … that's a great movement of knowledge and understanding. However, I think there's a lack of understanding about what happens in schools at university level, so they almost dumb it down a bit. And then they don't realise where these students have come from, what they have and what they can do and how they've been taught. So there is this one-way movement. But then I think there's almost a barrier to the boundaries from the university to the schools.*<br>(Charlie, 50-56) |
| Prescription and restriction (or lack of) in geography curricula. | *So yeah… it works both ways. We were a little bit more hesitant at the start that… it was being dictated that we had to do certain things because the universities wanted students to have those skills.*<br>(Corran, 77-78) |
| | *…the one big thing to consider would be field work. Where actually – and this isn't necessarily from the university, it's from the exam boards – that is one area where we are very dictated to about what we have to deliver, and that does put constraints in terms of what we're able to do in terms of costs, within the school timetable, and so that is the one area where our pedagogy is very much dictated by an external actor. How much are the universities saying to the exam board about fieldwork, I don't know.*<br>(Corran, 290-295) |
| | *…there's a weird tension between the sort of QAA Statements of what geography and earth science degrees should be in principle, but there's no prescribed curriculum, which means that a geography degree or a geography curriculum is constructed primarily based on the research interests of the geographers who are delivering it. Which means that* |

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| | *the space changes significantly depending on who you've hired that year. You could change the nature of your geography department by hiring two or three staff who bring with them some researchers at university level. You would never do that in a school environment. The curriculum is the curriculum. You might hire someone who's a physical geography specialist at A-level teaching, but they don't get to rewrite the entire curriculum and reconceptualise what the space is. Whereas at university level that happens far more regularly.*<br>(Philip, 70-79) |
| | *…the best teachers at A-level are the ones who say, "Yeah, that is a really good question. We don't have the answer to that yet." And they say "we" as if they are part of the discipline and they bring you into the discipline by saying "we don't have the answer." But I think if you were to try and mandate that from a curriculum point of view, it would become reductionist very quickly.*<br>(Philip, 134-147) |
| | *…you have a new spec put into place to teach, and now we come to the end of that cycle. So we've gone through that period of introduction to a new step, knowing that with all the changes that have happened in the world, now we're coming to the end of its life cycle.*<br>(Cole, 241-244) |
| | *I work in a school that is an Academy. We don't have to follow the national curriculum but we follow the specifications at A-level and GCSE because if we didn't, the students wouldn't do well and [inaudible] what's going on here, why aren't the students getting the results? In key stage 3, even though we don't have to follow the national curriculum, Ofsted will ask us, why are you not following it, what is your reasoning for following your own ideas? We are restricted in what we can teach, whereas universities can teach whatever.*<br>(Duncan, 308-313) |

Table 5.10: Limitations to more closely connecting school geography and academic geography: Continuity and Progression in Knowledge Between School Geography and Academic Geography.

#### *5.5.5.1 The introduction of unfamiliar core content in the 2014 reforms to A-level*

Corran was the participant who most reflected on the A-level reforms of 2014 in relation to the connection between school geography and academic geography. He identified some opportunities that had arisen from the reforms (section 5.6) but was also open about the

challenges faced by students and teachers when encountering content that was, at that time, unfamiliar. Corran's initial concerns were for the increased demands on students:

> *So trying to teach 16… only just turned 17 sixth-formers the abstract concepts like sense of place through things like music, art and other forms of media… It's really a very difficult topic to teach, because at 16, 17 years old, you look outside your window, and it's the town, or it's the countryside, and then you can build on that. But then, trying to get them to think of these really abstract ideas that we can represent place through music, that took a lot of time to plan effectively and decide how we were going to teach it, to kind of hold their hands along the way* (Corran, 56-61).

These demands were also felt by teachers, as reported by Corran:

> *I mean, it was a mindset shift for us as teachers as well. This is new to us… how do we deliver* [new A-level content] *effectively, and so that was a challenge. It almost felt that there was significant elements of sociology being brought in. So it was that that boundary crossing between topic areas as well. And if you're in a department which is primarily physical geographers, who has the adaptability and the flexibility to take on board that element of sociology and human geography when it's completely alien to us as well, possibly* (Corran, 121-126).

It is clear from Corran's experiences that the A-level reforms had pedagogical impacts on the way that school geography was delivered, not only at KS5 but earlier in the geography education journey too (Corran, 149-151). This need to introduce high-quality geography education in all phases of education, beginning with primary geography, was identified in a number of ways by participants, including in comments from Marie and Charlie regarding outreach and engagement (section 5.5.1).

*5.5.5.2 Epistemic differences between school geography and academic geography*

A lack of communication and awareness between schools and universities was identified as a limitation to more closely connecting school geography and academic geography (section 5.5.1.4). Charlie (50-56) in particular reported feeling that universities were not aware of the knowledge that students acquired through school geography, and the ways in which they had been taught. However, Cole (225-234) gave an example of where she had experienced limitations arising from differences in knowledge between school geography and academic geography, specifically around the development of theories of plate tectonics; Ofsted (2023) suggests this is an ongoing issue with the teaching of tectonic activity. Reflecting on her own academic geography experience, Cole (202-211) recalls becoming aware of these kinds of differences in knowledge between school geography and academic geography through a university lecturer early in her undergraduate education who suggested that the geography that students had learned at A-level was incorrect. Interestingly, it was also tectonic activity that Philip (161-167) selected as an example of the epistemic differences between school geography and academic geography. There are links here to disciplinary literacy, identified by Tate and Swords (2013) as a cognitive skills gap in the 16-19 transition.

*5.5.5.3 Prescription and restriction (or lack of) in geography curricula*

When talking about his experiences with the A-level reform in 2014, Corran (77-78) expressed concerns, having been conscious of the ALCAB (2014) consultation process, that the A-level content had been dictated by the needs of universities. Corran's sense that universities may

have been prescribing the content of school geography to meet the needs of academic geography was one aspect of curriculum prescription and restriction raised by the interview participants, and Corran recognised that universities may not be the only 'actors' responsible for this prescription:

> *…the one big thing to consider would be field work. Where actually – and this isn't necessarily from the university, it's from the exam boards – that is one area where we are very dictated to about what we have to deliver, and that does put constraints in terms of what we're able to do in terms of costs, within the school timetable, and so that is the one area where our pedagogy is very much dictated by an external actor. How much are the universities saying to the exam board about fieldwork, I don't know* (Corran, 290-295).

Earlier in this chapter, Philip's reflections on the relationship between the staffing of academic departments and the curriculum that they deliver was identified as a potential limitation arising from workforce issues in academia (Philip, 70-79). Duncan (308-313) voiced firm views on what he perceived to be different levels of restriction in the curriculum for school geography and academic geography, and Cole also referenced similar restrictions to school geography:

> *…what we're having to teach the girls right now, that will be different in a year or two years' time is in the AQA spec at GCSE we talk about the UK being interconnected within the wider world and being a member of a trade group or trade associations, and since that was published, we've left the EU and lots of trade links are still developing* [inaudible] *and so for us … literally you'd have to go, I know we've left the EU but this is what AQA want you to learn. And it's not true to the current geography that we have* (Cole, 225-234).

There appear to be tensions between the geography that Cole wants to teach and the geography that is credited by awarding bodies, and this was also raised by Juniper (37-41). The rate of policy change – the development of examination specifications and assessment

frameworks, for example – is different to the rate of knowledge production in the academic discipline. Philip (134-147) identifies other tensions related to the curriculum, seeming to suggest that developing disciplinary literacy might be an ideal that is difficult to achieve within the reality of the school geography curriculum. There are connections here to the theme of engagement (or lack of) with the academic discipline in school geography (section 5.5.2.3).

## 5.6 What do stakeholders perceive to be the benefits (or 'opportunities') of more closely connecting school geography and academic geography?

Similarly, the scope of this RQ evolved somewhat throughout the research process in relation to 'benefits'. Again, in reality both academic literature and the collected data demonstrate clearly that participants reflect not only on benefits, but also on opportunities, advantages, and positive experiences. In this section, the data pertaining to the benefits of more closely connecting school geography and academic geography are outlined and discussed. In most cases, these benefits were framed in the data as opportunities and although not intentional, the themes that were generated aligned broadly with the limitations and challenges that were identified by participants. Opportunities have therefore been grouped into the same five broad themes as the limitations: i) subject community; ii) geography's identity; iii) application of disciplinary knowledge; iv) the 16-19 transition; v) continuity and progression in knowledge between school geography and academic geography, although slightly different sub-themes were generated in relation to benefits than those arising from limitations. That participants were able to propose solutions to the problems that they had identified elsewhere in their data

is perhaps of no surprise. This natural inclination towards problem-solving can be seen as characteristic of the geographical practice and geographical skills inherent in the disciplinary knowledge of the subject (QAA, 2022b) and therefore to be expected from participants who are themselves geographers.

### 5.6.1 Subject community

Data relating to opportunities and benefits rooted in the subject community are summarised below in Table 5.11. Four sub-themes were generated: i) characteristics of successful connections between school geography and academic geography; ii) effective knowledge transfer and responsible gatekeeping; iii) opportunities for boundary-crossing; iv) aspirational outreach and engagement.

| **Theme** | **Participant Quotes** |
|---|---|
| Characteristics of successful connections between school geography and academic geography | *But then on the other side of it, the university were very, very good. And so a lot of the universities, along those lines of that same topic [sense of place] delivered CPD sessions and put out information. So we went to…I think we actually came to Birmingham once, we went to another university as well, and did some of the CPD sessions. They brought in some GIS along with it as well – because that's still quite topical as well, where you try to squeeze that in to the spec.* (Corran, 61-65) |
| | *It will be interesting to see where those boundary-crossings go in the future. I've not seen as many things from university after those initial couple of years to develop that CPD, but then at the same time, I've not been proactively looking, because I feel comfortable enough to do it.* (Corran, 66-69) |
| | *One of our graduates is actually here now, she finished a few years ago and is doing her geography teacher training with us. She went off to university to study geography, and she is also very musical. At the time in Year 12 when I taught the abstract concepts of 'sense of* |

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| | *place' through art and music, she didn't really get it as a concept. However, it's actually what she based her dissertation on – about how music can influence sense of place. She actually came back and interviewed myself and a couple of other people in the department.* (Corran, 151-156) |
| | *On an individual basis, some academics are very happy to work with schools,* [inaudible] *to give talks to students. Other local universities are really supportive of schools to get them in and work with those schools.* (Duncan, 83-85) |
| | [University Y has] *done a lot with the virtual reality resource they did last year and they're very happy to give talks, they're doing stuff on Malawi now, on top of the VR stuff. But they've always seemed much more open. I think partly because they're a smaller university, they've got to get people onto their courses, they're looking at getting more locals.* (Duncan, 118-121) |
| | *When I approach academics for talks, I look for a) have they done one before, so they're more likely to do one again, if they've got one they don't have to rewrite. I have a look at what students and schools have asked for. Is there a niche, is there something that they want a talk on? I'll then look around. With the access to Zoom and things like that, which we have got, we can get speakers… if they're in Leeds and they can't afford the one and a half hour journey each way, well, we can still do a talk, we can do it from your office on Zoom. So we've found that some speakers are more willing to do it because they don't have the travel time. I think that's important - they are busy people. And if you're travelling to a school, that could be two hours each way, and not being able to do work when you're travelling.* (Duncan, 149-157) |
| | *We had a speaker face to face… That was our first face to face talk since Covid. We didn't have many people there, but the fact that he could interact with the young people in the room more easily, they got more out of it with it being face-to-face. So I think from that perspective, you get better interaction. The disadvantage obviously is not all schools can get out. So the Zoom ones, the schools can access it somehow. Often teachers can't get out of school before 4 o'clock.* (Duncan, 167-173) |
| | *…the solution is the same as all of the solutions, which is we need to fund it better. If you had significantly more funding and people weren't scrabbling around to just about survive on the research* |

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|---|---|
| | *funding that was available, then they'd have the time in their day to do the… Funding is always the solution.*<br>(Philip, 499-502) |
| Opportunities for boundary-crossing | [Teacher in Department] *went to Bangor University to do her geography degree originally. And our field studies centre that we used was in north Wales, so we were in the area anyway, it made sense.* [Teacher in Department] *reached out and we went from there and focused our field work provision on studying an element of the university. When our field studies centre shut down, we then said 'well actually why don't we stay in the university halls if they're available at a certain times of the year?' so then we took that next step and it's now our base of operations for north Wales fieldwork. Without* [Teacher in Department] *I don't know where we would have ended up going, so it's very much down to the staff you've got being able to tap into those relationships.*<br>(Corran, 94-101) |
| | *I work in a Faculty of Education and I've tried my hardest to network with geographers and many of them have been really, really accommodating. They've really engaged with me. They've given me opportunities, and I've had really interesting conversations. But my area of geography is … I'm interested in geography education, all the way through from early grades to postgraduate, children's and young people's geographies, and geographies of education and education spaces. But that's still a really narrow area of geography. I'm not speaking to geologists or earth scientists. I'm not in a geography department either. I've been to a couple of meetings or talks, but I am only able to recontextualize some elements.*<br>(Juniper, 86-93) |
| | *I'm interested in the positioning of the teacher educator. So, for my own selfish reasons, I want to develop as an academic, do research - well, not selfish because it's to give to the community, to make a citizenship contribution to disciplines and things like that. But I do want to do things like research supervision and conduct research. But I feel very committed, very committed, to going into schools because I think that there are so many people that just sit in their ivory towers. And obviously I see things in classrooms. I can help the student do practical theorising because I've taught the lectures or given the seminars. But I have a chat with the student, I see what's happening in classrooms, but I have a chat with the mentor. They often take me to the staff room and I'm engaged with staff room conversations… and going in and talking to children and to colleagues, I feel it stops me just being – obviously I am in an ivory* |

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|---|---|
| | *tower and I'm really privileged to be in the position I'm in – but I feel very committed to doing that.*<br>(Juniper, 93-103) |
| | *I think that there's a lot of teachers that want to engage with you, want to develop, want to take part. Obviously they face some barriers in terms of time and being let out of school. But I also think there's some people involved in researchED because that's a form of progression for them. That's how they can do things. And often it's cheap or free and they can get themselves down as presenting and they can get kudos within their communities and schools.*<br>(Juniper, 159-164) |
| | *Even talking about all the other school events that go on, the majority of those are known associates or known people. Most of our careers … when we talk about girls going to a work experience placement, most of those lists are historical, developed through our relationships with those businesses or those clientele so absolutely, it's very much who you know before what you know.*<br>(Cole, 488-492) |
| Aspirational outreach and engagement | Vignette, Figure 5.3. |
| | *I guess one of the interesting conversations that geography has that perhaps other subjects don't, is what is the role of subject associations or subject organisations in bridging the gap? If you look at the work of the GA or the RGS, how does that sit by comparison to other subjects? How does that sit by comparison to the theoretical perspective of who should be bridging the gap? Schools' job is to deliver A-level results. Universities' job is to deliver research. Whose job is it to look out for 'client geography', if you like. Is that something that subject associations or subject organisations ought to be doing? And to what extent are they? Geography is very lucky. We've got two very strong ones. They do slightly different things. Do they talk to each other as much as they might do? Probably not.*<br>(Philip, 510-518) |

Table 5.11: Benefits of more closely connecting school geography and academic geography: Subject Community.

#### *5.6.1.1 Characteristics of successful boundary-crossing between school geography and academic geography*

Two participants in particular reflected on experiences that they felt had connected school geography and academic geography, which can be defined as successful boundary-crossing. Both participants – Corran and Duncan – are situated in the **teacher** community. Corran's experiences were more historic, linked specifically to the introduction of unfamiliar A-level content following the curriculum reforms of 2014. Whilst this curriculum reform was also the root of some of the limitations and challenges discussed in section 5.5.5, Corran also reported some positive experiences relating to the way in which geography teachers in schools had been supported by academic geographers through effective CPD (Corran, 61-65). This suggests that universities had taken the opportunity to support geography teachers not only with the disciplinary knowledge required for the newly introduced A-level (place is a key concept of the disciplinary knowledge of geography, as discussed in Chapter 2, and Chapter 4 as DK-KC-Pl) but also with the application of disciplinary knowledge through spatial data (DK-A-SD) by supporting geography teachers with GIS. As highlighted by the literature review in Chapter 2, the use of GIS remains a weakness observed in school geography (Ofsted, 2023) but the document analysis presented in Chapter 4 suggests that it is a strong feature of academic geography (QAA, 2022b). It seems highly beneficial therefore that GIS (and more broadly, a focus on the application of spatial data, and geography as a spatial science) could be an area for successful boundary-crossing between schools and universities.

Corran (66-69) did note that there was less evidence, for him, that this support from universities had continued following the initial CPD opportunities that were extended around the time of the A-level reform and the first teaching of new A-level specifications commencing in September 2016. More recent evidence from Ofsted's (2023) school report would suggest that, although GIS has been a statutory component of geography curricula at KS3, KS4 and KS5 for some time, it remains an area in which connections between school geography and academic geography might lead to continued improvement of the use of GIS, an important aspect of geography's application of disciplinary knowledge as outlined in the GACF. Corran acknowledges that he feels he no longer needs the support of academic geographers with what has now, a decade on from the A-level reforms in 2014, become familiar rather than unfamiliar knowledge. There may, however, be other geography teachers – especially ECTs – who would benefit from CPD support from academic geographers. There could be two reasons why this support is still required. Firstly, the teacher recruitment crisis discussed in Chapter 2 has led to an increase in the proportion of teaching hours at A-level delivered by teachers without a subject-specialism (HM Government, 2024e) and these teachers are substantially less likely to be familiar with geography's disciplinary knowledge. Secondly, it can be inferred that Corran has developed over time a base of curriculum knowledge, alongside subject knowledge, that allows him to deliver content confidently. ECTs have not yet had sufficient time to build their curriculum knowledge. These two factors combined mean that support from academic geography for the delivery of high-quality geography education in schools is as necessary in 2024 as it was in 2014. However, there are also opportunities for ECTS, particularly those who are recent graduates, to make positive contributions to curriculum-making (Puttick, 2017) that begins to more closely connect

school geography and academic geography. Corran gave an example of this from his own geography department:

> *One of our graduates is actually here now, she finished a few years ago and is doing her geography teacher training with us. She went off to university to study geography, and she is also very musical. At the time in Year 12 when I taught the abstract concepts of 'sense of place' through art and music, she didn't really get it as a concept. However, it's actually what she based her dissertation on – about how music can influence sense of place. She actually came back and interviewed myself and a couple of other people in the department* (Corran, 151-156).

Duncan's experiences of successful connections between school geography and academic geography have occurred over a sustained period of time, and relate to Duncan's commitment to seeking opportunities for students (and teachers) in schools to hear from academic geographers (Table 5.11). Some of the issues raised, for example travel time and costs (Duncan, 149-157), highlight practical considerations that might enable more successful boundary-crossing between school geography and academic geography, and these are discussed further in RQ3. However, what Duncan also identified is the importance of the subject community understanding the variety of needs and pressures faced by members of that community. A deeper shared understanding across the community is highlighted here as resulting in more easily facilitated connections between school geography and academic geography, but may also go some way to addressing some of the barriers, tensions and limitations raised by participants and discussed in section 5.5.1. A final practical note on the facilitation of boundary-crossing came from Philip:

> *…the solution is the same as all of the solutions, which is we need to fund it better. If you had significantly more funding and people weren't scrabbling around to just about*

> *survive on the research funding that was available, then they'd have the time in their day to do the… Funding is always the solution* (Philip, 499-502).

This links back to similar themes around financial tensions across the education sector, discussed briefly in Chapter 2. It is hoped that the contribution that this thesis makes to the field of knowledge may enable institutions – schools and universities – to justify offering their resourcing and financial support to endeavours designed to more closely connect schools and universities.

#### *5.6.1.2 Opportunities for boundary-crossing*

Juniper reflected on her own positionality in relation to boundary-crossing between school geography and academic geography:

> *I'm interested in the positioning of the teacher educator. So, for my own selfish reasons, I want to develop as an academic, do research … But I feel very committed, very committed, to going into schools because I think that there are so many people that just sit in their ivory towers … going in and talking to children and to colleagues, I feel it stops me just being – obviously I am in an ivory tower and I'm really privileged to be in the position I'm in – but I feel very committed to doing that* (Juniper, 93-103).

The full comment from Juniper can be found in Table 5.11, but this excerpt highlights the position that Juniper feels is occupied by geography teacher educators. During the interview with Juniper, it was speculated (between interviewer and participant) that teacher educators may have a 'fluency' in the language of different educational spaces, especially of schools and universities, that enables them to boundary-cross in a distinctive way. Juniper (86-93) did, however, identify some challenges arising from her position, and to an extent her experience

echoes the barriers expressed by Charlie (118-122, in section 5.5.1.4) as having been encountered in her work as a teacher educator with colleagues delivering undergraduate geography programmes.

Juniper (159-164) also described the potential for attendance at conferences as an opportunity for boundary-crossing; in particular, for academic geographers (and, in Juniper's case, geography teacher educators) to attend conferences aimed at the teaching workforce. The example given by Juniper was researchED. researchED (2024, n.p.) describes its goal as '…to bridge the gap between research and practice in education' and specifies 'researchers, teachers, and policy makers' as those that researchED seeks to connect. In spite of this intended reach across different actors in the education sector, Juniper reflected on the resistance she faced when proposing to colleagues that she should attend this kind of conference. There are links here to gatekeeping, raised in section 5.5.1.2 as a barrier faced in the subject community.

*5.6.1.3 Aspirational outreach and engagement*

This theme was developed most strongly in an extended discussion in the interview with Philip. This is presented below in Figure 5.3, as a vignette taken verbatim from two sections of the interview transcript, in which an analogy of the relationship between school geography and academic geography begins to emerge.

Researcher: I wonder if you could offer your own analogy or adjective or phrase to describe the nature of the relationship between school geography and academic geography in your view.

0:26:9.0 --> 0:28:58.820
Philip: I think it's worth stepping back from that and recognising that the education element in that changes the dynamic. If we think about geography as the discipline of geography and purely the subject of geography – rather than geography, education and teacher training and the kind of worlds of how we educate people in geography, set that aside – I think geography and school geography are sort of cousins. It's like getting together with your cousins at Christmas and you're sat on the kiddie table and the grown-ups are over there talking about their stuff in much more detail. School geography is the kiddie table. You do a little bit of a lot and that's very nice, but over here you're going to join the adults, and we're going to talk as glaciologists or climatologists or political geographers or whatever. And you've had a little bit of everything, sort of a little bit pre-cut up for you, thank you very much, so that you can eat it and chew it down a little bit easier. But over here, if you want to survive at the adult table, get your elbows out, get your own food, capture - you know. There's a thread of connection, there's a thematic similarity, but the specialism and the rigour and the extent to which you really are part of the wider community versus not, changes. Are you in a geography department at university for convenience, or are you in it because you genuinely see yourself as a geographer? If you ask a university academic to define themselves, what do they identify as? Do they identify as geographer, or are they identifying as a glaciologist or 'I'm a historic geographer', or whatever it might be. And I think there'll be a difference in the physical versus human spaces. I think physical will be much more divisive. I think human will be much, much broader and a little bit more synoptic. But I think A-level geography is, you have to do a bit of everything… you have to have breadth; depth is less important. So sort of cousins, I don't think frenemies, I don't think there's a tension. But I think there's a divide in terms of we're the grown-ups, you're the children, from the university perspective versus the school perspective. We know lots more about our subject, you know less about our subject. There's a sort of kiddie table, almost.

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0:31:23.900 --> 0:32:12.250
Researcher: My second follow-on relates to your great analogy. So let's go back to the kiddie table and the grown-ups table. I suppose one of the questions that hopefully makes this kind of research pertinent is, for the greater good of the discipline, for the future of the discipline… How do we make sure that the kids at the kiddie table stay in the family? How do we make sure that in a few years' time they're rocking up for Christmas again to sit on the grown-ups table rather than going, "That kiddie table was boring. I'm not interested anymore"?

0:32:12.570 --> 0:36:5.180
Philip: Yeah. I think there are three or four layers to the answer to that. The first is intrinsically subject focused. Are the curriculum choices that we are making allowing them to see the relevance of the subject in what they do? And I think we're seeing in the data, not just in terms of subject entries, but also how people are talking about it, that the focus on climate and sustainability, on green careers, on wanting to make a difference and be part of something, is inherently aligned with some form of geographical values for most people. So there's a subject

thing. Can you see yourself doing this thing? Can you see this being relevant? Linked to that - and Steve Brace at the RGS has done a lot of work on this and spoken on this before - but can you see the utility of that for a careers perspective? And increasingly I think the challenge there is… whose kids? Danny Dorling talks about geography as the preserve of white middle class, not particularly bright, kids. Geography is a nice option that you can go and do. Your parents recognise it. You can go and do it at a Russell Group university. You can travel a bit. You can be a thoroughly awfully nice geographer and an awfully nice human being. If you're working with kids from a disadvantaged background, they want their children to be doctors or lawyers or something, where the vocational element comes across more. And how do you tackle that in terms of the marketization of geography from a social justice perspective and from an access to geography perspective? I think the two other threads for me are demystifying and empowering scholarship, so recognising that good geography doesn't have to be highly convoluted…really complex words like ontology and epistemology… You don't have to talk like someone who has a PhD in education in order to be a great geographer. The lived experience, the perspectives are really good. How do you demystify and encourage access to scholarship? *[lines 344-45 redacted]* But how do you empower the kiddie table to feel like their contribution is just as valid as Professor-so-and-so, who uses awfully long words to say exactly the same thing? And then I think that the fourth strand of it is about levelling the playing field of access and saying if a really interesting geography book is £75 to buy, you're not going to buy it. If really interesting geography articles require a hugely complex journal subscription, you're not going to buy them. If you can get other content freer and easier, and you can read it at a more engaged academic level with big ideas and get into another big concept, then you'll be captured by that. And if you gate-keep in the academic sense and say, 'oh no, we must restrict publication or we must…' How many great geographers are doing good outreach and good stuff? *[lines 353-354 redacted]* How many people talk about Tim Marshall and his popular stuff? How many people talk about David Attenborough and Iain Stewart as examples of people doing great geography and asking really interesting things without being intimidating or hugely expensive? And I think between those four strands, there's an answer somewhere.

0:36:6.250 --> 0:38:24.840
Researcher: Yeah. I don't want to over-labour the analogy, but I guess that's about a couple of really engaging, interesting adults from the adult table nipping over to the kiddie table and talking to them on their level, crouching down at the table, asking them things in words that they can understand. Also, I think there's something around visibility of, can you see the academic world?

0:44:25.920 --> 0:45:2.700
Philip: I know. And that's the difference between gatekeeping and not. Someone who understands that outreach and getting more people onto the table, not necessarily making the effort to go down to the kiddie table, but just occasionally looking around and going, how do I make this table look more interesting? How do I make sure that what I'm serving at this table is cool? That's someone who instinctively got that, I think, and was a great communicator of science, not just a great scientist.

Figure 5.3: Aspirational outreach and engagement – a vignette (Philip).

The vignette in Figure 5.3 addresses many of the interconnected themes raised in this chapter, and the reader will recognise quotes that have been replicated elsewhere to exemplify other themes. However, read as a whole, this exchange begins to outline what aspirational outreach and engagement might look like. Philip's analogy of school geography and academic geography being 'cousins' suggests that the subject community is a form of family, with family members having different interests and priorities, but a shared experience and a strong connection.

### 5.6.2 Geography's identity

Data relating to the opportunities related to geography's identity are summarised below in Table 5.12. Two sub-themes were generated: i) geography's breadth, depth, and interdisciplinarity; ii) progress towards representation in geography.

| **Theme** | **Participant Quotes** |
|---|---|
| Breadth and depth | *I'm a passionate geographer, but then some of the framing of social studies can support thinking about places in different ways. Because you're thinking about place with a historical lens as well. And also this kind of citizenship is worked in in a different way. Some of it is under-theorised and there's problems with it, but I'm quite up for someone telling me, or having a debate with me, about the advantages of social studies over geography, because that will either change my opinion or it will enable me to work out why my viewpoint is different. So I think it's healthy for there to be different actors with different viewpoints.* (Juniper, 368-374) |
| | *I think we recognise that geography at school level leads into a broader thing than just geography at university level. So if we encompass it into geography and environmental or earth sciences and the range of things that are embedded within that, I think the relationship is positive. If we exclusively limit it only to geography and geography degrees, it's less positive. I think it's still there, but I think it's less positive. I think it's less directly correlated.* (Philip, 297-302) |

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|---|---|
| | *Lots of universities or some universities - lots of is probably a bit of an overstatement – but some universities are making students do interdisciplinary modules as part of their undergraduate degrees now. And should we be having … because there are some things that geographers alone can't solve. We can't solve climate change alone. So is it right that we just teach children solely geography? My personal philosophy is that geography makes a valuable contribution to a person's education. I really buy into that. But geographers often produce knowledge through boundary-crossing and through networking. Look at Peter Kraftl's work. He's working with health professionals in terms of children's entanglements of plastics, he's doing all his stuff on treescapes. He's got anthropologists involved, people really into citizenship. So his work is interdisciplinary. I think children, and I think teachers, need an understanding of disciplines to be able to think in interdisciplinary ways. But I don't think that we should just be teaching three subjects in schools. Maybe we can teach three subjects some of the time, and there's obviously some day-to-day … or the majority of the time. But is there a value of an interdisciplinary project once a year or something? And I appreciate that timetables are a nightmare, but geographers don't just sit and talk to geographers, do they?*<br>(Juniper, 410-423) |
| Representation | *The demographics of my school is predominantly White Caucasian or Eastern European White Caucasian, and to have engagement with people of - women, certainly, and men of colour and different backgrounds and diversity of backgrounds, that really shone a light for some of those girls that follow or have that attribute. So to them it was like, oh wow, there's a woman here who's CEO or leads this, or got to this, or* [inaudible] *and, oh, wow, there are people who look like me in these positions.*<br>(Cole, 128-133) |
| | [Chris Jackson] *was brilliant. I was inspired. I felt I wanted to do another degree or do my degree again.*<br>(Cole, 145-146) |
| | *Thinking of that phrase* [boundary-crossing] *in the immediate, it's 'how do I get the students to cross that boundary' is how I respond to that, because I'm very conscious that the boundary is there, and I feel like I am somebody who has crossed the boundary, who has experience of crossing that boundary, and it is my responsibility to enable students to feel like they can cross that boundary. because, especially the students that I work with, I work with disadvantaged boys. Nearly all of them are of ethnic minority status. And there is a very big barrier actually within geography about whether they deserve to cross that boundary. It's almost like they don't deserve it… they* |

| | |
|---|---|
| | *don't have the right to do that. So part of my role is to encourage them and prove to them that they do have the right.*<br>(Marie, 50-57) |
| | *Danny Dorling talks about geography as the preserve of white middle class, not particularly bright, kids. Geography is a nice option that you can go and do. Your parents recognise it. You can go and do it at a Russell Group university. You can travel a bit. You can be a thoroughly awfully nice geographer and an awfully nice human being. If you're working with kids from a disadvantaged background, they want their children to be doctors or lawyers or something, where the vocational element comes across more. And how do you tackle that in terms of the marketization of geography from a social justice perspective and from an access to geography perspective?*<br>(Philip, 335-342) |

Table 5.12: Benefits of more closely connecting school geography and academic geography: Geography's Identity.

*5.6.2.1 Geography's breadth, depth, and interdisciplinarity*

Philip (297-302) specified the benefits of viewing geography in broad terms, so as not to lose the richness of the academic discipline and its cognates. The identity crisis that geography faces is discussed extensively in academic literature (Chapter 2) and was also identified as a limitation to more closely connecting school geography and academic geography in this chapter (section 5.5.2). Here, however, Philip views geography's identity from a slightly different perspective, identifying that the discipline's breadth can be seen as a benefit. A similar view was expressed by Juniper (410-423) when reflecting on geography's interdisciplinarity, and the knowledge that can be produced through interdisciplinary boundary-crossing. The value that Juniper places on interdisciplinary debate is further highlighted:

> *I'm quite up for someone telling me, or having a debate with me, about the advantages of social studies over geography, because that will either change my opinion or it will enable me to work out why my viewpoint is different. So I think it's healthy for there to be different actors with different viewpoints* (Juniper, 368-374).

Both Philip and Juniper seem to see interdisciplinarity as an opportunity and not a threat, although elsewhere participants identified some of the challenges associated with interdisciplinarity (section 5.5.2.2).

*5.6.2.2 Progress towards representation in geography*

The challenge of representation in geography was a theme that was identified as a limitation to more closely connecting school geography and academic geography, from the participants (section 5.5.3.4) and from the document analysis (Chapter 4). However, participants also identified opportunities and successes in relation to representation. Marie and Cole gave examples relating to their own practice of how they had begun to address issues of representation in the discipline and had seen some success. Marie (50-57) expressed this as being a personal responsibility, particularly in relation to raising aspirations in her own students:

> *…it is my responsibility to enable students to feel like they can cross that boundary, because, especially the students that I work with, I work with disadvantaged boys. Nearly all of them are of ethnic minority status. And there is a very big barrier actually within geography about whether they deserve to cross that boundary. It's almost like they don't deserve it… they don't have the right to do that. So part of my role is to encourage them and prove to them that they do have the right* (Marie, 50-57).

Similarly, Cole (128-133) had invested time and effort in providing opportunities for her students to 'see' themselves in the discipline, particularly in geography-related careers. Both Marie and Cole seemed to suggest that there are opportunities to address barriers of gender and of race through improving representation in the discipline, with Cole also reflecting

explicitly on the inspiration she had taken from engagement with the prominent geoscientist, Professor Chris Jackson (Cole, 145-146). However, during Philip's interview (401-406), he independently highlighted the discrimination that had been faced by Jackson following his selection to deliver the Royal Institution Christmas lectures in 2020. Jackson's experience was captured by Thompson (2022) in a feature in the science journal *Nature*, sharing the stories of five researchers whose experiences exemplify the work still to be done to address racism in the sciences. In the feature, Thompson reported Jackson's belief that '…UK-funded science is "definitely institutionally racist" and that senior white scientists do not recognize the ways in which racial biases permeate their institutions' (Thompson, 2022, p. 436). Jackson has subsequently left academia (Thompson, 2022).

Other aspects of diversity that need to be addressed by the subject community were absent from the participants' experiences but evident in academic literature – for example, fieldwork experiences of LGBTQ+ people (the preferred term used by the authors) (Zebracki and Greatrick, 2022), the need to recognise intersectionality in fieldwork (Lawrence, 2022) and periods as a barrier to fieldwork participation in geology (Dalrymple and Lane, 2024; Walker, 2024).

### 5.6.3 Application of disciplinary knowledge

Data relating to the opportunities to strengthen the application of disciplinary knowledge are summarised below in Table 5.13. The participants' focus was predominantly on careers and

employability, which was also identified as a key theme from the document analysis outlined in Chapter 4 (section 4.5.3).

| Theme | Participant Quotes |
|---|---|
| Careers and employability | *So in partnership with the Royal Geographical Society, I ran a Zoom Meeting, but they were people from actual jobs that involve geography. So we had a GIS specialist, a town planner, and things like that. And I invited the boys into that session for them to ask questions, and that was sort of facilitated through the Royal Geographical Society, and that really helped them to understand that there is real value in a career that is based in geography; especially with the GIS analyst who was somebody… I can't remember the company… they're a company that does specialist work for the military, and they really saw the value of that. But without that experience I don't think they would have seen it.* (Marie, 75-81) |
| | *One of my many hats is being the humanities career lead. So my role or my position is to have repeated exposures of geographically or humanities linked careers to our students. I also participated in the Oxfordshire Local Enterprise Partnerships project, which was done… it's called 'Find Your Future' that was done in 2022, where we were invited to Harwell and we were introduced to some STEM employers at Harwell and then asked to use that sort of meet and greet engagement. So I met up with a company called Catapult* [Satellite Applications] *which do* [inaudible]*. But also I spoke to Dr James Wheeley at Birmingham and I approached Chris Jackson to do the second and third part of the partner project. So I used the project, my role, and just generally being cheeky enough to e-mail and ask professors' secretaries and PAs to ask for free time and engagement with geography and careers and STEM stuff.* (Cole, 110-119) |
| | *Are the curriculum choices that we are making allowing* [students] *to see the relevance of the subject in what they do? And I think we're seeing in the data, not just in terms of subject entries, but also how people are talking about it, that the focus on climate and sustainability, on green careers, on wanting to make a difference and be part of something, is inherently aligned with some form of geographical values for most people. So there's a subject thing. Can you see yourself doing this thing? Can you see this being relevant? Linked to that - and Steve Brace at the RGS has done a lot of work on this and spoken on this before - but can you see the utility of that for a careers perspective?* (Philip, 328-333) |

Table 5.13: Benefits of more closely connecting school geography and academic geography: Application of Disciplinary Knowledge.

#### *5.6.3.1 Careers and Employability*

Marie, Cole, and Philip gave examples of how the application of disciplinary knowledge to a careers context might be achieved on different scales. Marie (75-81) outlined a local-level response whereby she collaborated with the RGS-IBG to deliver an online session involving individuals who use geography in their profession. Cole (110-119) also gave similar local-level examples of work that she had done with her students. Philip (328-333) suggested that beneficial work was being done by subject associations at national-level, citing again the work of the RGS-IBG. These participant examples are also supported by the prevalence of careers-related materials on the websites of both the GA and the RGS-IBG, and recent work by Rawlings Smith and Collins (2024) which explored the potential connections between school geography and future careers in geography-related professions.

### 5.6.4 The 16-19 transition

Data relating to the opportunities for, and benefits of, strengthening the 16-19 transition are summarised below in Table 5.14. Four sub-themes were generated: i) addressing the practical skills gap and developing academic literacy; ii) addressing the cognitive skills gap and developing disciplinary literacy; iii) developing a culture of transition; iv) building familiarity with educational spaces and enabling physical boundary-crossing. Two of these (i and ii) have strong links with Tate and Swords (2013) and one (iv) builds on the more recent work of Finn *et al.* (2022) regarding boundary-crossing.

| Theme | Participant Quotes |
|---|---|
| Addressing the practical skills gap and developing academic literacy | *I think the specifics for me – and I don't know whether that's the current context that I work in, because we have a real literacy focus as a school, like a school-wide literacy focus – one of the things that I always focus on is academic styles of writing and showing them that a) they can understand the research that they read and b) they can write in that style, because a lot of the boys they'll instantly go 'oh, I can't read that. I've got a reading age of 11, I can't read that.' They'll say that, and I'll say 'no, you can.' So, for example, in my Key Stage 4 classes, I've shown them abstracts from geographic research, and I've said 'right, let's unpick this and let's see what we can learn from this'. Then they'll read it, and they'll say 'I don't know that word. I don't know 'decentralisation'.' Then we'll pick apart those specific words, and then they understand the fact that they can access academic language. It's almost like a language barrier, a literacy barrier. So I always focus on that literacy gap. I think in terms of teaching them how to read academically, that has been the biggest thing, to break that barrier as well as … Because I come from a poor background. I came from a disadvantaged family, and I'll say to them, 'just because you're from a poor family, just because you're from a disadvantaged family, doesn't mean that you don't have the right to go, that there isn't value in it. because there is'.*<br>(Marie, 136-149) |
| | *And that's more of a personal journey, that kind of 'spoken history' vibe, rather than an actual teaching moment. So the teaching moment is in understanding academic language and giving them confidence to access academic language and use it themselves. And then from the personal side, it's like a personal story, personal history, kind of 'yes, you can' encouragement. And then, when they do achieve… I had this wonderful moment with one of my students today. he achieved very well across his other subjects, but he's got a 7 in his recent mock exam, and it was paper one, so heavy rivers and coasts and that kind of stuff, and we sat for the whole of break time, for 15 minutes, just celebrating how well he'd done in his academic writing, and he really struggles with English, and he thinks that he's bad at English. And I'm like, you're not. You've got an amazing handle of academic language here, you can do it. And he's a PP student, he's from a family that is very disadvantaged. I have to provide him with lots of extra tuition because of that, and lots of access to materials because of that. But he's doing it. He is doing it. He has got hold of that academic language, and he can, and it was great to have that 15 min of 'Oh, my goodness, I did it!' So for me, it's that combination of oral history and academic language and accessing academic language.*<br>(Marie, 152-164) |
| | *So one of the things that I am really focused on is bringing down that academic language, bringing down that academic style of learning and the value of scholarship. And I'm lucky because it's part of our faculty as well, because the history department here do it as well.* |

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|---|---|
| | (Marie, 429-431) |
| | *We provide students with a range of different media so even things on social media, newspapers, journals, textbooks. Okay, you've looked at the words, you've looked at the theory of what it's saying. Let's start evaluating the quality of who's written it or where it's come from. If it was written by a bunch of people at university, it's going to be slightly more rigorous than a journalist for the Sunday Times or the Mirror or the Sun, for example. It's the quality of where it's from that we want them to focus on.*<br>(Cole, 280-285) |
| Addressing the cognitive skills gap and developing disciplinary literacy | *…you know you've done a decent job when they get the good grades in the end. But actually, how much of it is that they've just learned it to pass the exam with a surface level understanding, and how much of it have they really taken on board? And as a department part of our philosophy is that we're not just trying to get people to pass the exam. We're trying to teach them the skills to go on to be a successful geographer, whether that's at university or wherever. But we want them to be a geographer, not just somebody who passes the exam. And we have reasonable numbers who go on to study geography and things like that, but not huge numbers so it's really nice when one of them comes back and reinvigorates the department and feeds something back in.*<br>(Corran, 162-169) |
| | *I'm lucky, because I have students that come to me to talk to me, because I'm personable, and we end up talking about general economic changes. We end up talking about the relationship between politics and where people live. And they engage in those kind of higher academic conversations with me because they like being with me. But again, that is not something that is given over as part of the curriculum, that understanding their own place within the discipline and the fact that … I've always thought that the discipline of geography is about understanding life and your position in life because it is everything around you. It's understanding the processes that occur around you, and how people move and how the world moves around you. And that's why I see value in it.*<br>(Marie, 188-195) |
| | *It's usually through theme first, so what am I teaching within the specification. There have been a couple of examples. One of them was through urban challenges. And we were looking at some of the cultural influence of why people move to Mumbai. And the Financial Times actually did a really good article about the up and coming fashion industry in Mumbai and the changes brought about by the fact that billionaires live there. In terms of introducing them to academic style language, the best way to do it is through the media, because it's pared down enough for it to be accessible. But the Financial Times is quite strong in its content. I can trust it in that way. And at that point I introduced that to media bias, as well; is it left leaning, is it centre leaning? They did okay with that. And I find that it's a little bit easier to introduce it within the human side of geography, because there's a lot more that I feel is* |

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| | *accessible for them, because it's easier for them to see. So we started off with the Financial Times, and it was through that lens of, how do I get them to understand urban change and the link with culture, and how that is actually displayed in the way that things are made and produced and money is earned. And they did really well with that. That was in Year 10. And then by the time we got to Year 11, I was talking to them about transnational corporations. And that was where I introduced my first abstract. And I introduced the abstract on - I can't remember where I found the link now. It was a science education one, one of the really famous ones. They'd got a whole page of geographic research into trans-corporations [sic] reducing the development gap. So I picked out some specific research from there and added that in. Now, I've been leading change across the school in terms of how we use the, "Do now" approach, getting them into an activity straight away. And I use that for the majority of the introduction of the written academic work. So the Financial Times article, for example, was given to them, and the abstract was given to them. And the first task is highlight words you don't know. And then we go through the vocabulary side of things and understanding, and then we start picking apart the actual content of the material. So my thought process was: media is the easiest to access; how do I make sure that that media and content is well researched and well written? Then it was: Now we need to go into abstracts, and we need to get actual references, And I haven't asked them to reference, but I've introduced them to the process of referencing, and why it is important.*<br>(Marie, 333-357) |
| | *…demystifying and empowering scholarship, so recognising that good geography doesn't have to be highly convoluted…really complex words like ontology and epistemology…You don't have to talk like someone who has a PhD in education in order to be a great geographer. The lived experience, the perspectives are really good. How do you demystify and encourage access to scholarship? … But how do you empower the kiddie table to feel like their contribution is just as valid as Professor-so-and-so, who uses awfully long words to say exactly the same thing?*<br>(Philip, 342-349) |
| Developing a culture of transition | *It's different across contexts as well, because I've worked in two schools where we've got no key stage 5. Here, the expectation school-wide for attainment is very high. It's part of the ethos of the school that they aim for those 8s, those 9s, and they go on to the best colleges in the city, they go on to good universities, all part of the conversation. Whereas my previous place where it was just 11 to 16, it was: how do we get them to pass the GCSE? And that's it. And that was very much the school ethos. And it was a much bigger school, and I don't know whether that was part of the influencing factors, as to why that was the approach to curriculum, because there were over 1600 kids at that school, and all of the amount of issues, safeguarding and otherwise, that come from a cohort that big, it just left no room for scholarship, it just left no room at all. Whereas here, it is very much like we want to shape the future, and that is an ethos that is school wide. So I think* |

| | |
|---|---|
| | *that works in my favour and it's almost acceptable for me to have these conversations and have that approach because that is the overall ethos of the school.*<br>(Marie, 381-391) |
| | *I just think that leaving things like* [inaudible] *the university environment, reading university level writing, to A level - because that's where it tends to be, it tends to sit in that higher education, that 16 to 18 zone - it's too late. They need the aspiration and the access way before that. They need it in key stage 3. They need it in key stage 4. So if I could wave a magic wand and make it the way I would want it to be, I would be introducing the value of scholarship in year 8, practising the value of scholarship in year 9, reading academic literature in year 10, practising academic practice in year 11, and then they go on to the they go on to the A level. That is how I would want it. But whether that's practical with the demands of a school, and the demands of National Curriculum, and the demands of the Department of Education, because we all know what chaos that is at the moment. They're very different demands. And I don't think the Department for Education specifically, actually hold any value for scholarship. They hold value for economic productivity, not for scholarship. So for me, at the moment, university level involvement in schools is too little too late.* (Marie, 432-442) |
| Building familiarity with educational spaces and enabling physical boundary-crossing | *One thing in particular that we do is that we have a link with Bangor University, and so we go there for our fieldwork and we use their facilities… in the past they have given us a lecture on urban environments because we've been there studying Bangor as a small town. And so if as a school, you have some of those links or can develop some of those links that can be really, really powerful. Some of our students actually went on to go study there because of that relationship, or changed what they were going to study in geography from a more physical focus to a more human focus, because having gone and sat in a lecture hall and actually understood the human side of geography a little bit more… from a different voice, almost.*<br>(Corran, 70-77) |
| | *I run some fieldwork for my trainees. So during February we get some students from local schools to come in. So we usually target year 9 Pupil Premium kids to come in and do some fieldwork just from the university base, so looking at that. And what we get is students coming in and going, "Oh well, I know we're doing fieldwork, but can we go to the library? Can we go to the canteen? Can we see a lecture theatre?" And they're Year 9s going, "Oh, that's not what I thought university was like. I thought it was just sitting behind a desk". So as early as Year 9, you can start to go actually, this is what you can do.*<br>(Charlie, 112-118) |

Table 5.14: Benefits of more closely connecting school geography and academic geography: The 16-19 Transition.

*5.6.4.1 Addressing the practical skills gap and developing academic literacy*

Academic writing skills were identified over a decade ago by Tate and Swords (2013) as a practical skill commonly underdeveloped in geography undergraduates. Two participants gave examples of how they currently address this practical skills gap with their students, suggesting that some (if not, many) teachers now recognise – and proactively develop in their students – the academic skills that are required to be well-prepared for HE. Marie seemed to build these academic skills extensively, and evidence of this through several in-depth quotes from Marie's interview can be found in Table 5.14. Marie reported having a shared focus on academic literacy with the history department in her school; whilst not therefore an opportunity unique to geography, there are close links between developing *generic* academic literacy and the *geographical* skills and practice articulated in the GACF, for example observing, describing, explaining, presenting and evaluating. It was evident from the document analysis (Chapter 4) that these skills – geographical in nature, but also closely linked to a more generic academic literacy – were an integrative feature of geography and a clear aspect of continuity between school geography and academic geography.

Other forms of academic literacy, such as how to critically engage with resources, were also built into the classroom practice of Cole (280-285). Cole described attempts to begin to build her students' information literacy (UNESCO, 2023), resources related to which Finn (2022) also suggests teachers might direct their students (Waller and Schultz, 2015, in Finn, 2022; Waller *et*

*al*., 2016). For Marie, the motivation to help students develop these skills seemed also to be about inclusion and learner diversity:

> *So I always focus on that literacy gap. I think in terms of teaching* [students] *how to read academically, that has been the biggest thing, to break that barrier as well as … Because I come from a poor background. I came from a disadvantaged family, and I'll say to them, 'just because you're from a poor family, just because you're from a disadvantaged family, doesn't mean that you don't have the right to go* [to university]*, that there isn't value in it. Because there is'* (Marie, 136-149).

There are links here between the classroom practice of teachers like Marie and the progress that is being made in school geography to work towards greater representation, diversity, and inclusion.

*5.6.4.2 Addressing the cognitive skills gap and developing disciplinary literacy*

Marie was the participant who reflected most extensively on the themes related to the cognitive skills gap identified by Tate and Swords (2013). She provided two examples, both seen in Table 5.14, about her selection of materials for a case study about Mumbai and her teaching of transnational corporations. However, Marie's commitment to developing her students' disciplinary literacy appeared to extend well beyond classroom resources, as she described the frequent, everyday interactions that take place with students in her classroom (Marie, 188-195). Marie describes herself as 'lucky' to have these opportunities to talk to students about geography; I would challenge Marie's notion that her students' keenness to engage with disciplinary literacy is about luck. There is a clear sense from Marie's data that geography teacher identity is also a crucial factor in developing disciplinary literacy, and that the

willingness to create a culture in which students exhibit this kind of curiosity (noted by four questionnaire participants as central to the purpose of the school geography curriculum, see section 5.4 and Appendix 22) is generated by Marie's own commitment to sharing a love of the discipline. Geography teacher identity, departmental identity, and education ideology, also seemed to be influencing factors in Corran's view of the purpose of geography education (Corran, 162-169) who described his departmental philosophy of developing 'successful geographers' rather than students who merely 'pass the exam'. Data from Marie and Corran suggests that, in addition to the work already being done in many geography classrooms, there are opportunities to develop disciplinary literacy in school geography, which in turn might encourage students to continue their geography education journey by engaging in academic geography.

*5.6.4.3 Developing a culture of transition*

Another theme that was identified from Marie's interview was that of developing a culture of transition at school level, as well as through classroom interactions. As can be seen from Marie's pen-portrait, she has worked in a number of school contexts, including those with and without post-16 provision. This experience helped Marie (381-391) to reflect on transition in a particular way, and with recognition that the wider school culture and ethos can help (or hinder) individual teachers' attempts to focus on progression through transition (i.e. preparedness for the next stage of education) rather than progression by outcome (i.e. examination results). Schools approach the 16-19 transition in a number of ways, supporting young people not only

with the academic transition but also with the social and personal aspects of the transition, application processes, and so on (Ferreira, 2018). However, what Marie often described in her interview related to how she builds a culture of transition related specifically to geography. Ferreira (2018, p. 373) argued that a 'discipline specific' approach could strengthen transition, and that in doing so, teachers (and learners) could become 'transition aware'. It was her own range of experiences that led to Marie's suggestions for building continuity and progression that feature in section 5.6.5.

*5.6.4.4 Building familiarity with educational spaces and enabling physical boundary-crossing*

Two examples of the benefits of more closely connecting the physical spaces of school geography and academic geography were highlighted by Charlie and Corran. In both cases, by creating opportunities for students to experience the physical spaces of HE, they saw the positive impacts that this had. Charlie (112-118) was achieving this in her role as a teacher educator, by involving local school students in fieldwork taking place on the university campus, an experience that she reported had challenged students' perceptions of what the HE environment was like. Corran (70-77) saw similar outcomes from a departmental link with Bangor University, and suggested that this link had actively influenced the decisions made by some of his students to go on to study academic geography. In both cases, there are similarities between what Charlie and Corran report as successful approaches to physical boundary-crossing for students, and the experiences that Ferreira (2018) suggested might help school students to imagine the university experience.

There are links to the opportunities for boundary-crossing discussed in section 5.6.1.2, and to the need – highlighted by a number of participants in a number of contexts, including Marie (section 5.6.5) – to focus on connections between all phases of the geography education journey, not solely the 16-19 transition. The connection between Corran's department and Bangor University came from the undergraduate experience of one of the geography teachers in Corran's department. In my own experience as a geography teacher educator I have observed the enthusiasm with which many geography graduates talk about their undergraduate departments; when these experiences were positive and the relationships built with academics were strong, student teachers were keen to retain and develop those links as they began to recontextualise their knowledge. ECTs are valued by departments as a source of 'fresh' knowledge and ideas, as mentioned by Corran:

> *And we have reasonable numbers who go on to study geography and things like that, but not huge numbers so it's really nice when one of them comes back and reinvigorates the department and feeds something back in* (Corran, 162-169).

The opportunity therefore for ECTs to use their (often recent) links to universities to make positive contributions to their geography departments is a benefit to the subject community as a whole, and Corran's reflections seem in agreement with Puttick (2017) in this respect. The potential contribution of ITTE to curriculum-making is further explored in Chapter 6.

## 5.6.5 Continuity and progression

Data relating to the opportunities for continuity and progression between school geography and academic geography are summarised below in Table 5.15. Two sub-themes were generated: i) planning for continuity and progression throughout the geography education journey; ii) flexibility and agency in curriculum-making.

| **Theme** | **Participant Quotes** |
|---|---|
| Planning for continuity and progression throughout the geography education journey | *From my contacts, from my school, my Trust, I should say, we are very much an 'Outstanding' Trust. We are now a Trust of four primaries and by 2025 we're going to be a Trust of eight. We're doubling our primary intake, so a lot of our forward planning is supporting primaries, which are our feeder schools and a lot of … our maths department, our English department have been the first to go and give secondary level support to primary teachers. The next phase will then be subjects such as geography and history and music and art and so on, helping to skill up younger geographers as students. You could consider or that could encapsulate what we're looking at is not just the top end or one end, but the other end and actually make sure you are thinking about geographers who are as young as five because as a school we have gone from just 11-18 to a Trust that is 5-19 now. So our remit has increased. So yes, you're talking about education and geography from school to university engagement but actually, that engagement is going backward and downwards from us. We're doing a lot of support as a school and as departments going into primary schools. That's what we're doing.* (Cole, 405-417) |
| | *I just think that leaving things like* [inaudible] *the university environment, reading university level writing, to A level - because that's where it tends to be, it tends to sit in that higher education, that 16 to 18 zone - it's too late. They need the aspiration and the access way before that. They need it in key stage 3. They need it in key stage 4. So if I could wave a magic wand and make it the way I would want it to be, I would be introducing the value of scholarship in year 8, practising the value of scholarship in year 9, reading academic literature in year 10, practising academic practice in year 11, and then they go on to the they go on to the A level. That is how I would want it. But whether that's practical with the demands of a school, and the demands of National Curriculum, and the demands of the Department of Education, because we all know what chaos that is at the moment. They're very different demands. And I don't think the Department for Education specifically, actually hold any value* |

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| | *for scholarship. They hold value for economic productivity, not for scholarship. So for me, at the moment, university level involvement in schools is too little too late.* (Marie, 432-442) |
| Flexibility and agency in curriculum-making | *So, for example, we have textbooks but we very, very rarely use them, because we like to create our own resources, we like to go beyond what the textbook says. And so when you're looking at the literature and the literature dictates the textbook, we're able to step away from away from that slightly, but still use it as a basis for 'okay, here's the ideas they want us to cover. How do we want to cover those for our students?'* (Corran, 286-290) |
| | [The relationship between school geography and academic geography is] *a necessary evil* [laughs*]. It's difficult, because obviously the academic side of it does dictate what happens in the classroom whether that's pedagogy or content. But then the interpretation of the pedagogy and the content is still open to the school level.* (Corran, 278-280) |
| | *…the best teachers at A-level are the ones who say, "Yeah, that is a really good question. We don't have the answer to that yet." And they say "we" as if they are part of the discipline and they bring you into the discipline by saying "we don't have the answer." But I think if you were to try and mandate that from a curriculum point of view, it would become reductionist very quickly. You would learn tropes and rotes and essays of theorists. And it would become just another reduction to fact, rather than the lived experience of the debates and the perspectives and the lectures that you need as a slightly more mature thinker and someone who's chosen to specialise in it, and who's chosen to have specialisms - you get to choose your options or you get to choose cross-curricular links or whatever. And I think that it's an inequitable playing field. We know that we've got a lot of schools now with non-specialist teachers at GCSE even, probably into A-level. Add this in terms of do you really understand your disciplinary history to be able to have those conversations comfortably? Well, it's hard enough at the moment to recruit people to teach the A-level content as it is well, let alone someone who's able to say, here are my perspectives on the evolution of geography over the last 100 years.* (Philip, 134-147) |
| | *It will be interesting to see where those boundary-crossings go in the future. I've not seen as many things from university after those initial couple of years to develop that CPD, but then at the same time, I've not been proactively looking, because I feel comfortable enough to do it.* (Corran, 66-69) |

Table 5.15: Benefits of more closely connecting school geography and academic geography: Continuity and Progression in Knowledge Between School Geography and Academic Geography.

*5.6.5.1 Planning for continuity and progression throughout the geography education journey*

Cole and Marie both offered practical suggestions for how opportunities to strengthen continuity and progression might be harnessed in their practice. Marie (432-442) had clearly thought about this deeply, offering a great level of detail regarding her vision for connection between school geography and academic geography. Cole, however, extends the consideration of continuity and progression beyond her secondary geography setting, as working in a MAT provided opportunities to engage with local primary schools (Cole, 405-417). Cole's example relates back to the literature review which highlighted the importance of transitions at all stages of the geography education journey, and offers further support for the contribution that this research makes to a field of literature that largely focuses only on specific stages of transition rather than the geography education journey as a whole.

*5.6.5.2 Flexibility and agency in curriculum making*

Every interview participant was asked to describe how they see the relationship between school geography and academic geography. Corran's response was memorable:

> [The relationship between school geography and academic geography is] *a necessary evil* [laughs]. *It's difficult, because obviously the academic side of it does dictate what happens in the classroom whether that's pedagogy or content. But then the interpretation of the pedagogy and the content is still open to the school level* (Corran, 278-280).

Corran (286-290) went on to describe the flexibility in curriculum-making that he values at 'school level', in particular the ability to deviate from textbooks in order to 'go beyond' and

incorporate the aspects of geographical knowledge that he and the department feel best helps their students to develop as 'successful geographers' (Corran, 164-167). This encapsulates the arguments arising from academic literature, and a theme central to this thesis, that curriculum-making is an essential mechanism by which school geography and academic geography can be more closely connected.

## 5.7 Chapter summary: What do stakeholders perceive to be the benefits and limitations of more closely connecting school geography and academic geography?

This chapter has outlined the participants (sections 5.2 and 5.3) whose experiences of the phenomenon of the transitions between school geography and academic geography have contributed to answering RQ2. There was little evidence, from the questionnaire data analysis in section 5.2, of successful boundary-crossing between the educational spaces of school geography and academic geography, and the four communities (student, teacher, teacher educator, academic) exhibited varying degrees of familiarity with both educational spaces. The analysis of interview data, however, revealed much more of the participants' experiences of the phenomenon of transition between school geography and academic geography. In accordance with a phenomenographical approach, the chapter contains rich, qualitative data in the participants' own words. The analysis of questionnaires and phenomenographic interviews has identified five core themes relating to the connection between school geography and academic geography. Within each of these themes, there can be found limitations or 'challenges' (section

5.5) and benefits or 'opportunities' (section 5.6). By way of a clear conclusion, these are summarised in Table 5.16.

| **Theme** | **Limitations / Challenges** | **Benefits / Opportunities** |
|---|---|---|
| Subject Community | Time, capacity, and success (or lack of) with attempts at boundary-crossing<br><br>Knowledge transfer and gatekeeping<br><br>Incentivisation (or lack of) for boundary-crossing between different parts of the subject community<br><br>Communication and awareness (or lack of) between different parts of the subject community<br><br>Education workforce issues | Characteristics of successful boundary-crossing between school geography and academic geography<br><br>Opportunities for boundary-crossing<br><br>Aspirational outreach and engagement |
| Geography's Identity | Geography's breadth and depth<br><br>Challenges of interdisciplinarity<br><br>Engagement (or lack of) with the academic discipline in school geography<br><br>Challenges of representation | Geography's breadth, depth, and interdisciplinarity<br><br>Progress towards representation in geography |
| Application of Disciplinary Knowledge | Careers and employability<br><br>Application of spatial data | Careers and employability |
| The 16-19 Transition | The development of the geographical practice, geographical skills, and academic skills that would adequately prepare learners for the transition to academic geography | Addressing the practical skills gap and addressing academic literacy<br><br>Addressing the cognitive skills gap and addressing disciplinary literacy |

| | | |
|---|---|---|
| | | Developing a culture of transition<br><br>Building familiarity with educational spaces and enabling physical boundary-crossing |
| Continuity and Progression in Knowledge | The introduction of unfamiliar core content in the 2014 reforms to A-level<br><br>Epistemic differences between school geography and academic geography<br><br>Prescription and restriction (or lack of) in geography curricula | Planning for continuity and progression throughout the geography education journey<br><br>Flexibility and agency in curriculum making |

Table 5.16: Limitations to, and benefits of, more closely connecting school geography and academic geography – Five core themes.

Several connections were observed to the review of literature in Chapter 2, in particular relating to the three potential mechanisms by which school geography and academic geography might be more closely connected, identified from the literature: i) the role of high-quality geography ITTE in strengthening the connection between school geography and academic geography (co-construction, section 2.5.1); ii) the role of subject associations and the subject community in strengthening the connection between school geography and academic geography (collaboration, section 2.5.2); iii) using the curriculum to strengthen the connection between school geography and academic geography (curriculum-making, section 2.5.3). These three mechanisms were observed in the questionnaire and interview data, and the links – both to limitations or 'challenges', and benefits or 'opportunities', are summarised in Table 5.17.

| **Mechanism (identified in Chapter 2)** | **Links found through RQ2** |
|---|---|
| Co-construction: the role of high-quality geography ITTE in strengthening the connection between school geography and academic geography | Chapter 6 proposes that high-quality geography ITTE can be used to facilitate both collaboration and curriculum-making, and therefore to address the links found below. |
| Collaboration: the role of subject associations and the subject community in strengthening the connection between school geography and academic geography | Communication and awareness (or lack of) between different areas of the subject community (Challenge, 5.5.1.4; Opportunity, 5.6.1.1)<br><br>Careers and employability (Challenge, 5.5.3.1)<br><br>Knowledge transfer and gatekeeping (Opportunity, 5.6.1.2) |
| Curriculum-making: using the curriculum to strengthen the connection between school geography and academic geography | Interdisciplinarity (Challenge, 5.5.2.2; Opportunity, 5.6.2.1)<br><br>Engagement (or lack of) with the academic discipline in school geography, and the concomitant impacts on continuity and progression in geographical knowledge (Challenge, 5.5.2.3)<br><br>Representation (Challenge, 5.5.2.4; Opportunity, 5.6.2.2)<br><br>The 16-19 transition (Challenge, 5.5.4.1) |

Table 5.17: Links between the mechanisms for connecting school geography and academic geography identified in the literature review, and the data in RQ2.

# CHAPTER 6: WHAT MIGHT A MORE CONNECTED GEOGRAPHY CURRICULUM LOOK LIKE IN PRACTICE?

## 6.1 Introduction

This chapter presents a discussion of RQ3:

**What might a more connected geography curriculum look like in practice?**

The chapter begins in section 6.2 by clarifying the 'language for connection' that has been developed by this research, focusing on the geography education journey (Figure 6.1), road maps, and the importance of boundary-crossing not only between school geography and academic geography, but within the subject community as a whole. The ways in which RQ1 and RQ2 relate to the data analysis and discussion for RQ3 are described and justified in section 6.3. A thread throughout this research – from the academic literature in Chapter 2, and the findings and discussion of data, particularly in Chapter 5 – is that high-quality geography ITTE seems to have the potential to facilitate many of the mechanisms for closer connections between school geography and academic geography. This is therefore discussed in greater detail in section 6.4. In section 6.5, three road maps are presented for consideration, and the chapter concludes with a summary in section 6.6.

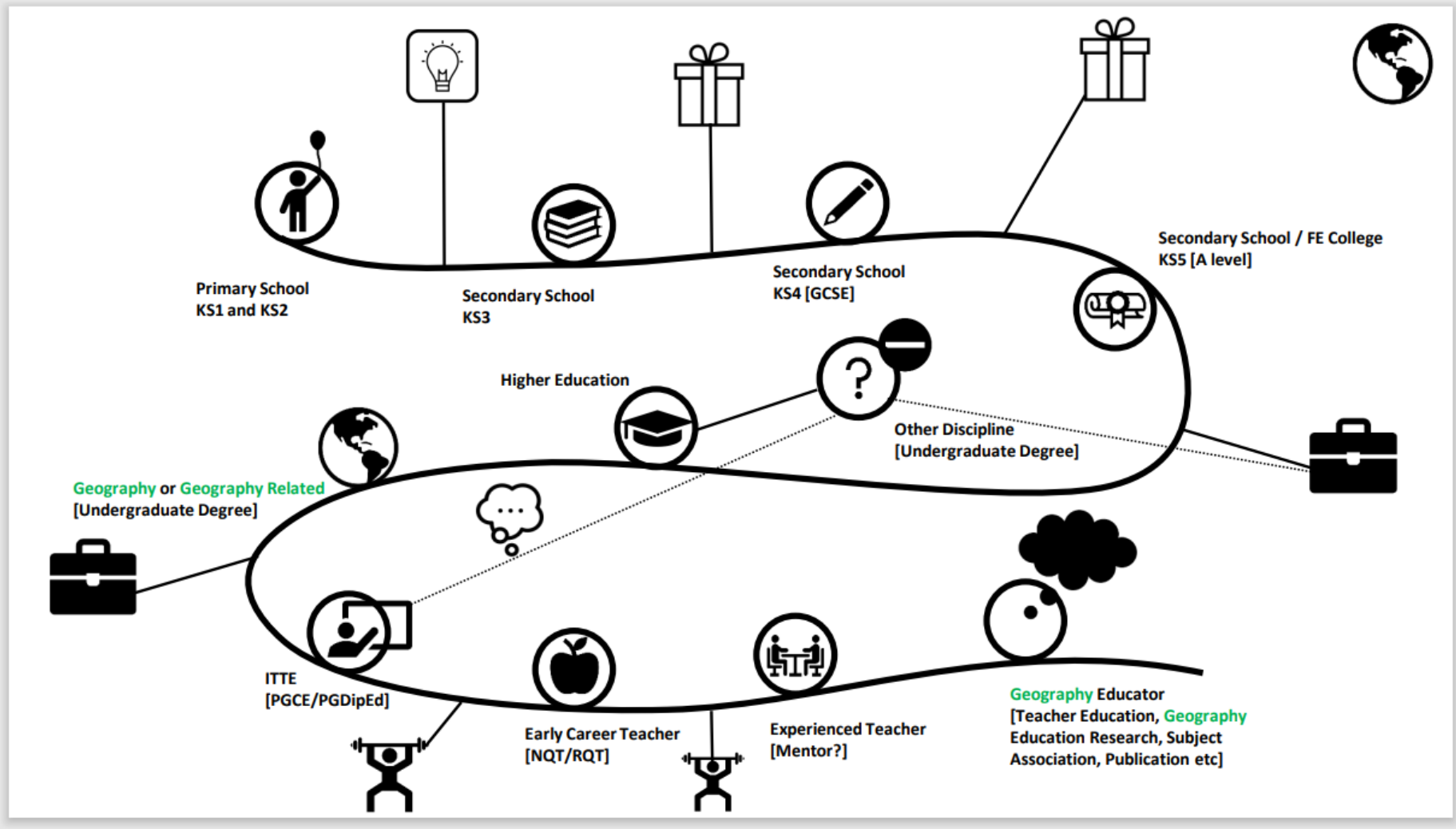



Figure 6.1: The geography education journey, as conceptualised in How To Build A Geographer (Collins, 2020).

## 6.2 Proposing a language of connection

### 6.2.1 The geography education journey

In *How To Build A Geographer* (Collins, 2020) I suggested that geography education was a journey that begins with primary geography, progresses through each phase of primary and secondary education, and (hopefully, for many) continues into HE (Figure 6.1). For some, that journey will extend beyond their own formal education, as they return to geography education as geography teachers who support future generations in making that same geography education journey. There are transitional moments in the journey where some individuals may, for a range of reasons, choose to 'leave the road'. However, if the aim of the subject community is to keep as many individuals as possible on the geography education journey, we need to identify these transitional moments and consider how to strengthen them in order to allow individuals to 'stay on the road' should they choose to do so (Figure 6.1). This analogy of a journey is inherently geographical, but also (I believe) helpful in understanding the need for strong transitions between each phase of geography education.

### 6.2.2 The road map

One of the tools used to navigate a journey – particularly a long journey, with potential challenges along the way – is a map. This chapter therefore offers three road maps that might be used to navigate the geography education journey, based on the three themes, or mechanisms, that were identified in the literature review (Chapter 2) regarding how these connections might be built. Those three mechanisms are i) **co-construction** with high-

quality, subject-specific initial teacher training and education (ITTE); ii) **collaboration** across subject associations and the subject community; iii) **curriculum-making**, whether at national, planning, or individual level. The term 'road map' has been intentionally selected, not only for its geographical connotations and the connection to the journey articulated in Collins (2020) and throughout this thesis, but for its secondary meaning: 'a means of bringing about or reaching something; an outline or representation of something, used as a guide. Now often: *spec*. a plan or strategy intended to achieve a particular (political) goal' (OED, 2024). The intention is that stakeholders in the discipline at any level (students, particularly those in the post-16 phase and onwards; teachers, in primary, secondary, and further education; teacher educators; academics) can draw from the recommendations of this research and apply them to their own context as appropriate. These road maps are not intended to be prescriptive, nor to be applied in isolation from other activities and practices, but as a tool for reflection, to support stakeholders in auditing existing practice and to identify areas where connections (as relevant to their context) might be strengthened.

### 6.2.3 Boundary-crossing

The term boundary-crossing was used in the phenomenographic interviews (Appendix 20) in the phrasing of a question that acted as a stimulus for discussion of where participants would place themselves and their work in the geography-education nexus (see Chapter 3 for a discussion of my own positionality in this nexus). The notion of boundary-crossing is taken from the work of Finn *et al*. (2022), writing about 'spaces of exchange', and Kraftl *et al*. (2022), writing about future spaces of scholarship in 'geographies of education' as a sub-discipline of geography.

Recommendations for boundary-crossing are found throughout the road maps; boundary-crossing can be conceptual, for example in relation to the understanding of geography's disciplinary and substantive knowledge, but also physical, in relation to the educational spaces (and places) of school geography and academic geography. There are clearly differences in how physically accessible these two educational spaces – schools and universities – are. Physical university spaces are (largely) accessible to the public, but school buildings are subject to stringent safeguarding restrictions relating to external visitors as outlined in the statutory guidance *Keeping Children Safe in Education* (DfE, 2024b, p. 82, points 305-310). Nevertheless, a clear message from the participants in this research was that physical boundary-crossing between schools and universities is to be encouraged.

Boundary-crossing, whether physical or conceptual or both, was seen by several participants as being strongly reliant on motivation and what Finn *et al*., (2022, p. 43) described as a 'collective endeavour'. Philip expressed the view that '*we get what we incentivise, right?*' (488) and a lack of incentivisation has long been reported as a potential barrier to greater connection between school geography and academic geography (Butt and Collins, 2018). This view seemed to be reinforced by Duncan, the participant who referenced in his interview the Research Assessment Exercise (RAE), a previous metric (last occurring in 2008, and replaced by the Research Excellence Framework (REF) in 2014) used to assess the quality of research undertaken by HEIs in the UK:

> *From my experience when I've worked with people from academia, and what I mean by academia, I mean universities, some are very willing to work with teachers. Some feel it is a chore that they have to do because they have been told they have to do it.*

> *What they're actually bothered about is their research, their research funding, and what the university - if it's not going to up their RAE they don't want to do it. And if they are doing it, it's because they've been told to – not because they want to, because that's not always the case* (Duncan, 42-47).

The REF currently includes an evaluation of research impact, defined as 'an effect on, change or benefit to the economy, society, culture, public policy or services, health, the environment or quality of life, beyond academia' (REF, 2021, n.p.). The ways in which impact is determined by the REF in its current form is open to criticism (Hyland and Jiang, 2024) and there have been claims that social sciences and the humanities (both broad disciplinary areas in which geography can be placed) are particularly poorly served by the REF, as '[t]he criteria are not designed for humanities subjects, but rather for scientific discoveries or technological advances' (Marenbon, 2018, n.p.) and 'the creation of knowledge [in these disciplines] follows less linear paths and has less obviously tangible impacts' (Hyland and Jiang, 2024, p. 688). In spite of these criticisms, the number of impact case studies published from REF 2021 that have direct links to education (n=137) would challenge the view that there is no incentive for HEIs to engage with schools or children and young people, and the work of Kraftl and Hadfield-Hill (2019) for example, whose work generated a successful impact case study for REF 2021, demonstrates that it is possible to conduct research that both satisfies the requirements of research funding bodies and produces accessible and practical outcomes.

## 6.3 Use of the data analysis to answer RQ3

The research design was constructed to allow the answer to RQ3 to be generated from the findings of RQ1 and RQ2. By establishing aspects of continuity between school geography

and academic geography and by considering what progression across curricula in these contexts might look like (RQ1), and by capturing what stakeholders in the subject community believe to be the benefits and limitations of more closely connecting school geography and academic geography (RQ2), it has been possible to identify aspects of the relationship between school geography and academic geography that can be strengthened in terms of their connections (RQ3). The findings of RQ3 therefore are drawn from the prior data analysis that had taken place for RQ1 and RQ2. Each of the datasets generated by the selected research methods had been analysed using the thematic coding which was established from the GACF (GA, 2022a), allowing for easy comparison across the datasets. In order to answer RQ3, the data was scrutinised for reference to the three mechanisms for connection. The search terms that were applied can be seen below in Table 6.1; these included codes already established from the data analysis which closely related to connection, along with new search terms determined by the researcher (and cross-referenced with CF3, for credibility) that could capture any additional links to the three mechanisms for connection. A number of the questions in the questionnaire were designed in order to generate findings for RQ3, and these are also identified in Table 6.1.

| **Mechanism for Connection (Road Map)** | **Relevant Codes** | **Additional Search Terms** | **Relevant Questions** |
|---|---|---|---|
| Co-construction with high-quality, subject-specific initial teacher training and education (ITTE) | DI-Comm<br>DI-GeogEd<br>P-T | Teacher training<br>Teacher education<br>PGCE (or other similar programmes)<br>Student teachers<br>Trainee teachers | |
| Collaboration across subject associations and the subject community | DI-Comm<br>P-T<br>DI-Pow<br>DI-Int<br>DI-Geo | GA<br>RGS-IBG | Q23<br>Q28/Q29<br>Q30<br>Q31/Q32 |

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|---|---|---|---|
| Curriculum-making, whether at national, planning, or individual level | DI-Comm<br>P-CE<br>DI-LA<br>DI-LD<br>DI-Pow<br>DI-Geo<br>DI-Int | Curriculum<br>Planning<br>SoW | Q23<br>Q26<br>Q27<br>Q28/Q29<br>Q30<br>Q31/Q32<br>Q33 |

Table 6.1: Sources of data and search terms to generate findings for RQ3.

## 6.4 High-quality geography ITTE as a space for facilitating connection

In many cases, a combination of all three mechanisms – co-construction, collaboration, and curriculum-making – is required to develop the connections between school geography and academic geography. In the summary of Chapter 5, it is proposed that the role of high-quality geography ITTE can be used to facilitate both collaboration and curriculum-making, through encouraging co-construction between school geography and academic geography. Of the three mechanisms, high-quality geography ITTE is considered here in greater depth because of this potential to facilitate collaboration and curriculum-making. In the context of this thesis, what is meant by high-quality geography ITTE is aligned with the guidance from the GA for geography ITE in the primary (GA, 2016b) and secondary (GA, 2016c) phases.

In Collins (2020) I recognised geography teacher education as an extension of the geography education journey, as graduates (often, but not always, of geography or a cognate discipline) return to the educational space of school geography in order to teach the subject (Figure 6.1). As discussed in Chapter 2, the process of becoming a geography teacher is therefore a transition in itself, but can also act as a potential mechanism for connecting graduates' more recent academic experiences of geography with the subject that is taught in school, regardless of phase (primary or secondary). The assumption can be made that graduates of

geography or a cognate discipline will be able to make connections between academic geography and school geography in ways that a non-specialist graduate will not.

The need for subject-specialist geography teachers was a prominent theme in the interview data (Appendices 15 and 16). Philip (134-138) described the need for teachers to be 'part of the discipline', yet recognised the current challenge of recruiting such specialists (Philip, 142-147). Philip's view underpins the need for geography teachers to be able to engage in disciplinary debate, in order that children and young people see the dynamic nature of geography. For many teachers, a love of their subject and a desire to pass that on to others informed their decision to become a teacher. This was evident across all participants, but particularly in the data from Duncan (243-250), Marie (192-195), and Corran (225-231).

Corran (122-126) suggested that subject-specialist teachers would be more able (than non-specialists) to respond to curriculum changes, such as those that had been introduced in the A-level reforms of 2014; these reforms were also identified in Chapter 5 (section 5.5.5.1) as a challenge relating to continuity and progression in knowledge between school geography and academic geography. The nature of geography as a discipline is such that there are already – even for a graduate of geography or a cognate discipline – challenges inherent in the breadth of geography's disciplinary knowledge. Arguably the demands on subject knowledge, in relation to the connections to academic geography, are more substantial for geography teachers in the secondary phase: recruiting subject-specialist graduates onto secondary geography ITTE courses, led by subject experts (teacher educators *and* mentors), remains of importance if the connections between school geography and academic

geography are to be strengthened. GA (2016c, section 1.3) recommends that recruitment for secondary geography ITTE should involve '[i]dentifying geography candidates with strengths in geographical subject knowledge and good geography qualifications' and '[e]nsuring that selection interviews probe the candidate's interest and enthusiasm for geography, finding out about their subject knowledge strengths and areas for further development'. However, this is not solely a focus for *secondary* geography ITTE; for the primary phase, there is a need for ITTE provision to be led by a 'geography enthusiast' (GA, 2016b, section 1.1) and to adequately prepare primary teachers to 'foster positive attitudes to geography' and to develop the necessary knowledge and understanding of subject, curriculum, and assessment of geography.

Teacher educators often position themselves as ideally placed to connect schools and HEIs, exemplified by Juniper (93-103). Elsewhere in Juniper's interview, she recognised the current threats to high-quality, subject-specific ITTE; not only the recruitment issues acknowledged by Philip (142-147) and described in Chapter 2, but also the impacts of the recent ITT Market Review (DfE, 2021a) and subsequent reaccreditation process for all ITTE providers in the UK (DfE, 2021b). Juniper is in favour of diversity in the teacher education sector (with this diversity recently reported by Rawlings Smith and Rushton, 2023), yet recognises the potential impacts of a shifting teacher education landscape (Juniper, 326-334), something also considered by Mutton *et al.* (2021).

The staffing of high-quality geography ITTE provision is addressed by GA (2016c) which makes the following recommendations (Figure 6.2):

1. Good management of geography initial teacher education involves:
1.1 Staffing

- Appointing a geographer with appropriate experience and expertise to lead the geography training across the partnership.
- Providing dedicated time for this ITE subject leader to offer bespoke subject training and individual support to geography trainees.
- Selecting geography mentors who are good subject teachers and have up-to-date subject knowledge, ensuring these mentors have sufficient time to work with trainees to provide high quality training.
- Providing subject-specific training for geography mentors to ensure they engage trainees in high-quality subject dialogue, provide effective feedback on performance and set clear targets to improve their trainees' teaching of geography.
- Ensuring that subject mentors keep in touch with emerging knowledge about geography teaching through links to the subject association and other sources of subject expertise, and through access to subject-specific professional development.

Figure 6.2: The GA's 'Quality criteria for secondary geography ITE' relating to staffing (GA, 2016c).

The introduction of a new *Initial Teacher Training and Early Career Framework* (DfE, 2024a), with its attendant changes to mentoring, has contributed to a dilution of the subject-specific provisions that ITTE providers can offer, and this was raised too by Juniper (64-67). ITTE mentors are now required to complete substantial training (a minimum initial training time of 20 hours for mentors supporting a postgraduate ITTE course) which focuses on the delivery of the ITTECF (DfE, 2024a). Subject-specialism is referenced in both the ITTECF (DfE, 2024a) and the statutory guidance that must be followed by ITTE providers from September 2024 (DfE, 2024c) but in relatively superficial ways; for example, the statutory guidance for ITT providers states that:

> Legislation does not specify that teachers must have a degree in a particular subject or discipline. There is no statutory requirement for primary trainee teachers to have a degree in a National Curriculum subject, or for secondary trainee teachers to have a degree in a specified subject, as long as they meet the Teachers' Standards, including those that relate to subject and curriculum knowledge, by the end of their training (DfE, 2024c, p. 12).

Similarly, there is no explicit provision for subject-specific training of mentors. Demands on mentors in schools – both for ITTE provision and the enhanced mentoring required for ECTs – are significant, and Corran (437-443) was aware of the potential for this role to be detrimental to teachers' well-being. Corran referenced the (negative) impact of bursaries, which was an issue addressed in greater depth in Chapter 5 (section 5.5.1.5) along with other education workforce issues which need to be factored into the road map for using high-quality ITTE to strengthen connections between school geography and academic geography.

Corran provided two examples of where the benefits of recruiting geography graduates as student teachers had been seen in his department. In the first example, Corran described how the connections between a teacher and the institution in which they had completed their geography degree had enabled his geography department to strengthen their fieldwork provision (Corran, 94-95; 100-101). In the second example, Corran described the ways in which a former student who had returned to the school as a beginning geography teacher, had been able to connect her recent experiences of academic geography with her prior learning of the concept of place (Corran, 151-156). This example demonstrates how high-quality, subject-specific ITTE can contribute to the ongoing development and enhancement of the school geography curriculum by introducing geographical knowledge gained through academic study, and by updating and refreshing schemes of work (SoW) that are delivered in school geography. Corran's previous example demonstrates the value of prior connections to HEIs, and ITTE can be a very effective way of maintaining those school-HEI connections.

Although the data identified several challenges in relation to the current landscape of geography ITTE in England, there were also many examples of the opportunities that high-quality geography ITTE presents for more closely connecting school geography and academic geography, particularly by facilitating collaboration across the subject community, and through curriculum-making. A summary of what the data from RQ1 and RQ2 reveals about each of these mechanisms has been used to develop three road maps which capture the original contribution of this research to practice. The road maps are intended as potential tools to support stakeholders who, in their given context, wish to reflect on and audit their existing practice and to identify areas where connections between school geography and academic geography might be strengthened. A similar approach to reflection and auditing has been used for some time by the GA to support providers of geography ITTE (GA, 2016d), and there is scope for the road maps to be further developed and disseminated more widely across the subject community (see also Chapter 7).

## 6.5 Connection through co-construction, collaboration, and curriculum-making: Road maps

**Road Map 1: Co-construction**: the role of high-quality geography ITTE in strengthening the connection between school geography and academic geography.

*This Road Map may be of use to: Geography teacher educators; geography ITTE mentors; student teachers; academic geographers with local geography ITTE partnerships.*

**Disciplinary Knowledge: Key Concepts and Organising Concepts**

Is there a shared understanding (e.g., across the geography ITTE partnership) of what these **key concepts** and **organising concepts** are? Is there a **shared language**? Is this language used consistently and explicitly, by all stakeholders?

How are these **key concepts** and **organising concepts** embedded into the geography ITTE curriculum? (e.g.: into processes for lesson planning; into processes for subject-specific feedback on lessons and target setting; into mentor meetings; into taught sessions; into processes for reflection and evaluation by student teachers.)

**Subject Community**

How can **dialogue** be encouraged between **geography teacher educators** and **academic geographers?** What connections already exist? Who can be contacted to develop further connections? What opportunities are there for **boundary-crossing** for geography teacher educators and academic geographers? (e.g., subject association conferences, academic conferences, co-construction of academic modules.)

How are education **workforce issues** being addressed by the subject community? (e.g., **teacher recruitment** issues for secondary geography; bursaries (not viewed as a positive); changes to ITTE in England that could reduce opportunities for **boundary-crossing** for mentors, and a perceived marginalisation of **subject-specialism**?

How might the **positioning of geography teacher educators** in relation to academic geography departments be developed? What further work is required to develop the **identity of geography teacher educators**? (e.g., building on Rawlings Smith and Rushton, 2023.)

How might barriers relating to **knowledge transfer** and **gatekeeping** – that can prevent school geography from accessing elements of academic geography (published work, for example) – be addressed within geography ITTE partnerships?

As geography ITTE often occupies both educational spaces (schools and HEIs) how can student geography teachers (particularly those with HEI access to resources such as journals)

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| | | act as a conduit for **knowledge transfer** between those spaces?<br><br>To what extent can the marginalisation of **scholarship** in the teaching profession, and de-professionalisation, be addressed through high-quality geography ITTE partnerships? |
| **Disciplinary Knowledge: Geographical Practice and Geographical Skills**<br><br>How is **fieldwork** being made an integral, essential, and fundamental part of high-quality geography ITTE? How is it ensured that student teachers and ECTs are confident in all aspects of their **geographical practice**, including the design and delivery of **fieldwork**?<br><br>How can high-quality geography ITTE support **fieldwork** practices in partnership schools? Are there opportunities to **co-construct fieldwork** with a local (school) geography department? Are there opportunities for **co-construction** of **fieldwork** between (school-school; school-academic) geography departments that can be facilitated by a geography ITTE partnership?<br><br>What **resources** are available and accessible to strengthen continuity and progression in **geographical practice** and **geographical skills**? (e.g., laboratories, teaching spaces, or other spaces on university campuses.)<br><br>Which external organisations might support the development of **geographical skills** and **geographical practice** in high-quality geography ITTE? (e.g., Field Studies Council.) | | **Geography's Identity**<br><br>How can recent **subject-specialist** graduates (geography, **ES3**, and **cognate disciplines**) make valuable contributions to curriculum-making, through integrating elements of academic geography into the school geography curriculum, and through exemplifying geography's **breadth** and **depth**? |
| **Disciplinary Knowledge: Application**<br><br>Is geography being promoted as a **spatial science** across the geography ITTE partnership?<br><br>How is **GIS** embedded into the geography ITTE partnership? How might engaging with a geography ITTE partnership help to strengthen continuity and progression of **GIS** throughout the school geography curriculum? | | **Application of Disciplinary Knowledge**<br><br>In addition to the opportunities to support with the design and delivery of **fieldwork**, are there related opportunities (particularly for HEI-based geography ITTE partnerships) for **physical boundary-crossing** for students? (e.g., through visiting a university campus, using university facilities, accessing university cultural assets such as the Lapworth Museum of Geology.) |

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| **Careers and employability** are addressed much more explicitly in academic geography than in school geography. What opportunities are there for career changers in geography ITTE partnerships to address this lack of continuity? How might geography ITTE partnerships contribute to the promotion of geography-related careers at an earlier stage of the **geography education journey**? | | How might expertise with **GIS** in academic geography have a positive impact on school geography? (e.g., academic geography departments offering **GIS**-related **CPD** for local primary schools and secondary geography departments, facilitated through a geography ITTE partnership.)<br><br>How can the application of **real-world issues** be addressed through curriculum-making, particularly through recent graduates integrating **real-world data** and issues from academic geography into the school geography curriculum? What opportunities are embedded into the geography ITTE curriculum that allow student teachers to do this? (e.g., assignments and tasks, approaches to lesson planning.) |
| **Substantive Knowledge**<br><br>How is **substantive knowledge** audited and quality assured in a geography ITTE partnership? (e.g., subject knowledge audits for student teachers; use of quality assurance processes.)<br><br>How is **substantive knowledge** refreshed and reinvigorated through geography ITTE partnership? | | **The 16-19 Transition**<br><br>What contributions can high-quality geography ITTE make to strengthening the **16-19 transition**? Which stakeholders in a geography ITTE partnership have familiarity with the educational spaces of universities and schools? What opportunities are there to reflect on, and develop, the **pedagogies** of both spaces?<br><br>How can geography ITTE partnerships further support learners in developing their **academic literacy** and **disciplinary literacy**? |
| **Disciplinary Identity**<br><br>To what extent does the geography ITTE partnership engage in debates around the **nature of geography as a discipline**? Is space created and protected in the geography ITTE curriculum to reflect on, debate, and discuss **disciplinary identity**? Does the staffing of the geography ITTE partnership support this debate?<br><br>How are **learner attributes** addressed in the geography ITTE partnership? Is there a shared understanding of the **learner attributes** that can be developed by geography education, and how these might evolve across the **geography education journey**? How are these **learner attributes** promoted and modelled? | | **Continuity and Progression in Geographical Knowledge**<br><br>*How can high-quality geography ITTE (primary and secondary) contribute to elements of continuity and progression between school geography and academic geography? (see column to the left for further detail.)* |

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| How is the discipline's colonial legacy and lack of diversity addressed explicitly through an **anti-racist** geography ITTE curriculum? Is the geography ITTE partnership aware of resources to support this? (e.g., work for ITTE in England (Lander and Smith, 2022) and Scotland (Mohammed, 2023).) What are the approaches to marketing and recruitment that can contribute to addressing a lack of diversity in geography ITTE partnerships?<br><br>How are issues of **power** and **representation** explicitly addressed through geography ITTE partnerships?<br><br>How can geography ITTE partnerships address issues relating to **interdisciplinarity** and geography's identity crisis? Are there particular contributions to be gained from student teachers with qualifications in **ES3** and **cognate disciplines**? Are geography ITTE partnerships proactive in enabling and supporting this? (e.g., through marketing and recruitment practices, through subject knowledge enhancement.) | | |

Table 6.2: Road Map 1, Co-construction: The role of high-quality geography ITTE in strengthening the connection between school geography and academic geography.

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| **Road Map 2: Collaboration**: the role of subject associations and the subject community in strengthening the connection between school geography and academic geography.<br><br>*This Road Map may be of use to: Teachers of geography (primary and secondary, FE and HE); geography teacher educators; academic geographers working on outreach and engagement activities; subject associations and learned societies; those using geography in a professional capacity and/or geography-related career.* | | |
| **Disciplinary Knowledge: Key Concepts and Organising Concepts**<br><br>How can the subject community engage in further dialogue to develop a shared understanding regarding the **key concepts** and **organising concepts** of **disciplinary knowledge** that allows for greater focus on continuity and progression without being overly reductive?<br><br>What are the most appropriate platforms and spaces for such **dialogue**? How can the subject community ensure all voices are heard? | | **Subject Community**<br><br>How can the variety of **curriculum experiences** across the subject community be captured and disseminated? Are there any persuasive arguments for the maintenance of the variation in **curriculum experiences** between schools and universities? What opportunities might be taken to develop a shared understanding of **pedagogy** between school geography and academic geography?<br><br>How can the **timing** of outreach and engagement in the **geography education** |

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| There is some evidence of variation in understanding of **diversity** as an **organising concept** between school geography and academic geography. What is the consensus on this concept? Is there one? If not, where is the divergence?<br><br>There is some evidence of variation in understanding of **interpretation** as an **organising concept** between school geography and academic geography. What is the consensus on this concept? Is there one? If not, where is the divergence? | | **journey** be adjusted, to avoid what one participant described as 'too little, too late' (Marie, 428-429) in terms of academic geography connecting with school geography?<br><br>A lack of **communication** and **awareness** between different areas of the **subject community** can cause conflict and frustration, particularly in relation to **time**, **capacity**, and success (or lack of) with attempts at **boundary-crossing**. What opportunities are there for the subject community to address this?<br><br>How can the subject community mitigate some of the barriers of **gatekeeping** that can prevent effective **knowledge transfer**, especially those related to funding? (e.g., membership of subject associations, access to published outputs.)<br><br>There is still some uncertainty regarding the **incentivisation** for those working in academic geography to engage (**boundary-cross**) with school geography. What are the motivations in the subject community for more closely connecting school geography and academic geography? Is there a shared vision for the future of the discipline? |
| **Disciplinary Knowledge: Geographical Practice and Geographical Skills**<br><br>What **resources** are available and accessible to all parts of the subject community to strengthen continuity and progression in **geographical practice** and **geographical skills**? (e.g., laboratories, teaching spaces, or other spaces on university campuses.)<br><br>Which external organisations (including from within and from outside the subject community) might support the development of **geographical skills** and **geographical practice** across all parts of the subject community? (e.g., Field Studies Council.) | | **Geography's Identity**<br><br>How can the subject community protect spaces to reflect on and discuss **disciplinary identity**? There is currently no explicit requirement in school geography for learners to engage with the **nature of geography as a subject**. What are the thoughts of the subject community on this? Which parts of the subject community are best placed to generate and sustain discussion of geography's disciplinary identity?<br><br>How might the subject community address ongoing issues relating to **interdisciplinarity** and geography's identity crisis?<br><br>How can the collective benefits of the wider **subject community** be made more visible and integral to school geography and academic |

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| | | geography? To what extent is the subject community united? |
| **Disciplinary Knowledge: Application**<br><br>How can the subject community collaborate to maintain geography's identity as a **spatial science** as an element of continuity between school geography and academic geography?<br><br>How does the subject community engage with **real-world issues** to ensure that **transformative learning** can extend beyond the study of the subject in schools and universities? How is **real-world data** made available to all parts of the subject community? (e.g., BIFoR Education resources (UoB, 2024).)<br><br>**Careers and employability** are addressed much more explicitly in academic geography than in school geography. How can existing work by subject associations and elsewhere in the subject community be built on? (e.g., Rawlings Smith and Collins, 2024.) | | **Application of Disciplinary Knowledge**<br><br>How can collaboration across the subject community strengthen **careers and employability** in school geography? How might this in turn more closely connect school geography with academic geography? |
| **Substantive Knowledge**<br><br>How is **substantive knowledge** refreshed and reinvigorated through subject community involvement?<br><br>How can the subject community engage in further dialogue to develop a shared understanding regarding **substantive knowledge** that allows for greater focus on continuity and progression without being overly reductive? | | **The 16-19 Transition**<br><br>How can the **timing** of outreach and engagement in the **geography education journey** be adjusted, to avoid what one participant described as 'too little, too late' (Marie, 428-429) in terms of academic geography connecting with school geography? What are the particular needs relating to the 16-19 transition that the subject community can address, through focused interventions at this stage of the geography education journey?<br><br>To what extent is there a **dialogue** between those most directly involved in the 16-19 transition? (e.g., do post-16 teachers of geography know the admissions tutors for geography and geography-related programmes run by local HEIs? Do admissions tutors develop relationships with local secondary schools and FE colleges?)<br><br>How can the subject community further support learners in developing their **academic literacy** and **disciplinary literacy**? |

| **Disciplinary Identity**<br><br>The need for **ethical practice** in the discipline is an element of continuity between the school geography curriculum at key stage 5 and the academic discipline. There are links here too to aspects of **diversity** and **representation**. How can ethical practice be more explicitly addressed at KS1-3 and KS4? How can geographers actively contribute to an **ethical**, **responsible**, and **inclusive** subject community?<br><br>How are **learner attributes** addressed in the subject community? Is there a shared understanding of the **learner attributes** that can be developed by geography education, and how these might evolve across the **geography education journey**? How are these **learner attributes** promoted and modelled in the subject community?<br><br>How can the subject community respond to ongoing criticisms of the discipline's colonial legacy and lack of **diversity**? How can the subject community strengthen **diversity** and **representation** as aspects of continuity and progression?<br><br>How might the subject community address ongoing issues relating to **interdisciplinarity** and geography's identity crisis? How can the subject community more proactively seek engagement from **ES3** and **cognate disciplines**, particularly to contribute to this aspect of continuity and progression in school geography? (e.g., continued promotion of geography as STEM subject, not solely as a social science.) | | **Continuity and Progression in Geographical Knowledge**<br><br>In academic geography, there is a clear and useful articulation of **progression** for threshold, typical, and excellent graduates. Might a similar, qualitative, articulation of **progression** be developed for school geography, with co-construction from across the **subject community**? |
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Table 6.3: Road Map 2, Collaboration: The role of subject associations and the subject community in strengthening the connection between school geography and academic geography.

**Road Map 3:** **Curriculum-making**: using the curriculum to strengthen the connection between school geography and academic geography.

*This Road Map may be of use to: Geography curriculum-makers at any level (national level; planning and development level; classroom level) and in any setting (primary, secondary, FE, HE); awarding bodies; publishers; resource creators; subject associations and learned societies.*

**Disciplinary Knowledge: Key Concepts and Organising Concepts**

To what extent can continuity and progression in **key concepts** and **organising concepts** be found in curriculum materials across the **geography education journey**? Might curriculum-makers benefit from the recommendations made in this respect in Road Maps 1 and 2?

**Subject Community**

There is still some uncertainty regarding the **incentivisation** for those working in academic geography to engage (**boundary-cross**) with curriculum-making for school geography. Are there any opportunities to address this? Do previous examples of successful REF Impact Case Studies offer a template for potential contributions to curriculum-making? (e.g., Kraftl and Hadfield-Hill, 2019.)

**Disciplinary Knowledge: Geographical Practice and Geographical Skills**

How might **geographical practice** and **geographical skills** be embedded into curriculum-making, to build on (and make visible) as an existing element of continuity between school geography and academic geography?

Is fieldwork an element of every geography curriculum, at every stage of the **geography education journey**? Is it integral, essential, and fundamental to the geography curriculum? How is continuity and progression in **fieldwork** as **geographical practice** planned for, to avoid repetition and stagnation of **geographical practice** and **geographical skills**?

How can the gap in the way that the **geographical skill** of **evaluation** is articulated within school geography, and between school geography and academic geography, be addressed through curriculum-making?

**Geography's Identity**

To what extent is there scope to explore the issues relating to **interdisciplinarity** and geography's identity crisis through curriculum-making? Are there opportunities for collaboration from **ES3** and **cognate disciplines**, and cross-curricular work in school geography?

How can **ES3**, and **cognate disciplines**, feature more visibly in curriculum-making, through integrating elements of academic geography into the school geography curriculum, and through exemplifying geography's **breadth** and **depth**?

**Disciplinary Knowledge: Application**

Is geography being promoted as a **spatial science** in curriculum materials? Is **GIS** being integrated throughout the **curriculum-making** process? Is the continuity and progression of GIS (and GISci) evident in curriculum materials?

**Application of Disciplinary Knowledge**

**Careers and employability** is addressed much more explicitly in academic geography than in school geography. Can **geography-related careers** information be embedded into the curriculum at every stage of the **geography education journey**? How might this align with Gatsby Benchmark 4, 'Linking Curriculum Learning to Careers' (Holman, 2014)?

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| How can curriculum-making address the lack of continuity and progression in the application of **real-world issues** in school geography, (particularly in KS1-3)? | | What resources and/or organisations are best placed to contribute **real-world issues** and **real-world data** to the curriculum-making process? |
| **Substantive Knowledge**<br><br>There are variations in the levels of prescription of **substantive knowledge** in the geography curriculum throughout the **geography education journey**. There may, however, be persuasive arguments for the maintenance of this variation, given the scope and purpose of the documents analysed. Curriculum-makers at any level may wish to reflect on this, in combination with recommendations from Road Maps 1 and 2 relating to **substantive knowledge**. | | **The 16-19 Transition**<br><br>There may be persuasive arguments for the maintenance of a variation in **curriculum experiences** found in the curricula of schools and universities. However, are there opportunities to develop a shared understanding of **pedagogy** between school geography and academic geography through curriculum-making? |
| **Disciplinary Identity**<br><br>How can ongoing criticisms of the discipline's colonial legacy and lack of **diversity** be addressed in national level curriculum documents? It is evident from interview and questionnaire data that there are areas of good practice regarding **diversity** and **representation** at the classroom/ individual level; to what extent can these be captured by curriculum-makers and disseminated more widely?<br><br>The extent to which issues of **power** and **representation** are evident in academic geography should be taken as an incentive for these themes to be explicitly addressed in school geography, including in future curriculum documents. | | **Continuity and Progression in Geographical Knowledge**<br><br>*How can curriculum-making contribute to these elements of continuity and progression? (see column to the left for further detail.)* |

Table 6.4: Road Map 3, Curriculum-making: Using the curriculum to strengthen the connection between school geography and academic geography.

## 6.6 Chapter summary

This chapter is a synthesis of the findings of RQ1 and RQ2, to answer RQ3. The research proposes a 'language for connection', focusing on the geography education journey (Figure 6.1), road maps, and the importance of boundary-crossing not only between school

geography and academic geography, but within the subject community as a whole. High-quality geography ITTE seems to have the potential to facilitate many of the mechanisms for closer connections between school geography and academic geography, and therefore was discussed in greater depth, before three road maps were presented for consideration.

# CHAPTER 7: CONCLUSION

## 7.1 Introduction

This research journey began with my curiosity regarding the differences between the school geography curriculum and the academic discipline as studied at HE. As an experienced geography educator, it had seemed that differences between school geography and academic geography were necessary for progression, yet it was also clear that a lack of continuity also caused difficulties for learners as they made their transitions through the geography education journey. I had already explored these themes in previous work (Butt and Collins, 2013; 2018; Collins, 2019; Collins, 2020) and wanted to find out in a more research-informed way whether school geography and academic geography could be more closely connected by considering continuity and progression. I also wanted the research to give a voice to the discipline's stakeholders, and to reveal something of their experiences of the phenomenon of the transitions in the geography education journey. The focus of this research was therefore on better understanding the relationship between school geography and academic geography, by examining continuity and progression between those two main educational spaces. This chapter offers a conclusion to the research and further articulates the original contribution to knowledge. In section 7.2, summaries of the findings of the RQs are presented. Every piece of research will be subject to limitations, and these are addressed in section 7.3. Recommendations are made for policy and practice (section 7.4) and for dissemination and further research (section 7.5), before concluding remarks are presented in section 7.6.

## 7.2 Findings, significance, and contribution of the research

The research sought answers to three RQs. A brief summary of the findings in relation to each one is presented in section 7.2.1 (Table 7.1), before the significance and original contributions of the research are reasserted in section 7.2.2.

### 7.2.1 Summary of findings

| **Research Question (RQ)** | **Summary of findings** |
|---|---|
| What are the elements of continuity and progression between school geography and academic geography? (RQ1) | The research identified eight areas of continuity and progression between school geography and academic geography.<br><br>Seven aspects of continuity and progression related to themes from the GA's Curriculum Framework (GACF) (GA, 2022a).<br><br>1. There is some evidence of a shared language, broadly around locations, places, processes, and environments.<br><br>2. Geography is a spatial science.<br><br>3. The application of spatial data, especially through the use of GIS and other spatial technologies, was evident in documents relating to both school geography and academic geography.<br><br>4. Environment, particularly the associated concept of interaction which acts as a thread between several aspects of disciplinary knowledge and substantive knowledge, is an element of continuity between school geography and academic geography.<br><br>5. Geographical practice and geographical skills are elements of continuity between school geography and academic geography. |

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| | 6. Fieldwork as a geographical practice is an integral, essential, and fundamental part of school geography and academic geography.<br><br>7. There is a consensus that the application of geography to 'real-world' issues has the power to inspire learning that extends beyond the study of the subject in schools and universities.<br><br>The eighth aspect of continuity and progression developed from additional themes generated iteratively during the data analysis:<br><br>8. There is a consensus regarding the need for ethical practice in the discipline, linked to aspects of disciplinary identity – power (DI-Pow) and learner diversity (DI-LD) in particular – especially the need for geographers to actively contribute to an ethical, responsible, and inclusive subject community. This was particularly evident in post-16 school geography and academic geography.<br><br>The completed document analysis revealed some aspects of disciplinary knowledge (DK) and substantive knowledge (SK) that were referenced less often than others in particular key stages or phases. These were most readily observed as 'gaps' in the summary (Appendix 10) and it might be inferred that:<br><br>1. These might represent areas where continuity and progression between school geography and academic geography is not evident, or<br><br>2. These gaps might indicate areas of disciplinary knowledge and/or substantive knowledge that were of less relevance or concern to the authors of the respective documents. |
| What do stakeholders perceive to be the benefits and limitations of more closely connecting school geography and academic geography? (RQ2) | Participants, particularly interview participants, saw the connections between school geography and academic geography more in terms of opportunities and challenges than benefits and limitations.<br><br>Five themes were identified by interview participants:<br><br>1. Subject community;<br><br>2. Geography's identity;<br><br>3. Application of disciplinary knowledge;<br><br>4. The 16-19 transition; |

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| | 5. Continuity and progression in knowledge.<br><br>For each theme, the participants identified challenges but were often also able to propose solutions to those challenges from their own practice, as well as to identify opportunities relating to those themes. |
| What might a more connected geography curriculum look like in practice? (RQ3) | Three themes were identified from the literature review as potential mechanisms for more closely connecting school geography and academic geography:<br><br>1. Co-construction, through high-quality geography ITTE;<br><br>2. Collaboration, across the subject community;<br><br>3. Curriculum-making.<br><br>A synthesis of the findings of RQ1 and RQ2 resulted in recommendations (presented as road maps in Chapter 6) for how these mechanisms might be further developed. |

Table 7.1: Summary of findings.

### 7.2.2 Significance and contribution of the research

This thesis is significant in its focus on the geography education journey as a whole – seen, for example, in the scope of the document analysis in Chapter 4 – rather than more narrowly on any particular transition within that journey, as has been the case for much of the prior academic work in this area. The thesis also promotes the views of stakeholders from beyond the academy, moving on debates regarding transition found in earlier work such as Hill and Jones (2010), Tate and Swords (2013), and Ferreira (2018). This thesis contributes an invaluable glimpse into the current 'state of play' in the relationship between school geography and academic geography, not only a decade on from previous curriculum reforms in England, but on the verge of an imminent curriculum and assessment review in England (Phillipson, 2024a).

The thesis is original, too, in the development and application of a framework to analyse transition in the form of continuity and progression. The adaptation of the GACF provided a robust framework for data analysis, and the application of that framework to the questionnaire and interview data also added methodological rigour, noted as not always being present in small-scale geography education research (Butt, 2020). At the time of writing, there remains almost no work that critiques how the GACF has been received by the subject community. Elsewhere in the thesis, brief critiques by Huckle (2024) and Healy (2024) are identified. Although there were several possible conceptual frameworks that could have been applied to identify areas of continuity and progression, the publication of the GACF seemed to present a significant opportunity to make an early, research-informed, contribution to the subject community's understanding of the GACF, and of the different ways in which geography's concepts might be defined and identified.

## 7.3 Limitations

There are aspects of the research that require further scrutiny. Chapter 3 outlines the ongoing debates surrounding phenomenography, and the potential limitations arising from its application in this research are considered in section 7.3.1. Also raised in Chapter 3 were the missing voices; stakeholders whose views have not been sufficiently captured by this research. These missing voices are considered in greater detail in section 7.3.2, and in the potential avenues for further research outlined in section 7.5. Other minor limitations are summarised in section 7.3.3, along with the mitigations that were made to minimise the impact of these limitations on the research.

### 7.3.1 Limitations of the use of phenomenography

As can be seen in Chapter 3, having identified phenomenography as a potential design frame early in the research design process, and having read a breadth of academic work relating to this methodology, the work of Hajar (2021) was influential in beginning to understand the theoretical foundations of phenomenography. Phenomenography was not considered as a potential design frame without critical engagement, nor was Hajar (2021) taken at face value; the earlier critique of phenomenology and phenomenography by Stolz (2020) was taken into consideration when developing the research design. One limitation, however, is that the main research design decisions were made before the publication of Åkerlind's recent critiques of phenomenography (2022; 2024). These critiques were considered retrospectively, and in Chapter 3, the implications of those critiques were examined along with the justification of the choice of phenomenography as the research design.

There were other limitations to the use of phenomenography in this research. The sample for the phenomenographic interviews was small (n=7). Hajar (2021, p. 1426, citing Trigwell, 2000, p. 66 and Dunkin, 2000, p. 140) suggested that the ideal number of participants for this research method should be between 15 and 20, and so an increase to the sample of interview participants may have been desirable. The questionnaire was used selectively in the presentation of findings, as the data generated by the questionnaire was less rich than the interview data. Within a restricted word count, and wishing to foreground the voice of the discipline's stakeholders, it was decided to minimise the reporting of the questionnaire data. One such example of where this was done can be seen in Chapter 5, section 5.4 (and in the accompanying Appendix 22). In this section, the participants' conceptions of the

geography curriculum were briefly reported, through their responses to completing the sentence *'The school geography curriculum should…'* (Q23 in the questionnaire). A number of questions had also been asked regarding familiarity with school geography and academic geography (Q22 and Q25) which were not closely analysed. There were limitations to these questions, not least that participants were self-reporting their degree of familiarity; mitigations were made for these limitations, including the anonymity offered by the online questionnaire with a view to reducing social-desirability bias (Gray, 2018, p. 244). Notwithstanding these potential limitations, it was felt that the data generated (particularly by Q23, outlined more fully in Appendix 22) acted as an important baseline assessment of the participants' 'eligibility' as stakeholders with an interest in this research, and a lens through which their contributions to the research could be viewed. There is sufficient data in the questionnaire that could contribute to further research, as described in section 7.5.

If a similarly phenomenographical approach were to be applied to research in the future, it may increase confirmability (the degree to which the research could be replicated) if a more robust description of procedure were developed; however, as Braun and Clarke (2021, p. 329) stated: 'Following procedure is not a guarantor for doing 'good TA'; instead, understanding what the procedures facilitate, what they give you access to, and that these are tools for a process, rather than the purpose of analysis, is important'. In Chapter 3, reflexive thematic analysis (RTA) was considered as a potential alternative along with the final justification for rejecting RTA in favour of the phenomenographic approaches selected. I believe that a sufficient understanding of procedures – and the insights (from documents, and from participants) to which they provided access – has been demonstrated, and that the

application of phenomenography in this research can contribute to the field of knowledge regarding the potential uses of such phenomenographical 'tools' in educational research.

### 7.3.2 Missing voices

It can be observed from Chapter 5 that there were some notable exceptions from the desired population of stakeholders captured in the sample for the research, leading to 'missing voices' in particular from the student community. This under-coverage could be considered as a form of sampling error (Gray, 2018, p. 254). In a number of cases, recent and relevant empirical academic work (Hammond and Healy, 2022; Oakes and Rawlings Smith, 2022) has been applied to mitigate the impacts, but these missing voices must still be acknowledged, and are referenced as a potential avenue for further research in section 7.5. Possible reasons for the under-coverage of students in the sample who responded to the questionnaire are summarised in Table 7.2.

| **Sub-Section of Community** | **Possible reasons for under-coverage** | **Mitigations and Recommendations** |
|---|---|---|
| Post-16 students | Methods of data collection, leading to a comparative lack of direct access to the questionnaire | The recent work of Oakes and Rawlings Smith (2022) contributed an understanding of the views of geography teachers regarding some of the themes of this research that were applicable to the post-16 community of stakeholders.<br><br>**Recommendation: Further research with post-16 students.** |
| | Timing of data collection, particularly in relation to the impacts of the Covid-19 pandemic on the mental health, emotional, and wellbeing of children and young people | |
| Undergraduate students of geography and geography-related disciplines | Methods of data collection, via the online learning platform used by the institution; this method of circulation is reliant on students independently engaging with the request | The views of this group of stakeholders can be supplemented by the recent work of Hammond and Healy (2022) whose sample was 333 undergraduate participants. |

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| Postgraduate students of geography and geography-related disciplines | Methods of data collection, via request to an administrative team in GEES | **Recommendation: Further research with postgraduate students.** |
| Student geography teachers | Methods of data collection, taking into account ethical approaches to avoid coercion<br><br>Survey fatigue | Many providers of high-quality geography ITTE engage student teachers in reflection (informally in sessions, and formally via assessed work such as written assignments) and this may be a readily accessible form of data that might underpin future research into the views of this community of stakeholders.<br><br>**Recommendation: Further research with geography ITTE students.** |

Table 7.2: Possible reasons for the under-coverage of students in the sample who responded to the questionnaire.

The views of post-16 geography students are not captured by this research. The questionnaire was circulated in such a way that it was likely that post-16 students of geography would only be reached via 'snowballing', for example by the questionnaire being shared with a class of post-16 students of geography by their geography teacher. A resultant lack of engagement from post-16 students may have therefore been caused by a comparative lack of direct access to the questionnaire rather than by any general lack of engagement in the focus of the research, but this cannot be determined. The timing of the data collection might also have contributed to a lack of post-16 participants; the questionnaire was circulated between November 2022 and January 2023, and although the education sector in England at that time had largely returned to a degree of operative 'normality' following the Covid-19 pandemic, the mental health, emotional, and wellbeing impacts on children and young people are likely to be long-lasting (Anders *et al.*, 2021). Any student who would have been eligible to complete the questionnaire (i.e. was a student of

geography of at least 18 years of age) between November 2022 and January 2023 would have experienced significant recent disruption to their education. Any such student would have been in Year 10 (KS4) during the academic year in which the pandemic first occurred (2019/20) and would have completed their GCSE examinations in 2020/21 following two academic years of heavily disrupted learning, including extended periods of remote learning and home schooling during school closures during the Covid-19 pandemic. It is perhaps therefore unsurprising that many young people of this age reported feeling unmotivated, lonely and anxious (Anders *et al.*, 2021) in the immediate aftermath of the pandemic, and not unlikely that these experiences may have left them feeling somewhat disenfranchised and decreased their enthusiasm for engaging in educational experiences, including completing questionnaires.

Only 17 of the 66 responses (25.7%) were from undergraduate students. The questionnaire was shared directly with students in the School of Geography, Earth and Environmental Sciences (GEES) at the University of Birmingham via Canvas (the online learning platform used by the institution), by the administrative team for GEES undergraduate programmes. This method of data collection would therefore require students to independently engage with the request. It is likely that undergraduates receive a high volume of communications through their online learning platform, and that they do not engage with every request of this nature, especially when unrelated (directly) to their chosen modules. The undergraduate cohort at the time of data collection would also be similarly subject to the detrimental impacts of the Covid-19 pandemic on motivation and engagement.

It was reported that the postgraduate community in GEES at the time that the questionnaire was circulated comprised around 90 postgraduate researchers and 150 postgraduate taught students (UoB, 2023) so a return rate of just one single postgraduate student is a disappointing outcome from the questionnaire. The circulation of the questionnaire via Canvas was facilitated by administrative staff from GEES and the timing and visibility only seen internally by the GEES community, so it is not possible to verify that the questionnaire was indeed circulated effectively to the postgraduate community; a sample of only one from a potential population of 240 might suggest that, perhaps, the questionnaire did not effectively reach the intended audience. Other explanations might include the time pressures faced by postgraduate students, or an increased focus on a narrower field of study which may have led students to feel the questionnaire was of less relevance and/or interest to them. Regardless of the reasons for the lack of engagement from postgraduate students, this remains an under-researched stakeholder group in this research project, and would be a valuable avenue for further research.

That only one student (or trainee) teacher completed the questionnaire is perhaps surprising given my positionality as the researcher who, at the time of the questionnaire's distribution, had ready access to a cohort of geography student teachers. However, as outlined in Chapter 3 and the application for ethical review (Appendix 17) it was felt to be of the utmost importance that no undue pressure was applied to my own cohort nor to my professional network to engage with the research. Survey fatigue has also been identified as being a particularly prevalent phenomenon experienced by beginning teachers. Exploratory research by the DfE (2018) reported that Newly Qualified Teachers (NQTs, now termed Early Career

Teachers or ECTs) found that it was possible that an NQT might receive up to ten surveys about their teacher training and NQT year, reinforcing the findings of Porter, Whitcomb and Weitzer (2004) that receiving multiple surveys within an academic year can lead to reduced response rates. Since the DfE (2018) research report was conducted, there has been little if any reduction in the number of surveys a beginning teacher might expect to complete during their teacher training and into their early career, particularly for student teachers who are completing their teacher training in an HEI where they will also be subject to a number of other institutional and sector level surveys.

Another missing voice in the data is from the ES3 community. This community was not captured strongly in the sample, and a decision was made not to include the Subject Benchmark Statement for ES3 (QAA, 2022a) in the document analysis. Further research with the ES3 community is a recommendation for further research (Table 7.5).

### 7.3.3 Other minor limitations

A small number of potential minor limitations – along with their mitigations - are considered below, in Table 7.3.

| **Issue** | **Potential Limitation** | **Mitigation** |
|---|---|---|
| 'The language of engagement in a post-stakeholder world' (Reed *et al*., 2024) | The term 'stakeholder' has recently been under scrutiny by Reed *et al*. (2024) who note that:<br><br>'Although the term is widely accepted in both formal and informal settings, we, and others, have identified | An ethical approach was adopted which prioritised the participants' self-identification, both in terms of the identity they selected in the questionnaire (Q8, including the option to state that '*I don't strongly identify with any of these categories*' and to elaborate in whatever way they wished) and, for |

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| | inherent issues with the term in some contexts as it perpetuates colonial harm, and may undermine or contradict the positive intentions that initially justified its adoption' (Reed *et al*., 2024, p.1481).<br><br>The authors described stakeholder as an aspect of contested language, suggesting that it is often poorly defined. | interview participants, through the creation of a self-authored pen portrait (see Chapter 5, section 5.3). The article by Reed *et al.* (2024) was published several years after RQ2 was phrased, and well into the process of writing up this thesis, but was thought-provoking and bears consideration here. It has been concluded that although debate around alternative terms is ongoing, stakeholder remained an appropriately inclusive term for this research study – particularly given the methods used to ensure it was clearly defined, and did not imply a 'language of power' (Reed *et al.*, 2024, p. 1483) – and is therefore retained throughout the thesis and in the phrasing of RQ2. |
| Alternative interpretations of geographical concepts | In Chapter 4, it was highlighted that there was a need to view substantive knowledge and disciplinary knowledge in relation to, and in the context of, one another. An approach to data analysis which views geographical knowledge and concepts in other ways might result in different findings. | Geographical knowledge and concepts remain of interest to the geography education community, and academic work to define knowledge and concepts is continually being published.<br><br>Recent publications, for example Maude (2024) might generate alternative concepts which could be applied to future research. Maude (2024) specifies four key concepts (interconnection, place, space, environment), two analysing concepts (scale and time) and two evaluative concepts (sustainability and human wellbeing). Applying these concepts as the framework for data analysis may result in different findings. |
| The nature and purpose of the documents selected for analysis | The use of the Subject Benchmark Statement for Geography (QAA, 2022b) and ALCAB (2014) could also be considered as a potential limitation. As has been acknowledged elsewhere in the thesis, the purpose of these two documents differs | Where the nature of the document seems to have potential to influence the findings drawn from the document analysis, this has been addressed in the discussion. The nature of academic geography makes it difficult to identify any more appropriate, equivalent, national-level articulation of the |

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| | from the national-level curriculum documents that were analysed. | potential geography 'curriculum' in this educational space. It was concluded that in spite of the limitations, the use of the SBS for the document analysis was a sufficiently robust methodological decision. Further research (Table 7.6) might identify other appropriate documents that could be suitable alternatives to those selected in this research. |

Table 7.3: Potential minor limitations, and the mitigations made.

## 7.4 Recommendations for policy and practice

The GACF describes curriculum-making in geography as occurring at three levels: national level, planning and development level, and classroom level (GA, 2022a, p. 3). I propose that the recommendations of this research can apply at those same three levels, presented below and in Table 7.4. Not all of geography's stakeholders work in classrooms, so the language has been altered in Table 7.4 to *individual level* recommendations. In offering advice on how to conclude a research project, Thomas (2017, pp. 296-297) reminds the researcher that '…when students include these [recommendations for participants or for policy more widely] they can seem trite and reveal a lack of understanding about the realities of policy and practice… it is extraordinarily difficult to effect change in an organisation…'. Therefore, only reflections (not recommendations) are offered in relation to the national level.

In Chapter 1, this research was set in the wider national context of ongoing reforms to educational policy that have largely neglected the autonomy and agency of education professionals. This is a view acknowledged by The Rt Hon Bridget Phillipson MP at the start of her (at the time of writing, current) tenure as the State of Secretary for Education in the UK: 'For too long the teaching profession has been talked down, side-lined and denigrated. I have made it my first priority to write today to the people at the centre of making change happen: our workforces' (Phillipson, 2024b, n.p.). The Labour government elected in July 2024 set out clear priorities for the education sector in the UK, including the recruitment of 6,500 new teachers (Phillipson, 2024b). This research has further contributed to prior work that suggests teachers' content knowledge (and pedagogical content knowledge, see also Chapter 2) matters (Coe *et al*., 2014), yet subject-specialism remains under threat in the current ITTE landscape. However, a recently announced review of curriculum and assessment in England (Phillipson, 2024a) could present opportunities for consultation across the education profession, including with educational researchers.

Alongside the review of curriculum and assessment (Phillipson, 2024a) there will inevitably be some discussion at planning and development level, including in the subject community and with contributions from subject associations (such as the GA) and learned societies (such as the RGS-IBG). The findings of this research can be of use to those organisations, along with others operating at the planning and development level such as awarding bodies (in terms of specification content and supporting materials for teachers, as well as assessment criteria) and resource providers and publishers (in terms of addressing the gaps

that have been identified in continuity and progression, and the challenges and opportunities raised by participants).

At a time when teachers' professionalism and agency is being eroded and there are significant demands on educational settings in every phase, it did not feel appropriate to impose any explicit recommendations for application at the individual level. However, there were some fascinating responses from the questionnaire that stakeholders might find of interest when looking for ways to more closely connect school geography and academic geography in their own context. Relevant sources of the research data were the questionnaire responses related to inspirational geography (Q26), notable geographers (Q27), the geography that participants felt least prepared for in HE (Q30) and elements of academic geography that participants believe are missing from school geography but from which, were they included, young people could benefit learning about (Q33). Interview participants also provided some practical examples of where they were connecting school geography and academic geography in their own practice. The participants' responses are presented in Appendix 23, and the links between the research data and the individual level recommendations are summarised below in Table 7.4. These suggestions use the research data to build on the practical suggestions initially created for *How To Build A Geographer* (Collins, 2020) which have been included as Appendix 24. Links are also made to the road maps presented in Chapter 6.

| ***Individual level recommendations (taken from Collins, 2020)*** | **Recommendations from the research data (further development of Collins, 2020, building on Appendix 24)** | **Links to road maps (Chapter 6)** |
|---|---|---|
| *Strengthen primary and secondary links, treating them not as separate worlds, but as mutually beneficial pools of expertise*<br><br>*Make contact with teachers in your local primary / secondary schools; ask if you can help them, and if they can help you!*<br><br>*→ Your local ITTE provider – secondary phase, and primary phase – will likely have opportunities built into courses for student teachers to learn about the phase before/after the one in which they are learning to teach.*<br><br>*Read around the phase(s) of education that you teach, to learn from beyond your specialism.* | The research has highlighted the increasing opportunities to connect primary and secondary geography, through increasing numbers of all-through schools and MATs. This was captured by Cole (405-416):<br><br>'We are now a Trust of four primaries and by 2025 we're going to be a Trust of eight. We're doubling our primary intake, so a lot of our forward planning is supporting primaries, which are our feeder schools and a lot of … helping to skill up younger geographers as students. … make sure you are thinking about geographers who are as young as five because as a school we have gone from just 11-18 to a Trust that is 5-19 now. So our remit has increased. So yes, you're talking about education and geography from school to university engagement but actually, that engagement is going backward and downwards from us. We're doing a lot of support as a school and as departments going into primary schools. That's what we're doing.' | Road Map 2<br>Road Map 3 |
| *Engage in outreach activities from academic geography departments in HEIs, using them to motivate and engage learners of geography at all stages* | Interview participant suggestions included:<br><br>→ Fieldwork opportunities between schools and HEIs (Charlie, Corran)<br><br>→ Arranging and/or attending talks and/or CPD given by academic geographers (Cole, Corran, Duncan)<br><br>→ Attending conferences (Juniper)<br><br>→ Engaging with opportunities for scholarship (Marie)<br><br>→ Physical boundary-crossing and making use of academic spaces and facilities (Charlie, Corran, Duncan) | Road Map 2<br><br>(with potential to influence curriculum-making, Road Map 3) |
| *Ensure post-16 geography students are aware of different HE pathways in geography and geography-related disciplines, challenging the misperception* | Suggestions of notable geographers identified by participants (Appendix 23) might be promoted in school geography spaces (e.g., classroom displays) and incorporated into curriculum-making (e.g., | Road Map 2<br>Road Map 3<br><br>(particularly with |

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| *that geography at HE is 'more of the same'*<br><br>*Promote geography as 'part STEM' to further raise its profile as a well-regarded and facilitating subject* | lesson resources, choice of topics for schemes of work).<br><br>However, the data relating to power and representation (DI-Pow) that developed from the document analysis, questionnaires, and interviews, should be acknowledged, and barriers addressed. Interview participants (Cole, Marie, Philip) also mentioned the importance of representation. The list of notable geographers in Appendix 23, identified by participants, may not yet adequately meet the need for diversity, inclusion, and representation. Further research in this area would be advised. | contributions from ES3 and cognate disciplines) |
| *Using HEIs and other specialist institutions to strengthen subject knowledge, particularly in areas of subject knowledge in which teachers report lower confidence, lack of familiarity, poor access to necessary resources etc.* | Interview participants identified limitations and challenges of the boundary-crossing that might facilitate this aim (Charlie, Duncan, Juniper)<br><br>However, interview participants were also able to share benefits and opportunities relating to subject knowledge enhancement and CPD (Corran, Duncan).<br><br>Appendix 23 lists the areas of geography identified by participants as being the areas in which they felt least prepared when beginning a geography or geography-related degree. This list might act as a useful starting point for the subject community to prioritise CPD in the areas of most need. | Road Map 1<br>Road Map 2<br>Road Map 3 |
| *Engaging learners in subject-specific competitions run by HEIs and subject associations* | Subject-specific competitions were a suggestion made in Collins (2020) – see Appendix 24. These were not identified by participants as mechanisms that they had used to connect school geography and academic geography. However, the examples provided in Appendix 24 include opportunities provided by the GA and the RGS-IBG which remain ongoing:<br><br>**GA**<br>→ International Geography Olympiad (iGeo, taking place in Ireland in 2024)<br>→ Physical Geography Student Photo Competition (theme for 2024: 'The power of physical geography') | Road Map 2 |

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| | **RGS-IBG**<br>→ RGS-IBG Young Geographer of the Year<br>→ 2024 competition theme 'Why should we Choose Geography?' | |
| *Be able to give learners (and parents/guardians/carers and other stakeholders in the decision making) accurate information about geography and employability*<br><br>*Invite geography UGs into the classroom; give learners a sense of what HE is about and what it might do for them, so that they can make informed decisions about whether it is the right option for them*<br><br>*RGS-IBG*<br>*→ Find out more about the Geography Ambassadors scheme and book a visit* | Careers and employability were identified in the document analysis as an important theme relating to the application of disciplinary knowledge (DK-A-Emp). Application of disciplinary knowledge was also one of the five themes relating to benefits and limitations that were generated from the interviews.<br><br>Interview participants suggestions included:<br><br>→ Engaging with specific external careers-related events (Cole)<br><br>→ Working with subject associations to deliver careers-related events in schools (Marie)<br><br>→ Raising awareness of career pathways (Duncan, Philip)<br><br>→ Enabling access to the educational spaces of HE (Charlie, Corran) | Road Map 2<br><br>(but also ensure careers guidance is included in curriculum-making, Road Map 3, in line with Gatsby Benchmark 4) |
| *[Re]-engage with the academic discipline by reading academic journals and open-access publications on contemporary geographical research*<br><br>*Continue to engage in suggested reading for ITTE student geography teachers, via reading lists from ITTE providers. This literature will continue to stimulate and challenge your thinking, regardless of time in service as a geography teacher.* | Interview participants identified knowledge transfer and gate-keeping as a barrier to more effective connections between school geography and academic geography, but were also able to make suggestions regarding opportunities for boundary-crossing and knowledge transfer.<br><br>High-quality subject-specific ITTE has been identified as a potential mechanism for enabling knowledge transfer, although current changes to ITTE provision in England may have an impact on this in the future. | Road Map 2<br><br>(with potential to be achieved by Road Map 1, and to influence curriculum-making, Road Map 3) |
| *[Re]-engage with academic geographers, remembering that they won't always self-identify as such! (geographers, climatologists, earth scientists,* | In this research, engagement is often articulated as boundary-crossing.<br>A number of related issues were identified by the interview participants, including the barriers of time, capacity, and success (or | Road Map 2 |

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| *sociologists, anthropologists, geologists, meteorologists….)*<br><br>*Don't be afraid to approach academics and researchers directly.* | lack of) in their attempts for boundary-crossing, incentivisation (or lack of) for boundary-crossing, and issues of communication and awareness (or lack of) across the subject community. There needs to be a collective endeavour to address these barriers. However, interview participants also shared examples of successful boundary-crossing, and useful proposals for further opportunities.<br><br>Geography's identity was specified by interview participants as relating both to the benefits of more closely connecting school geography and academic geography, and the limitations of doing so. | |
| *Protect and promote geography specific ITTE, with a collective ('profession-led') responsibility to co-construct a high quality geography ITE curriculum* | Interview participants raised a number of education workforce issues that they felt were current barriers to more closely connecting school geography and academic geography. Teacher recruitment and retention were among these barriers (Corran, Juniper, Philip). | Road Map 1 |

Table 7.4: Individual level recommendations from the research – Practical suggestions from the data, further developing *How to Build A Geographer* (Collins, 2020).

## 7.5 Plans for dissemination and recommendations for further research

There is scope for this research to be disseminated in a number of ways. Taking into account the experiences of participants in relation to knowledge transfer and gate-keeping, and the overarching aim of the research to have practical applications for the subject community, the methods of dissemination should extend beyond academic publication. However, the focus of the research seems well aligned with the aims of several academic journals, from which much of the literature reviewed in Chapter 2 was identified.

To ensure that the research is accessible to the breadth of stakeholders in the subject community, dissemination (whether through written or oral outputs) should include routes, as far as possible, that are not subject to financial gate-keeping. There is scope for dissemination at the annual conferences of the GA and the RGS-IBG (the annual conference of the latter in 2025 being hosted by the University of Birmingham, the home institution for this research) but conference attendance is not always inclusive, financially or otherwise, to every part of the subject community. The information in Table 7.4 is an adaptation of the practical suggestions made in Collins (2020), made freely available at the time to anyone in the subject community who wished to access them. Both the GA and the RGS-IBG include free-to-access materials on their websites, and the information in Table 7.4 and road maps presented in Chapter 6 could be further developed, for example as self or departmental audits of 'transition awareness' (after Ferreira, 2018, p. 373) and disseminated via these subject bodies.

Reflecting on the period immediately preceding the introduction of GNC2014 (DfE 2013a), Butt (2020) described:

> an opportunity missed – there was clearly then, and still is today, a pressing need for research in geography education to help define the school subject in modern form, a task which must bring together the discipline of geography and the school subject through an act of curriculum making (Butt, 2020, p. 245).

This thesis is a response to that need, but there are potential avenues for further research relating to each of the themes that the research has identified– co-construction, collaboration, curriculum-making – and to consolidate and develop further the

recommendations made in Chapter 6, and above and in Table 7.4. These are summarised in Table 7.5.

| Recommendation | Elaboration |
|---|---|
| Further research with under-represented stakeholders | Table 7.2 highlights a number of missing voices from the subject community whose experiences might further develop our understanding of continuity and progression between school geography and academic geography. Further research therefore might concentrate more specifically on individual communities that were under-represented in this research; for example, ES3, student teachers, postgraduate teachers, and learners of school geography (the latter being excluded from this research through the imposition of a threshold age limit of 18 years or older). |
| Further research into collaboration and boundary-crossing in the subject community | This thesis addresses what Ferreira (2018, p. 374) reported as the transition between school and university being 'largely under conceptualized, and under researched'. A similar view of the 'under-conceptualised' nature of research into the 16-19 transition was reported four years earlier, by Briggs, Clark and Hall (2012, p. 4). Ferreira (2018, p. 381) also offered a number of proposals for future research which include questions relating to collaboration in the subject community which remain unanswered. |
| Further research into geography curriculum-making | In Chapter 4, it was proposed that a document analysis of GCSE and A-level specifications from a range of awarding bodies may be an interesting avenue for further research, in particular to further explore progression between school geography and academic geography. This would also require a similar source of information regarding progression to be identified for academic geography; the benchmark standards for threshold, typical, and excellent graduates in QAA (2022b) might be an appropriate starting point. |
| Further research into different educational spaces | In Chapter 2, it was identified from the literature that all-through schools might present particular opportunities for transition (Harris and Jones, 2022). The authors identified all-through schools as being under-researched. Although this context would limit research to school geography, carrying out research into the way the geography curriculum might be constructed in an all-through school would be an interesting way to further examine the phenomenon of transition in the geography education journey. This kind of research may be particularly pertinent given the rise in all-through schools and the MAT model, with the latter often leading to stronger relationships between primary schools and secondary schools in the same Trust. It was suggested in Chapter 3 that one possible avenue for further research might be to scrutinise individual geography curricula at a more local level, and often MATs operate a centralised curriculum across a number of schools. |

| | |
|---|---|
| Further research into learning as a feature of transition | This research did not seek to measure or quantify any impacts on learning, but it should be noted that this may be a potential area for further research, and the phenomenographical approach taken to this research would offer a basis for similar, future, research into the phenomenon of 'what is happening' when learners make the transition from school geography to academic geography, with learning as the phenomenon of interest. This would represent a shift from the focus of this research, on the 'what' (i.e. curriculum) to the 'how' (i.e. learning). |

Table 7.5: Potential avenues for further research.

## 7.6 Chapter summary and concluding remarks

This chapter has presented a brief summary of findings, and has addressed the potential limitations of the research. Recommendations have been made for policy and practice at a range of scales (national level, planning and development level, individual level). The research has also identified some areas for further research, and proposed methods for dissemination.

It was identified in Chapter 2 that there was an absence of current research which crossed the boundary between school geography and academic geography, and this research begins to address that absence. It builds on prior research that has focused on specific phases of geography education (for example: Catling and Martin, 2011; Catling, 2013; Catling and Morley, 2013; Eaude *et al*., 2017 for the primary phase; and Butt, 2011; Jones and Lambert, 2013; 2018 for the secondary phase). The literature review identified that the most extensively researched transition in geography education appeared to be the 16-19 transition (Hill and Jones, 2010; Tate and Swords, 2013; Ferreira, 2018; Finn, 2018; Hammond and Healy, 2022) with significantly less research extending across the full

geography education journey. In that respect, this research therefore occupies an important and previously under-researched space in the field of knowledge. Additionally, Ferreira (2018) suggested that research into the 16-19 transition remained under-conceptualised, and it is intended that the methodological and conceptual rigour applied in this research begins to address that concern. This research has identified that the 16-19 transition remains an area of focus for participants, but by foregrounding the voices of stakeholders from beyond the academy, introduces an element of co-construction taking place between academic geographers and teachers of geography in schools. It is proposed that this co-construction, along with collaboration across the subject community and innovative curriculum-making, has the power to continue to drive forward the discipline of geography in the future. It is through continuity, progression, and transition that the subject community can continue to build geographers.

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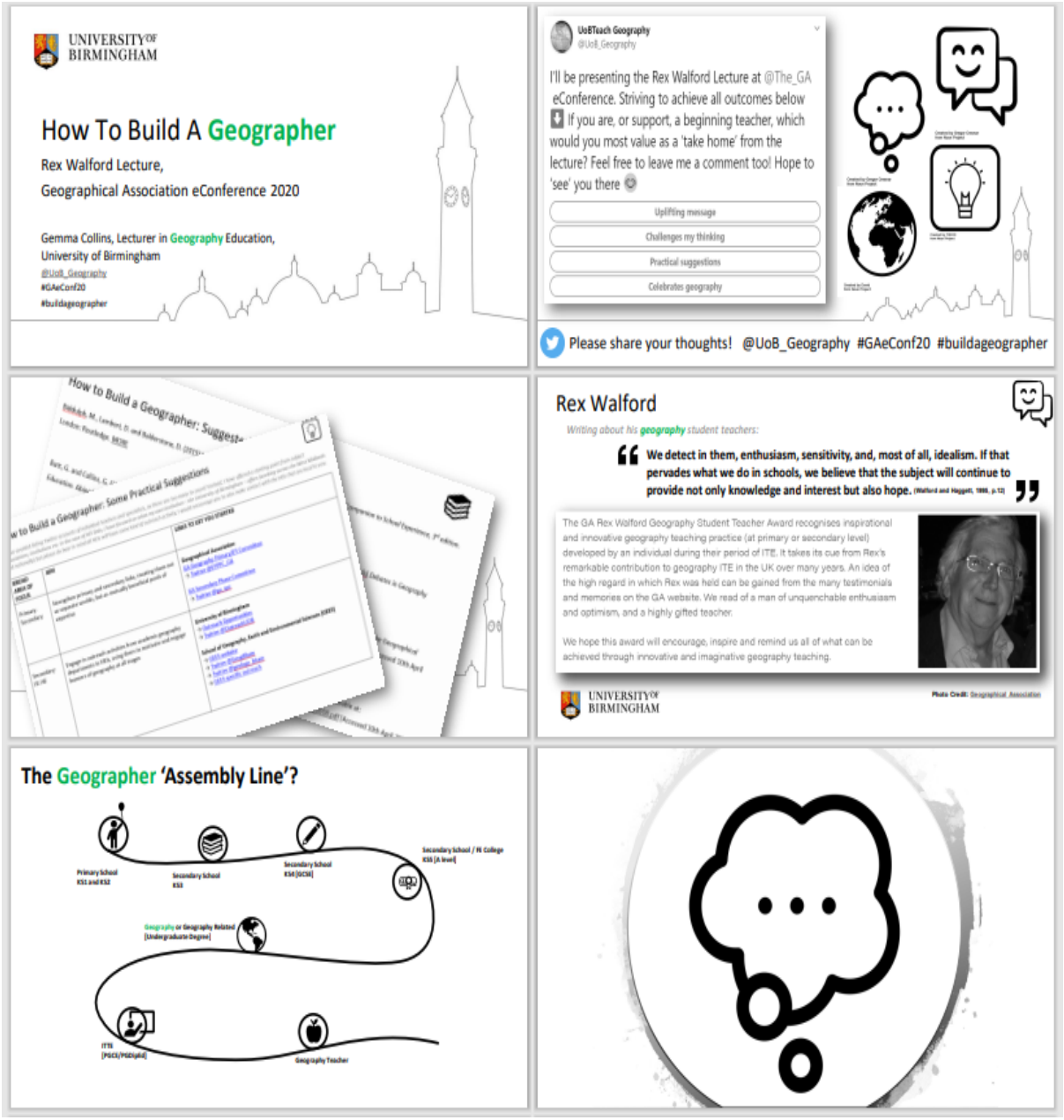
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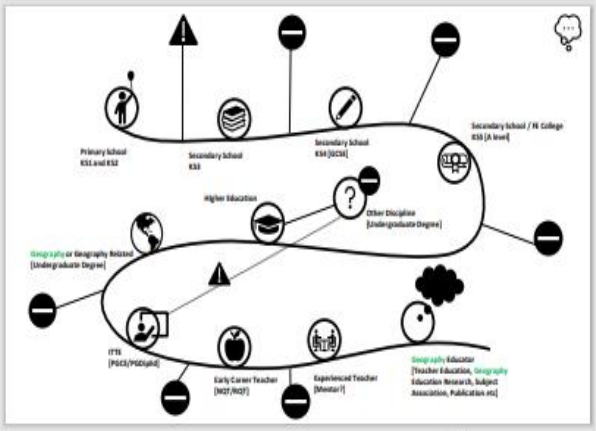
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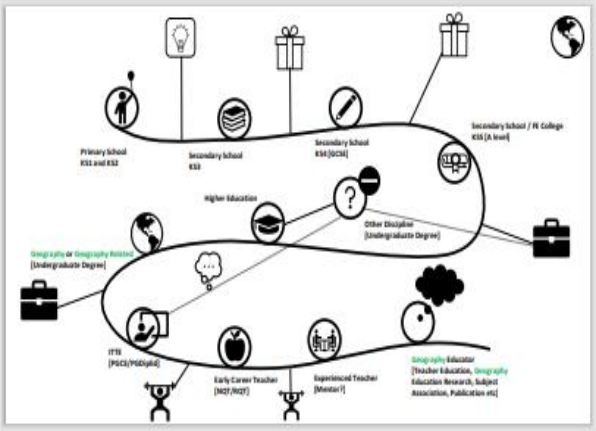
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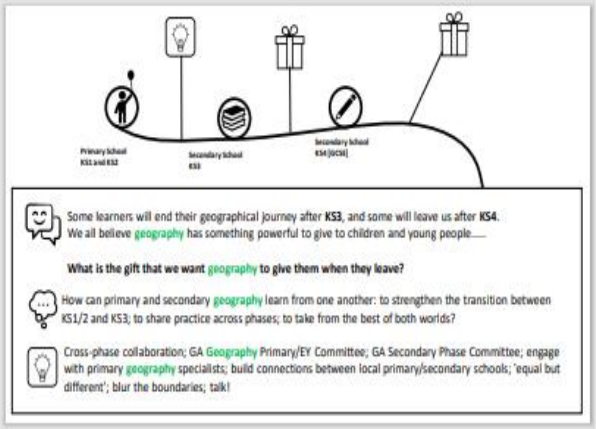
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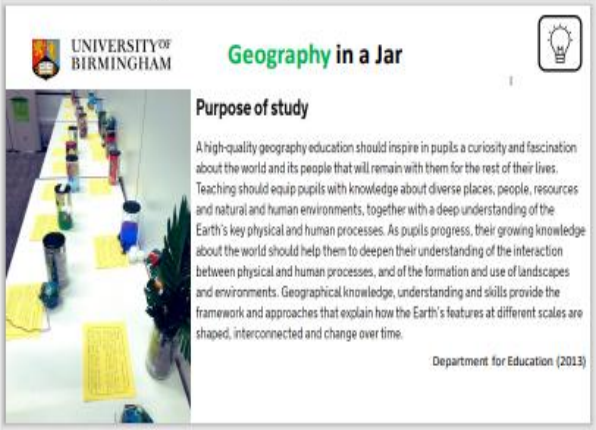
Appendix 1: How To Build A Geographer, Lecture Slides (Collins, 2020).

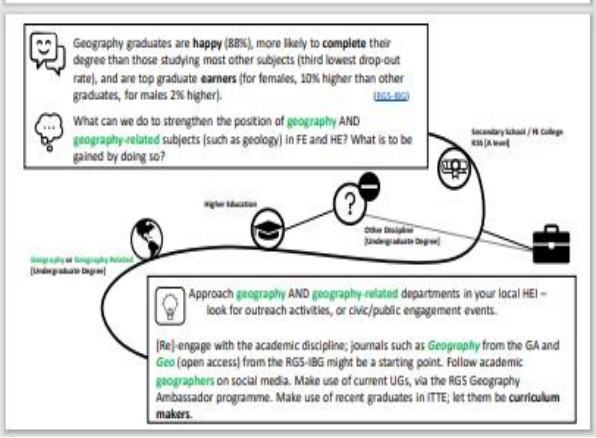


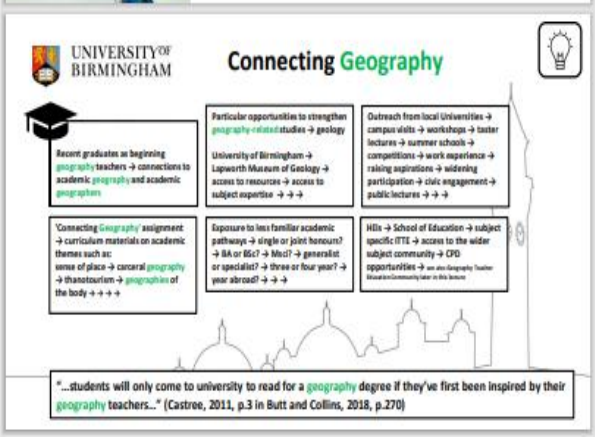

Primary School
KS1 and KS2
Secondary School
KS3
Secondary School
KS4 (GCSE)
Secondary School / FE College
KS5 (A level)
Higher Education
Other Discipline
(Undergraduate Degree)
Geography or Geography Related
(Undergraduate Degree)
ITTE
(PGCE/PGDipEd)
Early Career Teacher
(NQT/NQT)
Experienced Teacher
(Mentor?)
Geography Educator
(Teacher Education, Geography Education Research, Subject Association, Publication etc)


Primary School
KS1 and KS2
Secondary School
KS3
Secondary School
KS4 (GCSE)
Secondary School / FE College
KS5 (A level)
Higher Education
Other Discipline
(Undergraduate Degree)
Geography or Geography Related
(Undergraduate Degree)
ITTE
(PGCE/PGDipEd)
Early Career Teacher
(NQT/NQT)
Experienced Teacher
(Mentor?)
Geography Educator
(Teacher Education, Geography Education Research, Subject Association, Publication etc)


Primary School
KS1 and KS2
Secondary School
KS3
Secondary School
KS4 (GCSE)
Some learners will end their geographical journey after KS3, and some will leave us after KS4.
We all believe geography has something powerful to give to children and young people.....
What is the gift that we want geography to give them when they leave?
How can primary and secondary geography learn from one another: to strengthen the transition between KS1/2 and KS3; to share practice across phases; to take from the best of both worlds?
Cross-phase collaboration; GA Geography Primary/EY Committee; GA Secondary Phase Committee; engage with primary geography specialists; build connections between local primary/secondary schools; 'equal but different'; blur the boundaries; talk!

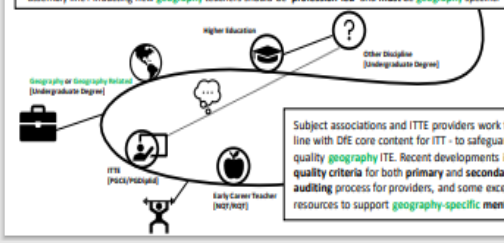

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Geography in a Jar
Purpose of study
A high-quality geography education should inspire in pupils a curiosity and fascination about the world and its people that will remain with them for the rest of their lives. Teaching should equip pupils with knowledge about diverse places, people, resources and natural and human environments, together with a deep understanding of the Earth's key physical and human processes. As pupils progress, their growing knowledge about the world should help them to deepen their understanding of the interaction between physical and human processes, and of the formation and use of landscapes and environments. Geographical knowledge, understanding and skills provide the framework and approaches that explain how the Earth's features at different scales are shaped, interconnected and change over time.
Department for Education (2013)


Geography graduates are happy (88%), more likely to complete their degree than those studying most other subjects (third lowest drop-out rate), and are top graduate earners (for females, 10% higher than other graduates, for males 2% higher). (RGS-IBG)
What can we do to strengthen the position of geography AND geography-related subjects (such as geology) in FE and HE? What is to be gained by doing so?
Secondary School / FE College
KS5 (A level)
Higher Education
Other Discipline
(Undergraduate Degree)
Geography or Geography Related
(Undergraduate Degree)
Approach geography AND geography-related departments in your local HEI – look for outreach activities, or civic/public engagement events.
[Re]-engage with the academic discipline; journals such as Geography from the GA and Geo (open access) from the RGS-IBG might be a starting point. Follow academic geographers on social media. Make use of current UGs, via the RGS Geography Ambassador programme. Make use of recent graduates in ITTE; let them be curriculum makers.


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Connecting Geography
Recent graduates as beginning geography teachers → connections to academic geography and academic geographers
Particular opportunities to strengthen geography-related studies → geology
University of Birmingham → Lapworth Museum of Geology → access to resources → access to subject expertise → → →
Outreach from local Universities → campus visits → workshops → taster lectures → summer schools → competitions → work experience → raising aspirations → widening participation → civic engagement → public lectures → → →
'Connecting Geography' assignment → curriculum materials on academic themes such as: sense of place → carceral geography → thanotourism → geographies of the body → → → →
Exposure to less familiar academic pathways → single or joint honours? → BA or BSc? → Msci? → generalist or specialist? → three or four year? → year abroad? → → →
HEIs → School of Education → subject specific ITTE → access to the wider subject community → CPD opportunities →
"...students will only come to university to read for a geography degree if they've first been inspired by their geography teachers..." (Castree, 2011, p.3 in Butt and Collins, 2018, p.270)

Collectively, how do we respond to the criticisms (*fair or unfair*) levelled at ITTE? As a subject community, do we do enough to **challenge misconceptions** about ITTE, and to challenge ourselves to ensure the **highest quality ITE** in geography? How can schools and geography departments support and **co-construct** with subject-specialist ITTE providers? Is subject-specific **mentoring** (ITTE, NQT, RQT) given a high enough profile in the portfolio of teachers' professional duties?

The ITTE landscape has changed hugely over time, particularly since 2010 and the publication of the government White Papers *The Importance of Teaching* (DfE, 2010) and *Educational Excellence Everywhere* (DfE, 2016). We **all** – regardless of 'type' of provider/route, and whether school or university based - have a responsibility to strengthen this stage of the 'assembly line'. Inducting new geography teachers should be '**profession-led**' and **must** be geography specific.




Subject associations and ITTE providers work tirelessly – in line with DfE core content for ITT - to safeguard high quality geography ITE. Recent developments include **quality criteria** for both **primary** and **secondary** phases, an **auditing** process for providers, and some excellent resources to support geography-specific **mentoring**.

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## Geography ITE Curriculum

**Co-construction with key stakeholders:**

→ geography teacher education (GTE) community (including annual conference)
→ subject associations → RGS-IBG schools, RGS Scholars (including assessment) → GA → GA Geography Education Working Group
→ specialist organisations, such as EsriUK, CND Peace Education, RMetS, Lapworth Museum of Geology
→ geography education researchers (including past ITE students now part time MA students, generating research from their own classrooms)
→ geography mentors (including supporting the recruitment process via involvement in interviews)

**To get involved in Co-construction of high quality Geography ITE:**

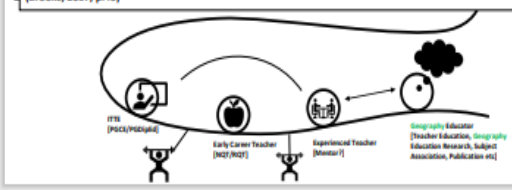
→ offer to deliver a geography education session for your local ITE provider (and/or your own ITE provider) → could be on an area of strength in your own practice, such as geographical literacy, quantitative data skills, developing locational knowledge.....
→ offer school experience to prospective geography teachers
→ ask your local ITE provider to be part of their marketing and recruitment process
→ where it is practical to do so, while prioritising your own learners, offer placements for ITE students. Brooks (2017) describes the role of high quality school experience as fundamental to the development of beginning geography teachers.

**"... Schools are facing severe challenges to recruit and retain good geography teachers..." (GA, 2018, p.8)**

Do we encourage beginning geography teachers to see themselves as geographers? Teachers? Geography teachers? Why might the distinctions matter?

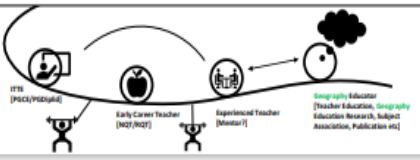
The apparent ease with which the GA has populated this conference with papers on the theme of '*Geography **Really** Matters*' suggests that, as a subject community, we are more persuaded than ever of the **purpose** of geography **education**! If we can continue to engage beginning teachers in the development of their own geographical **identity**, and support them in finding their '**professional compass**' (Brooks, 2017), this could go some way to strengthening this part of the geographer 'assembly line'.

**"... a connection with the subject discipline was a key factor in sustaining them throughout their career..." (Brooks, 2017, p.45)**




→ Tell learners about the **places** you've been & the places you **love** → Tell learners about the places you want to go → Tell learners about the **books** you're reading → Fill your classrooms with **geographical imagery, artefacts and inspiration** → Share your **photos** → Help learners connect with other **cultures, landscapes and environments** → Be a 'geography nerd' → Love **maps** → Love **globes** → Colour in sometimes → Embrace **'awe and wonder'** → Value **'curiosity and fascination'** → Don't be afraid to say 'I don't know....yet' → Let learners know it's okay to fail → Help learners value **risk taking**, mistakes, and 'do overs' → Don't hide geography's **academic rigour**, even when this makes it difficult for learners (and sometimes for us!) → Challenge the 'jack of all trades' and 'common sense, pub quiz geography' **misconceptions** → Charm parents/carers at Open Evenings → Channel your inner David Attenborough → Keep your UG dissertation on your teacher's desk → Call yourself 'Dr...' if you've got a PhD → Tell your **post-16** learners why the debt is worth it → Value your own **subject CPD** → Seek out your **subject community** → Engage in social media (actively or passively) → Care about **learners' personal geographies** → Don't punish those who leave the 'assembly line' – **make sure you've given them a great gift** at whatever stage they do leave.

**HOW DO YOU BUILD A GEOGRAPHER? YOU JUST BUILD A GEOGRAPHER. BE A GEOGRAPHER. ENJOY GEOGRAPHY.**




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## Geography [Teacher] Education Community

Preparing undergraduates (UGs) for **ITE success** before they even start → **'Geography in the Classroom'** → Year 3 UG module which partners UG with geography department → **reflect** on what it means to be a geography teacher → **co-construct** (UG, school-based mentor from the geography department, academic geographer) geography curriculum materials to be given to the host geography department → strengthen, update and refresh **subject content**

ITE student teachers → successful NQT induction → p/t MA Teaching Studies → creation of **geography education research** by practising teachers → contributing to a field of knowledge → there are still **significant gaps**!

Home of **TMGeoglcons** → *sadly postponed for summer 2020, but looking forward to returning asap!* → increasingly aiming to give voice to beginning geography teachers, to share their practice

Network of incredibly valued **geography subject mentors** across University of Birmingham's ITE Partnership → "...the amount of **time** and **effort** that mentor teachers afford the trainees....is often remarkable...truly a resource that needs to be **nurtured** and **celebrated**..." (EE report, 2019) → further **research** underway to explore the role of geography mentors (Palombo, Hammond and Mitchell, 2020)

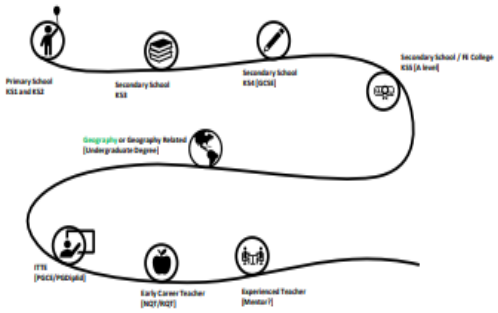
**"One obvious benefit is the intrinsic interest in and wonder of the world about which we teach; it is difficult to be a dull geography teacher - or it ought to be, if only we let the subject-matter speak freely enough through us" (Walford and Haggett, 1995, p.10)**



## How To Build A Geographer

> "...geography's revival in schools is, as yet, unaccompanied by a corresponding surge in the production of well-qualified and well-trained geography specialists, on whom surely a lasting revival must depend"
>
> (Walford and Haggett, 1995, p.8)

What can we do to 'build geographers'? Young people learning geography in schools today are the geography teachers of the future. This lecture will look at the educational experiences that inspire them and shape their subject identity, and will suggest that early career teachers can lead our subject community in the challenge to build the geographers of the future.




## Thank You, Beginning Geography Teachers!

Many of you have weathered the storms of **curriculum reform** during your own geography education...
...and as a consequence, may now be teaching a GNC, GCSE and A level content that you weren't taught yourself...
...and will be joining departments that are still finding their feet with (relatively) new GCSE and A level content.

Your subject community needs you to **shape the curriculum**, bridge the academic/school divide, **reinvigorate subject identity**, and to commit to **empowering** young people through a high-quality geography education.

For the geography (teacher) education community, and in honour of Rex Walford: bring us the "enthusiasm, sensitivity, and most of all idealism" that we need to continue to provide young people with knowledge, interest and **hope**.

## Selected references*


Brooks, C. (2017) 'Pedagogy and identity in initial teacher education: developing a 'professional compass''. *Geography*, 102 (1), pp. 44-50.

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*Selected icons from The Noun Project.*

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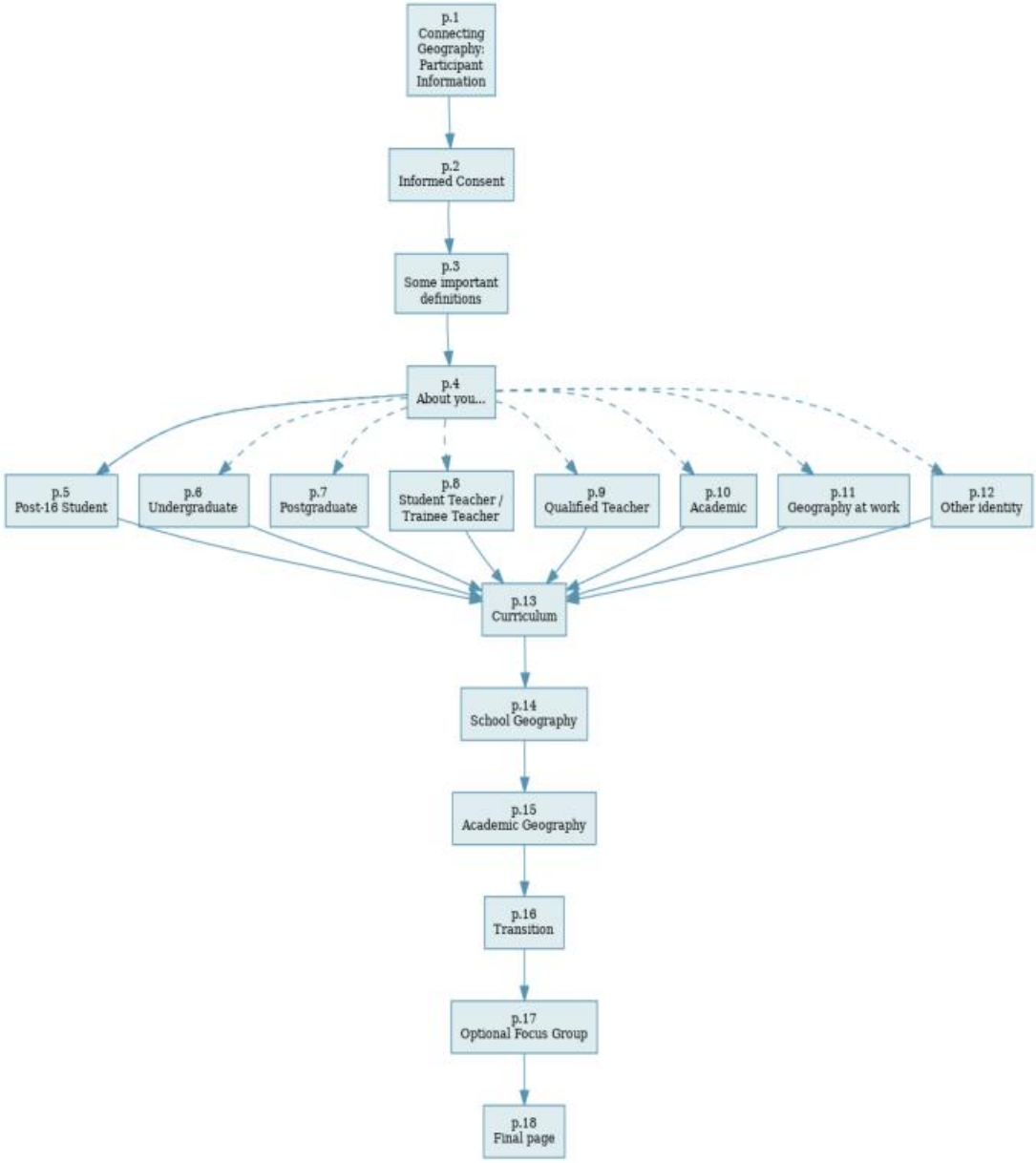
*Scanning the QR code will take you to a Google Drive Folder where you will find full references, a suggested reading list should you be keen to consolidate your thinking, as well as all the practical suggestions and links outlined in this lecture.

# Appendix 2: Types of Research Drawn on for the Literature Review.

| **Type of research/literature** | **References in the literature review** |
|---|---|
| Theoretical, conceptual, explanatory | Baerwald (2010); Bagoly-Simó (2022); Béneker and van der Vaart (2020); Bernstein (1996; 2000); Bladh (2020); Bruner (1960; 1966; 1996); Castree (2011); Castree, Fuller, and Lambert (2007); Catling (2013); Catling and Martin (2011); Finn *et al.* (2022); Firth (2011); Jackson (2006); Lambert (2013c); Lambert and Hopkin (2014); Lambert, Solem, and Tani (2015); Huckle (2024); Maude (2016; 2017); McPhail, Ormond, and Siteine (2023); Mitchell and Lambert (2015); Muller (2022); Pashler *et al.* (2008); Pownall, Harris, and Blundell-Birtill (2022); Roberts (2014; 2022); Shulman (1986; 1987); Stoltman, Lidstone, and Kidman (2014); Vernon (2016); Watson (2020); Young (2009). |
| Systematic review | Bendl *et al*. (2024) ; Coe *et al.* (2014); Perry *et al.*, (2019). |
| Empirical | Adey and Biddulph (2001); Alexandre (2016); Barnes and Scoffham (2017); Biddulph and Adey (2003; 2004); Biddulph *et al.* (2020); Burnett and Crowe (2016); Caldwell *et al.* (2021); Catling and Morley (2013); Catling *et al.* (2007); Clarke and Pike (2023); Cotton, Winter, and Bailey (2013); Duncombe, Cale, and Harris (2018); Dunn and Darlington (2016); Elliott *et al.* (2018); Ferreira (2018); Fisher (2007); Goldfarb Cohen and Tabak (2021); Hammond (2022); Hammond and Healy (2022); Hill and Jones (2010); Hubbard (2021); Kim *et al.* (2020); Lane (2015); Lee and Kriewaldt (2024); Martin (2008); Mitchell (2016; 2022); Morley (2012); Oakes and Rawlings Smith (2024); Pratt and Atkinson (2020); Puttick, Paramore, and Gee (2018); Reitano and Harte (2016); Roald *et al.* (2020); Roberts (2010); Skouen (2019); Tate and Swords (2013); Virranmäki, Valta-Hulkkonen, and Rusanen (2019); Winter (2022). |
| Books and book chapters | Biddulph, Lambert, and Balderstone (2015; 2021); Bonnett (2008); Brooks (2016); Butt and Collins (2013; 2018); Catling (2011); Clifford (2018); Collins (2022); Heffernan (2009); Holt-Jensen (2018); Firth (2018); Lambert (2017); Hopkin and Martin (2018); Lambert and Morgan (2010); Lorimer and Hodgetts (2024); Marshall (2015); Martin (2013); Maton (2010); Mitchell (2020); Rawding (2018); Rawlings Smith (2017); Rawlings Smith and Collins (2024); Roberts (2003; |

| | |
|---|---|
| | 2013); Rosling, Rosling-Rönnlund, and Rosling (2018); Young *et al.* (2014). |
| Practitioner | Finn (2022); Firth and Biddulph (2009); Kinder (2013); Holbrey (2019); Hunt (2022); Peppin (2020); Trolley (2020). |
| Report | ALCAB (2014); Deans for Impact (2015); DfE (2021a); Galton *et al.* (2002); GA (2015; 2022a); Holmes and Burgess (2021); McLean, Worth, and Faulkner-Ellis (2024); McLean, Worth, and Smith 2023); Ofsted (2011; 2015; 2021; 2023); Owens *et al.* (2022); Tait *et al.* (2002); Tapsfield (2018); Worth (2020); Worth and Faulkner-Ellis (2021; 2022); Worth and Van den Brande (2019). |
| Policy, legislation, statutory guidance | *Academies Act 2010;* DCSF/QCA (2007); DES (1991); DfE (2010; 2011 2013a; 2014b; 2014b; 2019b; 2021b; 2023a; 2024a); DfEE/QCA (1999); DfE/DOH (2014); *Education Act 1996;* ISI (2019); Ofqual (2015; 2018b); Ofsted (2022); QAA (2019a; 2019b; 2019c; 2022a; 2022b; 2022c; 2023). |
| Conference proceedings; conference papers; seminars | Collins (2019; 2020); Finn (2018); Gardner (2016); Roberts (2011). |
| Doctoral theses | Healy (2024); Mitchell (2017); Rawlings Smith (2020). |
| Secondary data | HESA (2022; 2024); HM Government (2024a; 2024b; 2024c; 2024d; 2024e); JCQ (2015; 2024a; 2024b) |
| Other sources | Advance HE (2020a); Butlin (2023); Decolonising Geography (2022); DfE (2019a; 2020; 2023b); Freeland (2021); Gapminder (2022); GA (2009a; 2009b; 2016a; 2021; 2022b; 2022c; 2024a; 2024b; 2024c; 2024d; 2024e; 2024f); Geocapabilities (2021); Goudie (1993); Harris and Jones (2022); HM Government (2022); Jha *et al.* (2008); Lambert (2013a; 2013b); Marsh (2016); Morgan (2021); NFER (2024); Oak National Academy (2023); Nayeri and Rushton (2021); Ofqual (2018a); Phillipson (2024a; 2024b); Pykett and Smith (2009); RACE (2022); RGS-IBG (2011; 2021a; 2021b; 2022a; 2022b; n.d); UCAS (2022); University of Manchester (2014); University of Plymouth (2022); Vasagar (2011); Wikipedia (2022) |

# Appendix 3: Questionnaire Routing Map.



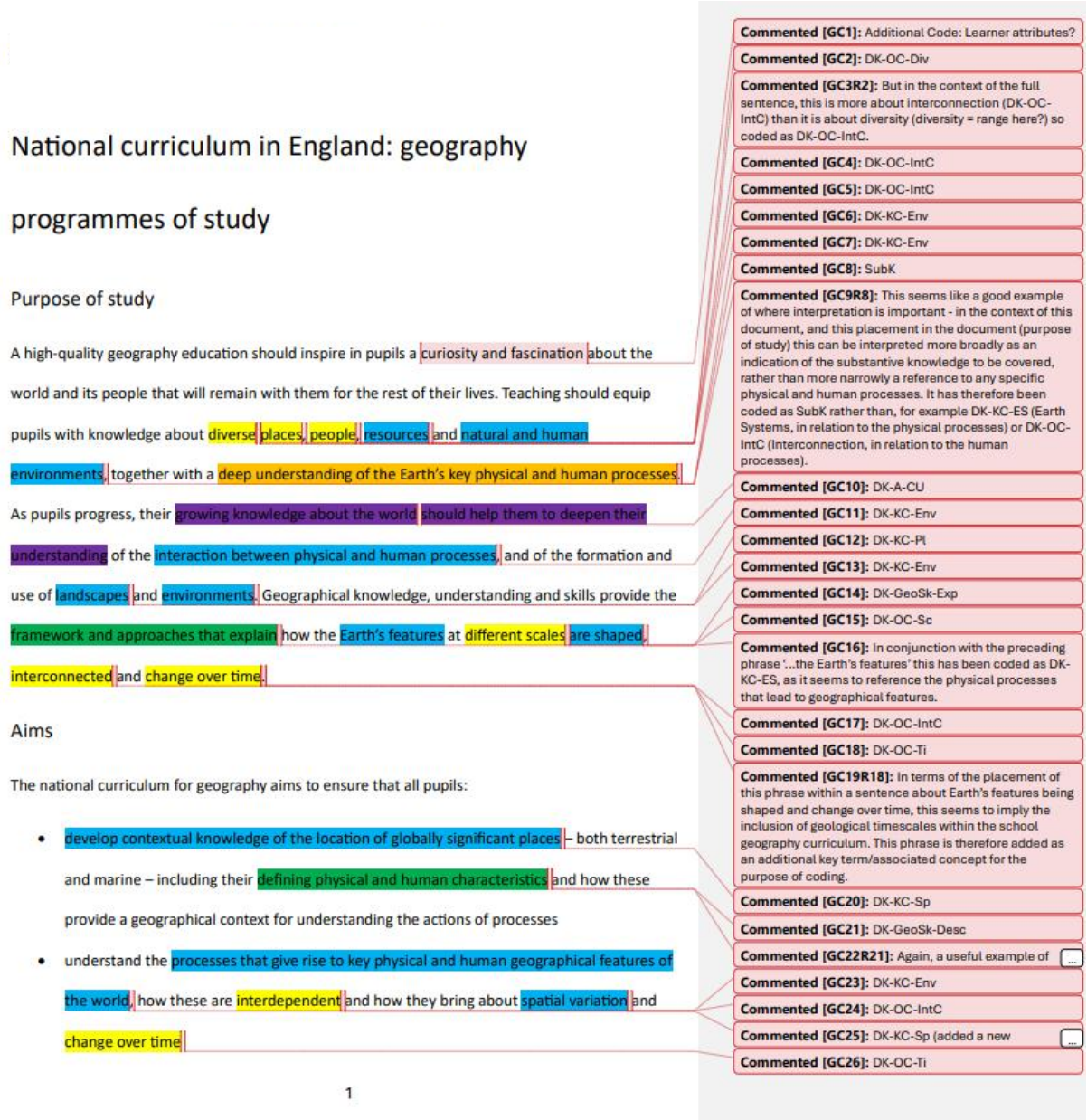
# Appendix 4: Thematic Codes Generated from GACF (GA, 2022a).

| Theme | Sub-Theme | Code | Notes |
|---|---|---|---|
| Disciplinary Knowledge: **Key Concepts** | | DK-KC | 'knowing that' |
| | Disciplinary Knowledge: Key Concepts – **Space** | DK-KC-Sp | |
| | Disciplinary Knowledge: Key Concepts – **Place** | DK-KC-Pl | |
| | Disciplinary Knowledge: Key Concepts – **Earth Systems** | DK-KC-ES | |
| | Disciplinary Knowledge: Key Concepts – **Environment** | DK-KC-Env | |
| Disciplinary Knowledge: **Organising Concepts** | | DK-OC | 'knowing that' |
| | Disciplinary Knowledge: Organising Concepts – **Time** | DK-OC-Ti | |
| | Disciplinary Knowledge: Organising Concepts – **Scale** | DK-OC-Sc | |
| | Disciplinary Knowledge: Organising Concepts – **Diversity** | DK-OC-Div | |
| | Disciplinary Knowledge: Organising Concepts – **Interconnection** | DK-OC-IntC | |
| | Disciplinary Knowledge: Organising Concepts – **Interpretation** | DK-OC-IntP | |
| Disciplinary Knowledge: **Practice/Geographical Skills** | | DK-GeoSk | 'knowing how' |
| | Disciplinary Knowledge: Practice/Geographical Skills – **Observing** | DK-GeoSk-Obs | **Observing**, perceiving, identifying |
| | Disciplinary Knowledge: Practice/Geographical Skills – **Describing** | DK-GeoSk-Desc | Defining, extracting, **describing** |
| | Disciplinary Knowledge: Practice/Geographical Skills – **Explaining** | DK-GeoSk-Exp | Analysing, **explaining**, making connections |

| | | | |
|---|---|---|---|
| | Disciplinary Knowledge: Practice/Geographical Skills – **Presenting** | DK-GeoSk-Pres | Summarising, synthesising, **presenting** |
| | Disciplinary Knowledge: Practice/Geographical Skills – **Evaluating** | DK-GeoSk-Eval | **Evaluating**, responding |
| | Disciplinary Knowledge: Practice/Geographical Skills – **Fieldwork** | DK-GeoSk-Fwk | Geographical **fieldwork** |
| Disciplinary Knowledge: **Application** | | DK-A | 'knowing how to apply' |
| | Disciplinary Knowledge: Application – **Learning About** | DK-A-LA | **Learning about** application |
| | Disciplinary Knowledge: Application – **Learning To** | DK-A-LT | **Learning to** apply for oneself |
| Substantive Knowledge | | SK | 'knowing about' |
| | Substantive Knowledge: **Locational knowledge** | SK-LK | |
| | Substantive Knowledge: **Place knowledge** | SK-PK | |
| | Substantive Knowledge: **Human processes** | SK-HP | |
| | Substantive Knowledge: **Physical processes** | SK-PP | |
| | Substantive Knowledge: **Environment** | SK-Env | |
| Progression | | P | |
| | Progression: **Conceptual Understanding** | P-CU | "progression in relation to the inherent structure of the subject" (GA, 2022a, p. 14)<br><br>Progression in conceptual understanding of key and/or organising concepts |
| | Progression: **Curriculum Experiences** | P-CE | "the kinds of teaching and learning experiences which should be provided if learners are to have the opportunity to make progress" (GA, 2022a, p. 14) |
| | Progression: **Outcome** | P-O | "setting out<br>the key features of the kind of performance we expect to see |

| | | | |
|---|---|---|---|
| | | | in a learner's work as they make progress in geography" (GA, 2022a, p. 16) |
| | Progression: **Transition** | P-T | An additional aspect of progression, as identified from the review of literature and determined to be necessary to answer RQ1. |

# Appendix 5: Formatted and Coded GNC2014.



## National curriculum in England: geography programmes of study

### Purpose of study

A high-quality geography education should inspire in pupils a curiosity and fascination about the world and its people that will remain with them for the rest of their lives. Teaching should equip pupils with knowledge about diverse places, people, resources and natural and human environments, together with a deep understanding of the Earth's key physical and human processes. As pupils progress, their growing knowledge about the world should help them to deepen their understanding of the interaction between physical and human processes, and of the formation and use of landscapes and environments. Geographical knowledge, understanding and skills provide the framework and approaches that explain how the Earth's features at different scales are shaped, interconnected and change over time.

### Aims

The national curriculum for geography aims to ensure that all pupils:

- develop contextual knowledge of the location of globally significant places – both terrestrial and marine – including their defining physical and human characteristics and how these provide a geographical context for understanding the actions of processes
- understand the processes that give rise to key physical and human geographical features of the world, how these are interdependent and how they bring about spatial variation and change over time

1

**Commented [GC1]:** Additional Code: Learner attributes?

**Commented [GC2]:** DK-OC-Div

**Commented [GC3R2]:** But in the context of the full sentence, this is more about interconnection (DK-OC-IntC) than it is about diversity (diversity = range here?) so coded as DK-OC-IntC.

**Commented [GC4]:** DK-OC-IntC

**Commented [GC5]:** DK-OC-IntC

**Commented [GC6]:** DK-KC-Env

**Commented [GC7]:** DK-KC-Env

**Commented [GC8]:** SubK

**Commented [GC9R8]:** This seems like a good example of where interpretation is important - in the context of this document, and this placement in the document (purpose of study) this can be interpreted more broadly as an indication of the substantive knowledge to be covered, rather than more narrowly a reference to any specific physical and human processes. It has therefore been coded as SubK rather than, for example DK-KC-ES (Earth Systems, in relation to the physical processes) or DK-OC-IntC (Interconnection, in relation to the human processes).

**Commented [GC10]:** DK-A-CU

**Commented [GC11]:** DK-KC-Env

**Commented [GC12]:** DK-KC-Pl

**Commented [GC13]:** DK-KC-Env

**Commented [GC14]:** DK-GeoSk-Exp

**Commented [GC15]:** DK-OC-Sc

**Commented [GC16]:** In conjunction with the preceding phrase '...the Earth's features' this has been coded as DK-KC-ES, as it seems to reference the physical processes that lead to geographical features.

**Commented [GC17]:** DK-OC-IntC

**Commented [GC18]:** DK-OC-Ti

**Commented [GC19R18]:** In terms of the placement of this phrase within a sentence about Earth's features being shaped and change over time, this seems to imply the inclusion of geological timescales within the school geography curriculum. This phrase is therefore added as an additional key term/associated concept for the purpose of coding.

**Commented [GC20]:** DK-KC-Sp

**Commented [GC21]:** DK-GeoSk-Desc

**Commented [GC22R21]:** Again, a useful example of ...

**Commented [GC23]:** DK-KC-Env

**Commented [GC24]:** DK-OC-IntC

**Commented [GC25]:** DK-KC-Sp (added a new ...

**Commented [GC26]:** DK-OC-Ti

- are competent in the geographical skills needed to:
  - collect, analyse and communicate with a range of data gathered through experiences of fieldwork that deepen their understanding of geographical processes
  - interpret a range of sources of geographical information, including maps, diagrams, globes, aerial photographs and Geographical Information Systems (GIS)
  - communicate geographical information in a variety of ways, including through maps, numerical and quantitative skills and writing at length

Attainment targets

By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study.

Schools are not required by law to teach the example content in [square brackets].

## Subject content

### Key stage 1

Pupils should develop knowledge about the world, the United Kingdom and their locality. They should understand basic subject-specific vocabulary relating to human and physical geography and begin to use geographical skills, including first-hand observation, to enhance their locational awareness.

Pupils should be taught to:

Locational knowledge

- name and locate the world's 7 continents and 5 oceans
- name, locate and identify characteristics of the 4 countries and capital cities of the United Kingdom and its surrounding seas

**Commented [GC27]:** DK-GeoSk

**Commented [GC28]:** DK-GeoSk-Desc (added as a new associated concept - related to 'gathering')

**Commented [GC29]:** DK-GeoSk-Exp

**Commented [GC30]:** DK-GeoSk-Pres

**Commented [GC31R30]:** In this context, this is interpreted as competency in communicating findings from data (following the collection and analysis of that data)

**Commented [GC32]:** DK-GeoSk-Fwk (in particular, the acquisition of knowledge through direct observation)

**Commented [GC33]:** DK-GeoSk-Exp

**Commented [GC34R33]:** In context, this differs from the organising concept of interpretation (DK-OC-IntP)

**Commented [GC35]:** DK-A (whether 'learning about' or 'learning to' is TBD

**Commented [GC36]:** DK-GeoSk-Pres

**Commented [GC37]:** Coding this as broadly DK-GeoSk. Difficult to more narrowly code, as this broad statement could include a variety of geographical skills, such as DK-GeoSk-Exp (analysing quantitative data), organising concepts such as DK-OC-Sc (via use of maps), key concepts such as DK-KC-Sp (via use of maps) and DK-GeoSk-Pres (through written communication).

**Commented [GC38]:** In this context, this seems to be a fairly narrow interpretation of progress focused principally on outcome, rather than any progression in conceptual understanding.

**Commented [GC39]:** SubK

**Commented [GC40]:** SubK - locational and place knowledge

**Commented [GC41]:** Consider including 'geographical articulacy' and/or 'geographical literacy' as a separate code? For now, coding this as an aspect of substantive knowledge (see also academic references to geography's vocabulary and grammar, in which substantive knowledge is given as the vocabulary, and disciplinary knowledge as the grammar)

**Commented [GC42]:** The context is too broad to narrow down this coding any further than DK-GeoSk

**Commented [GC43]:** Two potential codes here - both DK-GeoSk, but could be DK-GeoSk-Obs (which includes 'through fieldwork') and DK-GeoSk-Fwk (which includes 'acquire knowledge through direct observation)

**Commented [GC44]:** Open to interpretation but I'm coding this as DK-KC-Sp as it seems to refer more to the key concept of space than the more specific locational knowledge which would be coded as SubK.

Place knowledge

- understand geographical similarities and differences through studying the human and physical geography of a small area of the United Kingdom, and of a small area in a contrasting non-European country

Human and physical geography

- identify seasonal and daily weather patterns in the United Kingdom and the location of hot and cold areas of the world in relation to the Equator and the North and South Poles
- use basic geographical vocabulary to refer to:
    - key physical features, including: beach, cliff, coast, forest, hill, mountain, sea, ocean, river, soil, valley, vegetation, season and weather
    - key human features, including: city, town, village, factory, farm, house, office, port, harbour and shop

Geographical skills and fieldwork

- use world maps, atlases and globes to identify the United Kingdom and its countries, as well as the countries, continents and oceans studied at this key stage
- use simple compass directions (north, south, east and west) and locational and directional language [for example, near and far, left and right], to describe the location of features and routes on a map
- use aerial photographs and plan perspectives to recognise landmarks and basic human and physical features; devise a simple map; and use and construct basic symbols in a key
- use simple fieldwork and observational skills to study the geography of their school and its grounds and the key human and physical features of its surrounding environment

**Commented [GC45]:** DK-OC-IntP (range of interpretations?)

**Commented [GC46]:** SubK

**Commented [GC47]:** Another potential example of geographical literacy/articulacy, but for now coding as SubK

**Commented [GC48]:** SubK - Locational knowledge

**Commented [GC49]:** SubK - Locational knowledge - Positioning systems

**Commented [GC50]:** DK-GeoSk-Desc

**Commented [GC51]:** DK-A ??

**Commented [GC52]:** DK-A ??

**Commented [GC53]:** DK-GeoSk-Fwk

**Commented [GC54]:** DK-GeoSk-Obs

**Commented [GC55]:** SubK - Place knowledge - The connection of location and physical and/or human processes with personal experience

## Key stage 2

Pupils should extend their knowledge and understanding beyond the local area to include the United Kingdom and Europe, North and South America. This will include the location and characteristics of a range of the world's most significant human and physical features. They should develop their use of geographical knowledge, understanding and skills to enhance their locational and place knowledge.

Pupils should be taught to:

### Locational knowledge

- locate the world's countries, using maps to focus on Europe (including the location of Russia) and North and South America, concentrating on their environmental regions, key physical and human characteristics, countries, and major cities
- name and locate counties and cities of the United Kingdom, geographical regions and their identifying human and physical characteristics, key topographical features (including hills, mountains, coasts and rivers), and land-use patterns; and understand how some of these aspects have changed over time
- identify the position and significance of latitude, longitude, Equator, Northern Hemisphere, Southern Hemisphere, the Tropics of Cancer and Capricorn, Arctic and Antarctic Circle, the Prime/Greenwich Meridian and time zones (including day and night)

### Place knowledge

- understand geographical similarities and differences through the study of human and physical geography of a region of the United Kingdom, a region in a European country, and a region in North or South America

### Human and physical geography

- describe and understand key aspects of:

**Commented [GC56]:** P-CU / P-O

**Commented [GC57]:** SubK - locational and place knowledge

**Commented [GC58]:** This is open to interpretation in this context. It could again refer to the specified 'locational knowledge' and 'place knowledge' that seems (in this document) to relate more to substantive knowledge. However, it is also possible to interpret this as an understanding of the key concepts of place (DK-KC_Pl) and aspects of space (DK-KC-Sp) relating to 'location'.

**Commented [GC59]:** DK-OC-Ti

**Commented [GC60]:** This could be considered as substantive knowledge detail, but the use of the phrase 'significance of' also seems to imply that learners need to understand how key aspects of space (DK-KC-Sp) influence other geographical processes and phenomena?

**Commented [GC61]:** As above [in KS1] - DK-OC-IntP

- physical geography, including: climate zones, biomes and vegetation belts, rivers, mountains, volcanoes and earthquakes, and the water cycle
- human geography, including: types of settlement and land use, economic activity including trade links, and the distribution of natural resources including energy, food, minerals and water

Commented [GC62]: Introduction of a systems approach to geography - DK-KC-ES

Geographical skills and fieldwork

- use maps, atlases, globes and digital/computer mapping to locate countries and describe features studied
- use the 8 points of a compass, 4- and 6-figure grid references, symbols and key (including the use of Ordnance Survey maps) to build their knowledge of the United Kingdom and the wider world
- use fieldwork to observe, measure record and present the human and physical features in the local area using a range of methods, including sketch maps, plans and graphs, and digital technologies

Commented [GC63]: DK-KC-Sp

Commented [GC64]: DK-KC-Pl

Commented [GC65]: Elements of DK-KC-Sp and DK-KC-Sp, but in the context of 'use maps…' and the subsection of 'geographical skills and fieldwork, is this better coded as a form of DK-A?

## Key stage 3

Pupils should consolidate and extend their knowledge of the world's major countries and their physical and human features. They should understand how geographical processes interact to create distinctive human and physical landscapes that change over time. In doing so, they should become aware of increasingly complex geographical systems in the world around them. They should develop greater competence in using geographical knowledge, approaches and concepts [such as models and theories] and geographical skills in analysing and interpreting different data sources. In this way pupils will continue to enrich their locational knowledge and spatial and environmental understanding.

Pupils should be taught to:

Commented [GC66]: DK-GeoSk

Commented [GC67]: P-CU / P-O

Commented [GC68]: Depending on interpretation, this can be one or all of the following: DK-KC-Env; DK-OC-Ti; DK-OC-IntC. Have coded as all.

Commented [GC69]: Although the use of the word 'systems' might imply 'Earth Systems', this would exclude human systems, e.g. political systems. The broader context of this statement seems to suggest that pupils should grasp the concept of 'interconnection' between geographical process, human landscapes, physical landscapes, and time. I have therefore coded it as DK-OC-IntC.

Commented [GC70]: DK-GeoSk

Commented [GC71]: Can be interpreted as DK-KC-Sp and DK-KC-Env, but also as SK-EP? Coded as all.

Commented [GC72R71]: Having thought about it more deeply, I am not sure that there is any SK-EP in this statement. There doesn't seem to be anything to distinguish it from DK-KC-Env. The phrase 'environmental understanding' seems to imply a broader conceptual understanding as opposed to being linked more narrowly to a particular environmental process.

Commented [GC73R71]: I also think that the reference to 'locational knowledge' might be better coded as SK-LK than as DK-KC-Sp.

Locational knowledge

- extend their locational knowledge and deepen their spatial awareness of the world's countries, using maps of the world to focus on Africa, Russia, Asia (including China and India), and the Middle East, focusing on their environmental regions, including polar and hot deserts, key physical and human characteristics, countries and major cities

Place knowledge

- understand geographical similarities, differences and links between places through the study of the human and physical geography of a region in Africa and a region in Asia

Human and physical geography

- understand, through the use of detailed place-based exemplars at a variety of scales, the key processes in:
- physical geography relating to: geological timescales and plate tectonics; rocks, weathering and soils; weather and climate, including the change in climate from the Ice Age to the present; and glaciation, hydrology and coasts
- human geography relating to: population and urbanisation; international development; economic activity in the primary, secondary, tertiary and quaternary sectors; and the use of natural resources
- understand how human and physical processes interact to influence and change landscapes, environments and the climate; and how human activity relies on the effective functioning of natural systems

Geographical skills and fieldwork

- build on their knowledge of globes, maps and atlases, and apply and develop this knowledge routinely in the classroom and in the field

**Commented [GC74]:** DK-OC-IntC and IntP

**Commented [GC75]:** Although this section describes 'place knowledge', no assumption should be made that place knowledge is equivalent to the disciplinary concept of 'place' (DK-KC-Pl). This is a nuance less likely to be grasped by non-specialist teachers, and therefore a potential misconception that could take root as early as KS3 and may persist through later stages of geographical education.

**Commented [GC76]:** DK-KC-Pl

**Commented [GC77]:** DK-OC-Sc

**Commented [GC78]:** SubK - human processes

**Commented [GC79]:** DK-OC-IntC

**Commented [GC80]:** This is a good example of where I think maps (etc) are best coded as a form of application [of disciplinary knowledge] but it isn't always this straight forward.

**Commented [GC81]:** DK-GeoSk-Fwk

- interpret Ordnance Survey maps in the classroom and the field, including using grid references and scale, topographical and other thematic mapping, and aerial and satellite photographs
- use Geographical Information Systems (GIS) to view, analyse and interpret places and data
- use fieldwork in contrasting locations to collect, analyse and draw conclusions from geographical data, using multiple sources of increasingly complex information

**Commented [GC82]:** TBD? Part of the 'maps debate'.

**Commented [GC83]:** DK-GeoSk-Fwk

**Commented [GC84]:** DK-GeoSk

# Appendix 6: Formatted and Coded DfE-KS4.

## Geography GCSE subject content (April 2014)

### The content for geography GCSEs

#### Introduction

1. The GCSE subject content sets out the knowledge, understanding and skills common to all GCSE specifications in a given subject. Together with the assessment objectives it provides the framework within which awarding organisations create the detail of their specifications, so ensuring progression from key stage 3 national curriculum requirements and the possibilities for development into A level.

Commented [GC1]: P-CU

#### Subject aims and learning outcomes

2. GCSE specifications for the discipline of geography should provide the opportunity for students to understand more about the world, the challenges it faces and their place within it. The GCSE course will deepen understanding of geographical processes, illuminate the impact of change and of complex people-environment interactions, highlight the dynamic links and interrelationships between places and environments at different scales, and develop students' competence in using a wide range of geographical investigative skills and approaches. Geography enables young people to become globally and environmentally informed and thoughtful, enquiring citizens.

Commented [GC2]: DK-OC-IntC and DK-OC-Sc

Commented [GC3]: DK-GeoSk

3. GCSE specifications in geography should enable students to build on their key stage 3 knowledge and skills to:

Commented [GC4]: P-CU

• develop and extend their knowledge of locations, places, environments and processes, and of different scales including global; and of social, political and cultural contexts (know geographical material)

• gain understanding of the interactions between people and environments, change in places and processes over space and time, and the interrelationship between geographical phenomena at different scales and in different contexts (think like a geographer)

• develop and extend their competence in a range of skills including those used in fieldwork, in using maps and Geographical Information Systems (GIS) and in researching secondary evidence, including digital sources; and develop their competence in applying sound enquiry and investigative approaches to questions and hypotheses (study like a geographer)

• apply geographical knowledge, understanding, skills and approaches appropriately and creatively to real world contexts, including fieldwork, and to contemporary situations and issues; and develop well-evidenced arguments drawing on their geographical knowledge and understanding (applying geography).

**Commented [GC5]:** DK-KC - all of them, suggesting this document was influential in the creation of the GA framework from which these codes have been generated.

**Commented [GC6]:** Wording and context seems to allude to diversity (range of physical and human characteristics - DK-OC-Div) but also could be read as a more general aspect of locational (contextual) knowledge, relating to a range of substantive knowledge?

**Commented [GC7]:** DK-KC-Env

**Commented [GC8]:** Change over time - DK-OC-Ti - and also change over space - DK-KC-Sp

**Commented [GC9]:** DK-OC-IntC and DK-OC-Sc

**Commented [GC10]:** DK-GeoSk

**Commented [GC11]:** Maps and GIS as a form of geographical application - but also coding as DK-GeoSk as it is quite a broad reference and depends on interpretation and context?

**Commented [GC12]:** "Identifying, gathering, using sources of geographical information" - DK-GeoSk-Desc

**Commented [GC13]:** DK-GeoSk-Obs

**Commented [GC14]:** DK-A

**Commented [GC15]:** DK-GeoSk-Pres

Progression statement

1. When designing specifications, awarding organisations should note the following ways in which curriculum emphases should progress from KS3 and ensure that specifications facilitate this:

• broadening and deepening understanding of locational contexts, including greater awareness of the importance of scale and the concept of global

2

- a greater emphasis given to process studies that lead to an understanding of change
- a greater stress on the multivariate nature of 'human-physical' relationships and interactions
- a stronger focus on forming generalisations and/or abstractions, including some awareness of theoretical perspectives and of the subject's conceptual frameworks
- an increased involvement of students in planning and undertaking independent enquiry in which skills and knowledge are applied to investigate geographical questions
- enhancing competence in a range of intellectual and communication skills, including the formulation of arguments, that include elements of synthesis and evaluation of material

## Subject content

5. GCSE specifications in geography should reflect the aims and learning outcomes outlined above, and should include the knowledge, understanding and skills listed below, giving due consideration to the assessment objectives. The essential subject content outlined here provides the framework for developing a coherent study at GCSE.

6. This content sets out the range of content for GCSE specifications in geography but is not meant to imply a specific geographical approach or a set sequence of study. Nor do the content headings necessarily imply headings for the specification. Awarding organisations are free to develop, combine and cross-reference each part of the content in any way that is appropriate to their specification. Awarding organisations are free to decide the overall balance and representation of approaches such as place-based, thematic, people-environment and issues-based geography, although the requirement for study of the

**Commented [GC16]:** Additional Code: Power (who makes the decisions?)

geography of the UK means that some place-based study must be included (see p.6). Awarding organisations may use any flexibility to vary depth, breadth or context within the specified topics, as long as the rigour and challenge of the specification is maintained.

Scope of study

7. GCSE specifications in geography should require students to extend their Locational Knowledge (1) and to develop competence in Maps, Fieldwork and Geographical Skills (2) as they study the content of the following four areas of geography: Place: processes and relationships (3); Physical geography: processes and change (4); People and environment: processes and interactions (5); Human geography: processes and change (6).

*(1) Locational knowledge*

8. Locational knowledge and contextual knowledge of the world's continents, countries, regions and their physical, environmental and human features should be developed across the whole specification and should include:[1]

- appreciation of different spatial, cultural and political contexts
- recognition of important links and inter-relationships between places and environments at a range of scales from local to global
- contextual knowledge of any countries from which case studies and exemplars are chosen. It is required that exemplars and case studies relate to at least two countries other than the UK

**Commented [GC17]:** DK-KC-Sp and DK-KC-Pl

**Commented [GC18]:** DK-OC-IntC

**Commented [GC19]:** DK-OC-Sc

[1] It is not required that these bullet points are all addressed in each of the four areas of geography (3, 4, 5, 6 below), only that they are all addressed across the specification as a whole.

*(2) Maps, fieldwork and geographical skills*

9. GCSE specifications should require students to develop and demonstrate the following skills throughout their study of the specifications as a whole.

**Maps**

10. The use of a range of maps, atlases, Ordnance Survey maps, satellite imagery and other graphic and digital material[2] including the use of Geographical Information Systems (GIS), to obtain, illustrate, analyse and evaluate geographical information. To include making maps and sketches to present and interpret geographical information.

Commented [GC20]: DK-GeoSk

**Fieldwork**

11. Different approaches to fieldwork undertaken in at least two contrasting environments. Fieldwork overall should include exploration of physical and human processes and the interactions between them and should involve the collection of primary physical and human data (but these requirements need not all be addressed in each piece of fieldwork).

Commented [GC21]: DK-GeoSk-Fwk

**Use of data**

12. 'Data' should include both qualitative and quantitative data and data from both primary and secondary sources: fieldwork data; GIS material; written and digital sources; visual and graphical sources; and numerical and statistical information. Using data should include its collection, interpretation and analysis, including the application of appropriate quantitative and statistical techniques (a list of required skills and techniques is given in the

Commented [GC22]: DK-GeoSk-Exp

Commented [GC23]: Dk-GeoSk-Desc

Commented [GC24R23]: But also links to DK-GeoSk-Exp (statistical techniques)

Commented [GC25]: DK-GeoSk

[2] For the purposes of examinations, this material may be ready prepared GIS material, for example from screen shots or copies of maps derived from prepared GIS. It need not be GIS material prepared by students.

Appendix); it also includes the effective presentation, communication and evaluation of material.

**Formulating enquiry and argument**

13. The ability to identify questions and sequences of enquiry to write descriptively, analytically and critically, to communicate their ideas effectively, to develop an extended written argument, and to draw well-evidenced and informed conclusions about geographical questions and issues.

Commented [GC26]: DK-GeoSk-Obs

Commented [GC27]: DK-GeoSk-Pres

*(3) Place: processes and relationships*

14. Geography of the UK – Knowledge and understanding of the UK's geography, both in overview and with some in depth study, to include its physical and human landscapes, environmental challenges, changing economy and society, the importance of cultural and political factors, and its relationships with the wider world. Much of this may be achieved by study in combination with other physical, human and environmental study topics, but students must also study the UK as a country and draw across physical and human characteristics to summarise significant geographical features and issues.

*(4) Physical geography: processes and change*

15. Geomorphic processes and landscape – How geomorphic processes at different scales, operating in combination with geology, climate and human activity have influenced and continue to influence the landscapes of the UK. This should include detailed reference to at least two different and distinctive physical landscapes in the UK.

Commented [GC28]: But also a contextualised example of DK-KC-ES

16. Changing weather and climate – The causes, consequences of and responses to extreme weather conditions and natural weather hazards, recognising their changing distribution in time and space and drawing on an understanding of the global circulation of the atmosphere. The spatial and temporal characteristics, of climatic change and evidence for different causes, including human activity, from the beginning of the Quaternary period (2.6 million years ago) to the present day.

Commented [GC29]: DK-OC-Ti

Commented [GC30]: DK-KC-ES

Commented [GC31]: DC-KC-Env

Commented [GC32]: DK-OC-IntP

Commented [GC33]: DK-OC-Ti

*(5) People and environment: processes and interactions*

17. Global ecosystems and biodiversity – An overview of the distribution and characteristics of large scale natural global ecosystems. For two selected ecosystems, draw out the interdependence of climate, soil, water, plants, animals and humans; the processes and interactions that operate within them at different scales; and issues related to biodiversity and to their sustainable use and management.

Commented [GC34]: DK-KC-Env

18. Resources and their management – An overview of how humans use, modify and change ecosystems and environments in order to obtain food, energy and water resources. Detailed study of one of either food, energy or water, recognising the changing characteristics and distribution of demand and supply, past and present impacts of human intervention, and issues related to their sustainable use and management at a variety of scales.

Commented [GC35]: DK-KC-Env

*(6) Human geography: processes and change*

19. Cities and urban society – An overview of the causes and effects of rapid urbanisation and contrasting urban trends in different parts of the world with varying characteristics of economic and social development. For at least one major city in an economically advanced

Commented [GC36]: DK-KC-Sp

country,[3] and one major city in a poorer country or recently emerging economy, examine ways of life and contemporary challenges arising from and influencing urban change. Both city studies should be set within the context of their region, country and the wider world, including an understanding of the causes and impacts of national and international migration on the growth and character of these cities.

Commented [GC37]: SK-HP

Commented [GC38]: DK-KC-Pt

20. Global economic development issues – The causes and consequences of uneven development at global level as the background for considering the changing context of population, economy and society and of technological and political development in at least one poorer country or one that is within a newly emerging economy. Country study should include examination of the wider political, social and environmental context within which the country is placed, the changing nature of industry and investment, and the characteristics of international trade, aid and geo-political relationships with respect to that country.

Commented [GC39]: DK-KC-Sp

Commented [GC40]: SK-HP

## Assessment of fieldwork

21. Geographical fieldwork may be defined as the experience of understanding and applying specific geographical knowledge, understanding and skills to a particular and real out-of-classroom context. In undertaking fieldwork, students practise a range of skills, gain new geographical insights and begin to appreciate different perspectives on the world around them. Fieldwork is crucial to the strong role envisaged for geography in the revised and more challenging curriculum at all levels and so must be undertaken as part of the specification (see Maps, Fieldwork and Geographical Skills).

Commented [GC41]: DK-GeoSk-Fwk

[3] A UK city may be taken as this case study city– see requirements for Geography of the UK – or a different and additional city study may be chosen here.

22. The scheme of assessment must include an identifiable element or elements assessing fieldwork. This must include assessment of students' own experiences of fieldwork covering at least two (but not all) of the bullet points below, as well as including assessment of fieldwork in unfamiliar contexts which may be based on exemplar data. Fieldwork will be assessed through examination only. It will comprise 15% of the total assessment weighting (of which 5% is allocated to skills and 10% allocated to application).

Commented [GC42]: DK-GeoSk-Fwk

Commented [GC43]: DK-GeoSk-Fwk

23. The following areas of knowledge, skills and understanding should be assessed through the fieldwork assessment.

i. understanding of the kinds of question capable of being investigated through fieldwork and an understanding of the geographical enquiry processes appropriate to investigate these

Commented [GC44]: DK-GeoSk-Fwk and DK-GeoSk-Obs

ii. understanding of the range of techniques and methods used in fieldwork, including observation and different kinds of measurement

Commented [GC45]: DK-GeoSk-Fwk

iii. processing and presenting fieldwork data in various ways including maps, graphs and diagrams

Commented [GC46]: DK-GeoSk-Fwk and DK-GeoSk-Pres and DK-GeoSk-Exp

iv. analysing and explaining data collected in the field using knowledge of relevant geographical case studies and theories

Commented [GC47]: DK-GeoSk-Exp

v. drawing evidenced conclusions and summaries from fieldwork transcripts and data

Commented [GC48]: DK-GeoSk-Pres

vi. reflecting critically on fieldwork data, methods used, conclusions drawn and knowledge gained

Commented [GC49]: DK-GeoSk-Eval

Note that (i), (ii) and (iii) will draw heavily on AO4 (skills) whilst (iv), (v) and (vi) will draw predominantly on AO3 (application).

24. Since fieldwork is an essential aspect of geography which ensures that young people are given the opportunity to consolidate and extend their achievement by relating learning to real experiences of the world, specifications must require that fieldwork is carried out, outside the classroom and school grounds, on at least two occasions (see 'Fieldwork'). Awarding organisations must require evidence of this in the form of a written statement from centres, providing at least the date, location, numbers of students participating, the main issues/questions investigated during fieldwork, and the relationship of the fieldwork to the specification content.

Commented [GC50]: DK-GeoSk-Fwk

## Appendix: Use of mathematics and statistics in geography

The list below outlines the range and extent of mathematical and statistical techniques considered appropriate to geography GCSE. The following should all be covered in any specification. Examples in italics are to aid understanding and suggest range, and these are not compulsory.

Commented [GC51]: DK-GeoSk

Cartographic skills

- use and understand gradient, contour and spot height on OS maps and other isoline maps (eg weather charts, ocean bathymetric charts)
- interpret cross sections and transects
- use and understand coordinates, scale and distance
- describe and interpret geo-spatial data presented in a GIS framework (eg analysis of flood hazard using the interactive maps on the Environment Agency website)

Graphical skills

- select and construct appropriate graphs and charts to present data, using appropriate scales and including bar charts, pie charts, pictograms, line charts, histograms with equal class intervals
- interpret and extract information from different types of graphs and charts including any of the above and others relevant to the topic (e.g. triangular graphs, radial graphs, wind rose diagrams, proportional symbols)
- interpret population pyramids, choropleth maps and flow-line maps Numerical skills
- demonstrate an understanding of number, area and scale and the quantitative relationships between units
- design fieldwork data collection sheets and collect data with an understanding of accuracy, sample size and procedures, control groups and reliability
- understand and correctly use proportion and ratio, magnitude and frequency (e.g. 1:200 flood; and logarithmic scales such as the Richter scale, in orders of magnitude)
- draw informed conclusions from numerical data

Statistical skills

- use appropriate measures of central tendency, spread and cumulative frequency (median, mean, range, quartiles and inter-quartile range, mode and modal class)
- calculate percentage increase or decrease and understand the use of percentiles

- describe relationships in bivariate data: sketch trend lines through scatter plots; draw estimated lines of best fit; make predictions; interpolate and extrapolate trends
- be able to identify weaknesses in selective statistical presentation of data

# Appendix 7: Formatted and Coded ALCAB.

**The A Level Content Advisory Board**

**REPORT OF THE ALCAB PANEL ON GEOGRAPHY**

**July 2014**

**Executive Summary**

**Key recommendations:**

**1. A and AS level content should enable learners to be inspired by their geographical understanding of the world they live in and to engage critically with real world issues and real world locations through the application of geographical knowledge, theory and concepts.**

**2. A and AS level content should be pitched at an appropriate level of demand by showing clear progression in content, concepts and skills from GCSE. It must prepare students who go on to study geography and related subjects at university, and be relevant to those who end their studies of geography at A level.**

**3. There must be a 60 per cent core content, which comprises four substantive themes, fieldwork, and skills content. The awarding organisations should be free to select the remaining 40 per cent non-core content in order to create distinctive specifications.**

**4. A and AS level content must be balanced between human and physical geography. Within this balanced content people and environment themes must be a significant part of**

1

**Commented [GC1]:** Additional Code: Learner Attributes?

**Commented [GC2]:** DK-A

**the new specifications and must build from a clear understanding of relevant processes in physical and human geography.**

5. **A/AS level content must be accessible to a diversity of learners.**

6. **Fieldwork in physical and human geography is integral to both A and AS level.**

7. **A level specifications should include opportunities for students to undertake some independent investigative and research work which must include fieldwork.**

8. **The core content must include the following themes: global systems and global governance; changing places; landscape systems; and water and carbon cycling.**

9. **Funding should be made available for the development of appropriate training and resources for teachers in order to facilitate teaching of the new core content.**

**Commented [GC3]:** Additional Code: EDI??

**Commented [GC4R3]:** But also links to the organising concept of diversity within the discipline itself - DK-OC-Div

**Commented [GC5]:** DK-GeoSk-Fwk

**Commented [GC6]:** DK-GeoSk-Fwk, but also DK-GeoSk in general, and potentially DK-GeoSk-Obs (in relation to establishing geographical enquiry)

**Commented [GC7]:** Additional Code: Teacher Attributes? e.g. CPD needs

**Membership of the geography panel**

There are twelve members of the ALCAB geography panel (Annex 1). Two were directly nominated by the Royal Geographical Society with the Institute of British Geographers and the Geographical Association and the remaining members were chosen from a pool of 35 who replied to an advertisement.

In addition to the main panel a reference group comprising a further 21 members was recruited from an excellent pool of applicants for the main panel (See Annex 2). This group operated virtually and offered the main panel valuable feedback at two key stages in the process.

**Methods and meetings**

Four day-long meetings of the panel were held: on 6 March, 8 May and 28 May 2014 at the Royal Geographical Society-Institute of British Geographers and on 10 April 2014 at the Geographical Association. At each meeting, in addition to the panel and the content criteria writer, observers from the Department for Education (DfE), the A Level Content Advisory Board (ALCAB), and Ofqual were present. At the first and third meetings representatives of the four main awarding organisations were also present.

In addition to formal meetings the panel worked through a discussion group and email to develop the discussion between meetings.

Panel discussions were informed by a range of sources of evidence:

- At the initial meeting the panel was briefed by DfE, ALCAB, Ofqual and the content criteria writer on the policy and regulatory context for the panel's discussions.
- At the initial meeting the awarding organisations gave their views on key considerations for the ALCAB process.
- The Royal Geographical Society and the Geographical Association briefed the panel on the school geography context including the reforms of Key Stages 1-4 and

the current revision of the Quality Assurance Agency (QAA) benchmarking statement for geography in higher education.

- The Royal Geographical Society and the Geographical Association submitted discussion papers summarising their responses to the criteria consultation held in 2013.
- An approach was made to the heads of all UK university geography departments through the Royal Geographical Society. They were asked an open ended question: 'what content do you feel it is important to include in A level geography?' This generated detailed responses from eleven institutions. In addition, the panel, which jointly represents a further nine higher education institutions, offered feedback from local consultation.
- The same question was asked of the reference group and ten responses were generated.
- The panel also received a submission from the Royal Meteorological Society.
- Each of the four awarding organisations submitted evidence from its previous consultations and research into A level content.
- The content criteria writer consulted with the representatives of the awarding organisations about their responses to a first draft of the criteria.
- The panel had access to continuing advice about the 'teachability' of content proposals through the inclusion of a practising teacher on the panel and through input from the Royal Geographical Society and the Geographical Association. In

addition to this the panel initiated three specific events in order to engage with the wider community of geography A level teachers as detailed below.

Commented [GC8]: Additional Code: Teacher Attributes?

- A session was held at the annual conference of the Geographical Association in Guildford on 16 April 16 2014 and was attended by 66 teachers. Dr Alastair Owens, a panel member, briefed teachers on the ALCAB process and they were invited to contribute views particularly on two issues:
  - the need for balance between human and physical geography and the need for greater rigour in physical geography; and
  - the proportion of the content which should be core.
- A focus group was held at the Royal Geographical Society on 29 April 2014. This was attended by seven teachers and produced a report which was then commented on by a further group of seven teachers.
- A focus group was organised by the Geographical Association in Sheffield, with eight teachers and three representatives of the Geographical Association attending.
- Panel members carried out informal scoping using their own networks of academic and teacher contacts.
- The panel also received discussion papers on fieldwork from the Geographical Association, on A level content from the Royal Geographical Society, and on the aims of A level geography jointly from these two bodies.

**Guiding principles**

Consultation with stakeholders in higher and secondary education revealed a high degree of consensus among the geographical community about the desirable characteristics of geography A/AS level. The following key points emerged from the panel's discussions informed by evidence from the consultation. These points constitute a set of principles and considerations which provided the context for the panel's discussion of content:

- There is a unanimous view that fieldwork is central to geographical enquiry. Fieldwork must be integral to both A and AS level and comprise fieldwork in both human and physical geography.

- The new geography A level must be part of a clear progression from age 11 to 19 and minimise repetition of material from earlier key stages. There must be clear progression from GCSE to A/AS level and through to university study.

- A and AS level geography must provide a balanced geographical education for students who do not progress to higher level study.

- The content criteria must frame geography as a contemporary and engaging subject and recognise the degree to which the discipline engages with 'real world concerns'.

- The new A/AS level must have a balance of human geography and physical geography at an appropriate level of demand, and must include a significant component of people-environment study which builds on understanding of human and physical processes[1]. The awarding organisations expressed the view that this

**Commented [GC9]:** DK-GeoSk-Fwk

**Commented [GC10]:** P-CU

**Commented [GC11R10]:** But also possibly P-CE, via the stipulation to avoid 'repetition of material'?

**Commented [GC12]:** P-O

**Commented [GC13]:** DK-A

[1] Note on terminology. In the previous A level criteria human geography, physical geography and people-environment topics were separately specified. The panel worked from the basis that geography can be divided into human or physical geography and that people-environment themes draw on process understanding developed in either or both fields. Therefore the statement that there should be a balance of human and

balance should be made explicit in the content criteria and the panel endorsed this view.

- Students at A and AS level must have an understanding of geography as a discipline and as a distinctive body of knowledge.
- A and AS level content must engage with themes that are relevant to contemporary geographical study and issues.
- The panel considered in particular concepts such as representation, meaning and identity are important to parts of human geography in higher education but which have had limited expression at A level.
- Students must have an understanding of human and physical processes and must be able to answer 'why' and 'how' questions in both areas.[2] This concern was expressed by the higher education community and echoed by the awarding organisations and in the teacher consultation. The panel considers an understanding of process in human and physical geography as fundamental.
- The interface between human and physical geography is one of the unique features of geography. An understanding of interdisciplinary approaches to 'people and the environment' is one of geography's key characteristics and must be an important and attractive part of the A/AS level. An understanding of people-

**Commented [GC14]:** An important TBD...give this some more thought

**Commented [GC15R14]:** Additional Code: Disciplinary Identity?

**Commented [GC16]:** Additional Code: Disciplinary Identity?

**Commented [GC17]:** DK-KC-Pt

**Commented [GC18]:** Give this some further thought. Physical processes are explicitly mentioned within DK-KC-ES, but human processes are less explicit. An 'understanding of process' feels to be different than 'understanding processes'...

**Commented [GC19R18]:** Maybe documents should be analysed for any references to aspects of the discipline that are 'fundamental' (what other words might be used) in order to develop a sense of any shared understanding of 'WHAT GEOGRAPHY IS' ?

**Commented [GC20R18]:** Is this different to 'Disciplinary Identity' as a code?

physical geography does not in any way exclude or downplay the importance of people-environment themes. The panel expects to see these as a key part of new specifications drawing in a balanced way on understanding from human and physical geography.

[2] The higher education community identified the importance of a focus on processes rather than simply patterns or impacts. There is a perception that this has been particularly problematic in physical geography. Physical geographers feel that where specifications include impacts and responses in physical topics, for example, 'an understanding of flooding, its impacts and peoples responses', there is a tendency to focus on the people-environment aspects of the topics at the expense of understanding physical process.

environment interactions must develop from a sound understanding of process in both physical and human geography.

- Geography is a broad subject and there is no need or possibility for A/AS level to cover all of geography, but it must deliver high-level understanding of a range of aspects of the discipline. The A level should focus on a limited number of topics in sufficient depth in order to equip students with core knowledge and concepts, as well as providing an understanding of modes of geographical enquiry which they can develop in an higher education context if they pursue further geographical study.
- Geographers must be competent in a range of geographical skills, which include qualitative and quantitative research methods, fieldwork skills, and data manipulation/graphical skills as well as the ability to quantify rates and processes (understanding of units, and measurement).
- Geographical skills must be embedded within the content so that it is clear why these are an important part of geographical understanding.
- Geographical information science is an important part of geography and an important arena for the employment of geographers at all levels. This area includes geographical information systems, remote sensing and the collection and handling of geo-located data. There is a need for students to engage with these key technologies.
- Students must understand the importance of key concepts in geographical understanding, including those of space, place, time, and scale. Students must also be familiar with, and recognise the importance to their studies of, a broader range of concepts relevant to the four core themes and non-core topics. These must include

**Commented [GC21]:** DK-KC-Env

**Commented [GC22]:** Additional Code: Disciplinary Identity?

**Commented [GC23]:** Unclear how this relates to the distinction between substantive knowledge (core knowledge?) and disciplinary knowledge (concepts - organising and key?)

**Commented [GC24]:** P-CU

**Commented [GC25]:** DK-GeoSk

**Commented [GC26]:** DK-A

**Commented [GC27]:** DK-KC-Sp and DK-KC-Pl

**Commented [GC28]:** DK-OC-Ti and DK-OC-Sc

the concepts of causality, systems, difference, inequality, representation, interdependence, mitigation and adaptation, sustainability, risk, resilience and thresholds.

Commented [GC29]: DK-OC

- The A level must include an independent research element, developing extended geographical knowledge and skills as well as extended writing and research skills. This is an essential preparation for higher education geography as well as developing transferable research, writing and analytical skills.

Commented [GC30]: Additional Sub-Code: P-T [Progression: Transition]

- The new A/AS level content must be relevant and accessible to a diversity of learners with a range of backgrounds and life experience working in a variety of learning contexts.

Commented [GC31]: Additional Code: Learner Attributes

**Practical considerations**

A number of practical constraints on the formulation of new criteria emerged, particularly from discussions with teachers. These were:

- Teachers stressed the importance of fieldwork and noted that for them to deliver fieldwork in a crowded curriculum it needed to be explicitly specified as a core requirement.

Commented [GC32]: DK-GeoSk-Fwk

- There was a view that current A level specifications were heavy on content and a challenge to teach in the available time.

Commented [GC33]: SubK - General

- It was recognised by teachers that A/AS level geography had a wider purpose than simply entry to higher education and that the content should take account of this

Commented [GC34]: D-A

- Teachers were concerned about the potential for co-teaching A and AS level in the new structure. Concerns focused on the level of assessment and the shorter time available for AS level study. Several teachers reported that they did not expect to offer AS levels under the new system.

- Teachers were concerned that tight prescription on the use of geographical information systems as part of the skills package may be difficult for some schools to deliver within their available resources.

- It is important to retain an element of choice in the specifications, which will allow teachers to deliver material aligned to their own strengths and local situation.

Commented [GC35]: I don't think I should 'get into' the issues that arose following the decoupling of AS and A-levels, but they should be briefly acknowledged somewhere (maybe in the introduction?)

Commented [GC36]: Interesting theme - has understanding moved on since 2014? Look for anything published, esp via or involving Esri.

Commented [GC37]: DK-GeoSk

Commented [GC38]: SubK - General

Commented [GC39R38]: But also related to Teacher Attributes?

The panel was mindful of these potential issues in developing its content recommendations.

**Purpose and aims of geography A level**

Whilst the primary remit of the ALCAB panel relates to the identification of content to support higher education, the panel recognised that workable recommendations on content must also recognise the wider role of A levels. Panel discussion of the overall aims of a geography A level identified the following key purposes.

- To prepare students for higher education. Content must allow clear progression from Key Stage 4 through to higher education. An attractive curriculum also meets the needs of higher education for the preparation of appropriately qualified and engaged geographers for higher education courses. The panel felt that

Commented [GC40]: P-T

the breadth of geography was such that preparation for cognate degrees was best dealt with by focusing on an attractive and diverse geography offering.

- To provide an appropriate geographical education to the 80 per cent of A/AS level candidates who do not go on to higher education geography courses. This is an important part of education for life and employment given the 'real world' engagement of geography and the geography curriculum.

- Delivery of skills for employment. The panel agreed that geography delivers a range of specifically geographical skills largely focused on handling spatial data, mapping and geographical information systems. However, equally as important is the fact that geography, by engaging with a diverse range of subject matter, requires students to practice and have a mastery of a broad range of numerical, graphical, and reading skills as well as knowledge of the world and global issues. This is what makes geographers strongly employable. This aim is therefore addressed through a broad and challenging geography curriculum.

The panel further considered the academic aims of geography A level, which must be reflected in the content criteria:

- The acquisition of a rigorous understanding of processes that shape human and physical geography and the concepts that are used to understand them at a range of time and space scales and in a range of locational contexts.

- The application of an understanding of process to major contemporary issues focused on the relationship between people and environment.

**Commented [GC41]:** Wider theme here, about how geography relates to ES3 and cognate disciplines.

**Commented [GC42R41]:** Additional Code: Interdisciplinarity?

**Commented [GC43]:** P-O

**Commented [GC44]:** DK-A

**Commented [GC45]:** DK-A

**Commented [GC46]:** Too broad a statement to code - this is surely the overarching aim of geography as a discipline? I am confident all aspects of this statement are captured through other codes and examples.

**Commented [GC47R46]:** Depending on how the code of 'Disciplinary Identity) is developed, this might relate...

**Commented [GC48]:** DK-KC-Env

- Experience and understanding of the key role that fieldwork plays in the generation of geographical knowledge and understanding.

- Content that enables learners to think geographically, to be inspired by their geographical understanding of the world they live in and to engage critically with real world issues and real world locations through the application of geographical knowledge, theory and concepts.

- An understanding of the ways in which differences in values, attitudes and circumstances impact on an understanding of people-environment relations and developing the knowledge and ability to engage with these questions as citizens in the 21st century.

- The acquisition of skills required for geographical investigation including observation and data collection, handling geo-located data, as well as analysis, interpreting and presenting geographical information.

**Commented [GC49]:** DK-GeoSk-Fwk

**Commented [GC50]:** Additional Code: Learner Attributes?

**Commented [GC51]:** DK-A

**Commented [GC52]:** DK-OC-IntP

**Commented [GC53]:** DK-GeoSk

**Prescription of core content**

The panel considered the degree of prescription that is appropriate for core content.

Arguments for core content at A/AS level were:

- The need for higher education departments to have some common base of assumed A/AS subject knowledge.

**Commented [GC54]:** I would argue this is less about substantive knowledge and more about a 'common base' of disciplinary knowledge (key and organising concepts, geographical skills, application) - a more shared understanding of these terms across school/HE might be positive.

**Commented [GC55R54]:** P-T

- Core content is prescribed and is an efficient way to introduce up to date concepts and themes into the A/AS level curriculum and to ensure a balance of human and physical geography.
- The Smith report recommended the identification of a core in order to align content more closely between the awarding organisations.

The argument against excessive prescription is that teachers need to be able to teach to their expertise. Given the breadth of the discipline a degree of choice means that students are more likely to be taught by enthusiastic teachers with a high level of topic expertise.

The panel's view is that a core content is desirable and that a core comprising 60 per cent[3] of the A and AS level is appropriate. This is consistent with feedback from teacher engagement which supported prescription of the core at levels of up to 50 per cent or up to 60 per cent (varying by event). The provision of 40 per cent non-core content will allow the awarding organisations to develop their own individual existing strengths in the new specifications and to develop distinctive offerings whilst ensuring a common core of knowledge.

**Proposed content**

The panel considered it likely that the awarding organisations may draw from and extend high quality material from their current content in the non-core material (whilst not

**Commented [GC56]:** I would argue not necessarily. What was 'up-to-date' in 2014 has moved on in the academic discipline, but curriculum reform in schools does not work at the same pace.

**Commented [GC57R56]:** Is this about Disciplinary Identity (and the issue that this identity is different in schools and HEIs?)

**Commented [GC58]:** Additional Code: Teacher Attributes?

**Commented [GC59]:** HMMMM

**Commented [GC60]:** This is about market competition, not what is best for learners.

**Commented [GC61]:** An aspect of power - who decides the content??

[3] Note that this 60 per cent includes skills and fieldwork delivered embedded in the core content.

duplicating material in the new GCSE) and therefore that there was merit in specifying new core content.

Extensive discussion of content informed by both higher education and teacher input has led to the proposal of four core areas of content. Together with field work and geographical skills these will constitute the 60 per cent core material.

The panel's thinking on content was influenced by feedback from higher education on key aspects of geography required as preparation for higher education courses, by considerations of what worked well in existing specifications, considerations of progression (informed by an analysis of content across the whole school curriculum), and by a desire to provide a coherent core content characterised by process understanding and conceptual approaches at a level consistent with A/AS level study.

Commented [GC62]: P-T

Commented [GC63]: P-CU

Commented [GC64]: P-CU

The proposed core content requires a balance between human and physical geography. An informed understanding of people-environment interactions is an important part of geographical study. The absence of pure people-environment topics from the core was, however, a deliberate choice. The panel intended that the core should provide a rigorous introduction to human and physical geography and to understanding of processes, which would provide the underpinnings for an informed understanding of people-environment topics developed in non-core content. It is important to emphasise here the principle

identified in section 3 that the specifications must contain significant people-environment material building on understanding of physical and human geography.

Details of the four areas of core content are outlined below. While this is prescriptive, there are also some elements of choice within these core areas. The awarding organisations will have a degree of freedom to shape distinctive offerings within the core. The panel's intention is to provide sufficient guidance so that A level candidates arrive in higher education with a sound core knowledge whilst giving the awarding organisations the opportunity to use their expertise in order to develop exciting, innovative and challenging specifications. Given the breadth of geography as a discipline, and the varying circumstances of schools and learners, this is desirable.

Each of the four core content areas has a clear conceptual framework and approach. An understanding of processes operating at a range of scales, and of linkages of processes into systems is common across the content. This common framework across the four core content areas, together with the potential for people-environment links in each theme, should allow the awarding organisations to develop appropriately linked content in order to produce coherent specifications. Familiarity with these frameworks is an important preparation for higher education and will provide a common grounding for all students progressing to further study from geography A level. Details of the content expected in the core areas are specified below. The panel has developed descriptions of this content, which have a higher level of detail than the content criteria, but these should not be read as proposed specifications. The intent is to provide more detail on the panel's thinking on

**Commented [GC65]:** P-T

**Commented [GC66]:** Additional Codes: Learner Attributes and Disciplinary Identity?

**Commented [GC67]:** What about those who don't?

**Commented [GC68R67]:** Consider an analysis of entry requirements??

**Commented [GC69R67]:** P-T

content and to give clear guidance on the main areas of study that must be covered and which the awarding organisations can use to guide the development of their specifications.

**Physical geography**

The panel's discussions on core physical geography content identified two key areas for study: water and carbon cycling and landscape systems.

Material cycling in the earth system, specifically water and carbon cycling, is seen as a useful integrative theme, which allows a breadth of physical geography to be explored and requires rigour in understanding process and quantification. The water and carbon cycling theme addresses the key process basis for two major contemporary environmental issues - climate change and flooding - and as such provides process underpinning for the development of a range of people-environment themes in non-core people-environment content.

Commented [GC70]: DK-OC-IntC

Commented [GC71]: DK-KC-Env

This content area is new but will incorporate some elements of the core content that was considered by the Smith review, such as elements of climate change, hydrometeorology and some elements of water resource and flood hazard.

A second core area in physical geography will cover landscape systems. This theme will study the links between process and form in detail in relation to one of three landscape types: dryland landscapes, glaciated landscapes and coastal landscapes. It will focus on flows of

energy and matter and the way in which they combine to produce a dynamic geomorphological system. It will include consideration of the role of climate and climate history in conditioning landscape and human impacts on such systems. This unit is a development of the core content considered by the Smith review.

Commented [GC72]: DK-KC-ES

Commented [GC73]: DK-OC-Ti

Commented [GC74]: DK-KC-Env

Details of the two core areas of physical geography are developed below:

***Water and carbon cycles***

Rationale

Understanding spatial and temporal variations in the processes which cycle material in the earth system is a key part of physical geography. Water and carbon are both vital for living organisms and their cycling, which describes the continuous movement of water and carbon through the biological and physical components of the earth, is critical for humans and ecosystems and has strong links to global climate. These cycles also link the earth's lands, oceans, and atmosphere into an integrated system and provide a relevant context for understanding an earth systems approach to physical geography.

Commented [GC75]: DK-OC-Ti

Commented [GC76]: DK-KC-Sp (although relating to ES, the focus of this statement is on the scope to understand spatial variation through the study of earth systems)

Commented [GC77]: DK-KC-Env

Commented [GC78]: DK-OC-IntC

Commented [GC79]: DK-KC-ES

This integrative topic will provide progression from the understanding of ecosystems, resources, and weather and climate change, developed at GCSE and will introduce students to more advanced concepts and areas of study that are an important part of contemporary physical geography. The expectation is that students will have a clear understanding of the physical processes that control the cycling of water and carbon between land, oceans and

Commented [GC80]: P-CU

the atmosphere and the factors that influence change in flux and storage of water and carbon in time and space.

Water and carbon cycles have been selected here as two key exemplars, but students should understand that the conceptual approach has wider application to the cycling of material and energy in the earth system (study of other cycles is not required). The approach can be generalised and as such will be valuable preparation for students undertaking further study in geography and related subjects in higher education.

Water and carbon cycling are central to understanding and responding to many contemporary environmental issues such as climate change, sustainable water supply and flooding. This core topic therefore provides a strong process basis for the development of people-environment topics by the awarding organisations as part of the non-core content.

Core themes

The content should be approached through an understanding of a systems approach. Students must be familiar with the principal drivers of change for each cycle, with the major stores and the processes that drive flux between the stores, and with the time and space scales at which fluxes, stores and drivers vary.

Key components of study for both cycles must include:

**Commented [GC81]:** The context in which this statement is found implies a consideration of 'outcome' as a form of progression.

**Commented [GC82R81]:** P-O

**Commented [GC83]:** DK-A

**Commented [GC84]:** Relating to RQ3: Is there a 'missing' dimension to both CONTINUITY and PROGRESSION - preparation for the transition to the next phase of geographical education? This might combine aspects of progression (eg curriculum experiences and conceptual understanding) and aspects of disciplinary knowledge (eg developing a shared understanding of key and organising concepts - Ofsted 2023 says this is weak) as well as having implications for substantive knowledge (eg to avoid replication of content, advised for example by ALCAB)

**Commented [GC85R84]:** New code introduced: P-T (Progression: Transition)

**Commented [GC86]:** DK-KC-Env

**Commented [GC87]:** SubK-Physical Processes

- The distribution and size of major stores of water and carbon on land, in the oceans and the atmosphere, and an understanding of factors driving change in the magnitude of these stores over time and in space.

- An understanding of pathways and processes[4] that control the cycling of water and carbon. These should include land-atmosphere-ocean pathways for the movement of water and carbon and be considered at a range of time and space scales.[5]

- An understanding of the major controls on carbon and water cycling at global scales and how they vary over time including (i) natural variation, and (ii) human impacts, including land use change.

- An understanding of the links between the two cycles. Climate change provides a key context for exploring these linkages, which will develop an understanding of concepts such as feedback and thresholds.

Commented [GC88]: SubK-Physical Processes

Commented [GC89]: DK-OC-Ti

Commented [GC90]: DK-KC-Sp

Commented [GC91]: SubK-Physical Processes

Commented [GC92]: DK-OC-Ti

Commented [GC93]: DK-OC-Sc

Commented [GC94]: DK-OC-Ti

Commented [GC95]: DK-OC-IntC

For all of the above the level of demand must be appropriate to A/AS level, content must show progression from understanding developed at earlier key stages, and must build on

[4] These processes must be studied at an appropriate level of detail for A/AS level so that for example understanding of runoff generation in river catchments will require understanding catchment hydrological processes. Consideration of carbon sequestration on land requires understanding of processes controlling fixation of carbon from the atmosphere by vegetation, loss of carbon through organic matter decomposition in soils and loss of carbon by erosion or human action.

[5] For example students should understand controls on water flux at the hill slope scale but also broader climatic controls on rainfall, runoff and evaporation at continental scales. Similarly an understanding of the varying timescales over which processes operate is important so that for example, carbon cycle processes vary from those operating at short timescales such as photosynthesis, to the very long-term, such as the transformation of carbon into limestone and its subsequent release as the rock is weathered.

two key principles: firstly, the understanding of a systems approach, and secondly a rigorous understanding of the key environmental processes driving the cycles.

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This content will develop a range of quantitative skills including an understanding of simple mass balance, unit conversions, and the analysis and presentation of data. Through the understanding that small scale processes drive global changes this theme provides an opportunity for students to carry out fieldwork, which they can understand as directly relevant to major environmental issues which fire their enthusiasm for geographical study.

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Commented [GC98]: DK-GeoSk-Fwk

***Landscape systems***

Rationale

This theme will introduce students to the integrated study of earth surface processes, landforms and resultant landscapes within the conceptual framework of a systems approach, for the first time. It will build on the knowledge gained at GCSE about landscapes of the UK, introducing greater conceptual complexity and a more detailed understanding of earth surface processes, together with their associated transfers of energy and movements of materials. The core themes will be introduced through an examination of one of the following: glaciated landscapes[6] , coastal landscapes or dryland landscapes.

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[6] Including landscapes produced by the action of both valley glaciers and ice sheets.

The panel considered carefully whether to include fluvial landscapes as a case study under this topic but decided that this particular system already receives considerable coverage elsewhere at Key Stages 2-4 and that an important element of the new A level content was that it introduces new content that broadens student experience of key geographical issues. It also noted that elements of fluvial landscapes might be addressed in dryland landscapes (which often contain rivers) and also in the second physical geography core (water and carbon cycles), which includes consideration of the hydrological cycle.

Commented [GC101]: P-CE

Through this content students must understand the physical relationships between landform and process and comprehend the concept that landscapes are shaped by processes that operate at a range of spatial and time scales. They will learn that an understanding of environmental history is a core part of understanding contemporary and future landscape systems.

Commented [GC102]: SubK-Physical Processes and SubK-Environment?

The topic must examine landscapes beyond the UK, thereby introducing students to new content not covered at previous levels, but may also use UK examples since UK locations may be important for fieldwork opportunities. This topic will be studied in relation to one landscape type but will equip students with tools and conceptual approaches relevant to the study of any landscape system. It will constitute a sound foundation for courses in higher education in this area, and for non-core themes at A/AS level that concern people–environment interactions.

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Core themes

Two main aspects will characterise the approach to be taken:

- A systems approach to understanding process and form

The systems approach will educate students about a variety of geomorphological processes and how these processes shape landforms and hence landscapes. In so doing, it will introduce new concepts, including those of causality, feedbacks, thresholds, equilibrium, and sediment budgets within geomorphological systems. The topic must include the study of flows of energy and matter, and how these combine to create specific landforms within the chosen system.

Commented [GC105]: SubK-Physical Processes

- Spatial and temporal scales and change in landscapes

Study must embrace an understanding of physical processes and patterns at a variety of spatial (landform to landscape) and temporal (seconds to millennia) scales. It will examine how landforms are inter-related and how, together, they make up characteristic landscapes. It will examine how landforms and landscapes evolve as a result of past, present and future climate-driven processes.

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Commented [GC107]: DK-OC-Ti

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Students will study one of the following three representative landscape systems:

- Dryland landscapes. Drylands are characterised by limited soil moisture, caused by low precipitation and high evaporation. They occur at all latitudes of the planet, from high latitude polar regions to mid and low latitude deserts. Dryland landscapes are characterised by varied interactions between climate, soil and vegetation, and cover 41 per cent of the earth's surface and are inhabited by over two billion people (a

third of the world's population). Dryland landscapes are therefore a major element of the physical geography of the world. They are a new topic for study at AS and A level and provide an exciting opportunity for students to gain geographical understanding of a range of dynamic landforms and associated landscapes.

• Coastal landscapes. Coastal landscapes exist at the interface between the world's land and its seas (freshwater and marine). They support a diverse range of landforms that develop by the interaction of winds, waves and currents, and the sediment supply sourced from terrestrial and offshore sources. Coastal landscapes include a range of landforms shaped by different processes that record the dynamic interaction between the atmosphere, ocean and terrestrial processes over a range of timescales. They include, but are not restricted to, rocky, sandy, estuarine and carbonate coastlines. Nowhere in the UK is more than 70 miles from the coast and about three million people live directly on the coastline. Globally it is estimated that more than a billion people live in coastal areas.

• Glaciated landscapes. Glaciated landscapes bear the erosional and/or depositional imprints of the former or present passage of glacier ice in a range of styles according to the morphology of the former ice bodies (i.e. glaciers and ice sheets) and the duration and number of glacial episodes. Glaciated landscapes are well developed in the UK, especially in upland settings, and approximately 75 per cent of the UK landscape has been glaciated and supports glaciated landscapes. Glaciated landscapes in the UK and abroad provide exciting new opportunities for AS and A level students to undertake fieldwork in land systems that are either presently or formerly impacted by glacial processes.

**Human geography**

Two core areas of content have been discussed in human geography. The first will consider global systems and global governance. It will focus on the processes and flows that occur at the global level, and the ways in which these influence people, places and institutions. The conceptual framework will emphasise the way in which global systems have local consequences. The content will be organised on two main themes: global interdependence and inequalities, and global governance.

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Commented [GC111]: DK-OC-Sc

The second core area of human geography content relates to 'changing places'. This theme will be based on a locality, most likely where the students live, and an alternate contrasting location. It will develop nuanced geographical understanding of a particular and familiar place. This is a new theme when viewed against the content criteria considered by the Smith Review and provides a strong context to introduce some of the ideas and methods in human geography, particularly around meaning and representation, which higher education institutions felt were lacking in the current A level.

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Details of the two core areas of human geography are developed below:

***Global systems and global governance***

Rationale

This topic involves study of how global systems and global governance shape relationships between citizens, states and non-state actors (for example, the United Nations, multinational companies or non-governmental organisations) around the world. It builds on GCSE studies on development and globalisation but introduces students to the geopolitical circumstances and factors shaping how actors such as states (but not exclusively) are affected by flows of people, money, ideas, technology, and renewable and non-renewable resources, and by factors such as extreme weather. States and non-state actors have to respond to these flows and global systems, which can sometimes act to promote stability, growth and development, but which can also be the cause of inequalities, conflicts and injustice.

**Commented [GC115]:** SubK-Human Processes

**Commented [GC116]:** P-CU

The focus on global systems is not intended to be geographically comprehensive. By using case studies, students will learn how the world is shaped around us. Global systems, including those that regulate and order trade, financial transactions and migration, create interdependencies, which produce uneven geographies of benefits and costs. Geopolitics is concerned with how states and governments seek to exploit, manage and preserve those global systems within and beyond their national territories.

**Commented [GC117]:** SubK-Place Knowledge

Two sub-themes are introduced: (i) global interdependence; and (ii) inequalities and global governance. The first theme addresses the existence of an unequal but interdependent world. Interdependence focuses on the relationships that are created by global systems, while inequality alerts us to how the world is shaped in unequal ways. Some states, especially superpowers, have greater capacity than others to drive global systems and

**Commented [GC118]:** DK-OC-IntC and DK-OC-Div

influence geopolitical events. The second theme, global governance, examines the role of rules, norms and laws in reproducing global systems and the geographical consequences for citizens and places.

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Study will include identified topics in each of the two key sub-themes, as noted below. Both sub-themes have scope for thinking about how scale, including local, regional, national, international and global, helps students to make sense of how global interdependence, inequality and governance manifest themselves.

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Core themes:

Global interdependence and inequalities

Global systems, when they do function, are highly unequal in their constitution and impacts on states. Some actors, especially superpowers such as the United States and China, have a decisive impact on the making of the world. Larger states might be able to resist global rules and/or simply ignore the comments of others about their actions. Such geographical differences and inequalities can also make demands on other states to react to these circumstances. But inequalities can also be more subtle, and work inside states as well, as some citizens and some localities experience greater exposure to the inequities of global systems when it comes to wealth creation, employment and welfare protection.

This core theme asks students to think about how, why and where interdependence and inequalities exist in the world today.

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Students should select one of the following topics through which to address these themes:

- Access to markets in the contemporary world[7];
- Human development and life expectancy;
- Population movement and immigration control.

Commented [GC122]: SubK-Human Processes

Although both qualitative and quantitative approaches should be drawn upon to some extent, this topic lends itself to the use of quantitative data and methods such as the world top income database and global wealth reporting by financial and intergovernmental institutions such as the United Nations.

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Global governance

The world around us is regulated and structured through systems and rules. Many of these have been responsible for positive changes in the way in which global geopolitics operates. United Nations' agreements on human rights and genocide coupled with international law were crucial in creating the post-1945 international system. This is a system where nation-states, with exclusive sovereignty over their 20 national territories, were supposed to be treated as equal partners under the auspices of the United Nations Charter.

[7] For example, considerations of inequality in trade relations and 'fair trade'.

This sub-theme theme asks students to think about how global governance works, with strong links of course to the first theme of global interdependence and inequalities. Students can explore how the 'global commons', human rights protection and territorial integrity provide powerful case studies for investigating how these systems and rules work.

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Students should select one of the following topics through which to address the theme of global governance:

- The governance of the global commons (for example, Antarctica, oceans, the atmosphere and climate change);
- Human rights protection and the geopolitics of intervention;
- Sovereignty and territorial integrity.

Commented [GC126]: SubK-Human Processes

Although both qualitative and quantitative approaches should be drawn on to some extent, this topic lends itself to the use of qualitative material and methods.

Commented [GC127]: DK-GeoSk-Exp

***Changing place, changing places***

Rationale

This topic aims to explore both the continuity and the changing nature of place and places through empirical data and as perceived by groups and individuals. Students must examine two sub-themes: (i) the socio-economic and demographic characteristics, relationships and connections of places; and (ii) the cultural meanings and representations attached to places. The understanding of places, as shaped by flows (of people, goods/resources,

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money/investment and ideas), and interconnections both within and beyond the places themselves, are also central to this topic and are relevant to both sub-themes.

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The place within which students live and study[8] are likely to be the starting point for investigation but at least one further contrasting place[9] must also be studied in order to extend the opportunities for understanding concepts, including those of similarity, difference and inequality, and for comparing processes of past and present development and change. By examining how local change and actions relate to the wider contexts of national, international and global forces, the dynamic nature of local places will be illuminated. Students must use both quantitative and qualitative approaches across the theme as a whole in order to illuminate their understanding and to gain experience of different methods for undertaking geographical enquiry. Equal overall weight should be given to quantitative and qualitative approaches.

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Core themes:

Study will include one of the identified topics in each of the two key sub-themes, as noted below. Note that study for both sub-themes should move across scales, including local, regional, national, international and global, revealing the way in which local places are embedded within and interconnected to these wider scales.

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[8] Comprising a locality, neighbourhood or small community either urban or rural
[9] As above. This can be in the UK or elsewhere; however at least one of the places studied must be in the UK.

Relationships and connections

Relationships and connections between people, the economy, and the environment help to explain why places are dynamic and constantly changing. Relationships and connections operate through a combination of local forces and links between communities, such as employment opportunities and migration, and external forces operating at different scales from regional to global, such as government policies, the decisions of multinational corporations or the impacts of regional or global economic restructuring. Those forces for change are reflected in the demographic, socioeconomic and cultural characteristics of residents and in the fabric and nature of places.

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Students should select one of the following topics through which to address the concepts of relationships and connections as applied to place:

- Demography, and cultural difference and diversity;
- Economic and social inequalities;
- Food production, circulation, and consumption.

Commented [GC136]: SubK-Human Processes

Although both qualitative and quantitative approaches should be drawn on to some extent, this content lends itself to the use of quantitative data and methods.

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Meaning and representation

Meaning and representation relates to how humans perceive, engage with and form attachments to the world. This might be the everyday meanings that humans attach to

places bound up with a sense of identity and belonging. It also extends to ways that meanings of place might be created, such as through place making and marketing.

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Representations of places are important because of the way in which they shape peoples' actions and behaviours, and those of businesses, institutions and governments. Representations also provide a reference point for people's sense of identity, underpinning their attachments to place, particularly in times of change.

Attention to meaning highlights the processes of representation through which places are depicted, variously by external agencies and by those who live in them. The meanings and identities ascribed to a place may also be related to its function, both social and economic, in the present and in the past. Places can have multiple meanings and identities, reflecting different perceptions and perspectives.

Students should select one of the following topics through which to address the concepts of meaning and representation as applied to place:

- Place making and marketing, drawing on examples such as regional development agencies, tourist marketing, and property marketing materials.
- Representation of place through photography and film, music and art, literature and poetry, through cartography, census data, statistical representations, digital worlds and geo-spatial technologies such as geographical information systems.

- Lived experience of place in the past and present. Developing understanding of how residents understand and see the places in which they live. These understandings may sometimes contrast with governmental and corporate representations such as those in place marketing or planning documents.

Although both qualitative and quantitative approaches should be drawn on to some extent, this content lends itself to the use of qualitative material and methods.

**Commented [GC139]:** DK-GeoSk-Exp

**Fieldwork and independent investigation**

Fieldwork is an essential component of geography. The ability to conduct field investigations in order to test ideas, build evidence, reflect on concepts, and create new geographical knowledge is one of the defining characteristics of a geographer.

**Commented [GC140]:** DK-GeoSk-Fwk (but also the additional code of learner attributes - being a 'geographer' and some aspects of disciplinary identity?

This message came through as the strongest single response from higher education institutions and from teachers and the panel fully endorses this view. We note that a similar statement has been made in the current draft revision of the Quality Assurance Agency subject benchmark for geography in higher education. Fieldwork at A/AS level is therefore important as a preparation for higher education as well as a key educational context for geography at A/AS level. The panel therefore takes the view that fieldwork must be a core requirement in A level and AS level geography. Our recommendation therefore is that fieldwork experience in both human and physical geography should be core in both year 1 of A level (and at AS level) and in year 2 of A level.

We also recommend that A level fieldwork is assessed through an independent investigation (see below).

Because of the strength of feeling around the requirement that A/AS level students should undertake fieldwork the panel has formulated detailed recommendations about fieldwork.

Fieldwork requires the application of knowledge, skills and understanding of concepts to the particular circumstances of a real world location in order to investigate a defined question and create geographical understanding.

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At A/AS level, students require sufficient time in the field to achieve the required depth of understanding and to develop the ability to apply their geographical knowledge and appropriate data collection and measurement techniques in real world contexts. The amount of time in the field that is required or achievable will vary with context and with the approach taken to supporting an independent fieldwork study. Fieldwork can be completed in a number of ways; locally, or on residential trips, and as full days or as part days, and can relate to either core or non-core content. As a guide to an appropriate degree of field experience at this level we recommend a minimum of four days of fieldwork as part of A level study and two days for AS level specifications (note these are not additive for the A level). This can include time spent in the field on an independent investigation (at A level) as long as the requirement to undertake human and physical fieldwork is achieved in each year.

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This represents time spent in the field and in addition there will be time required for project planning, practicing field techniques, write-up and analysis of field investigations. The panel recognises that many schools may wish to exceed the minimum guideline and have the capacity to do so.

Fieldwork must draw on some core content and may also draw on non-core content for substantive themes. It must span human and physical geography and include both qualitative and quantitative data collection. The core content has been drafted with a view to making appropriate fieldwork contexts available for different groups and settings. For example, hydrological investigations in the context of the water cycling topic may be undertaken in either urban or rural settings whilst the changing places content has a focus on local neighbourhoods, which allows wide scope for the development of fieldwork content appropriate to differing school contexts.

**Commented [GC143]:** Additional code: EDI?

Some themes are less amenable to fieldwork for logistical reasons. For example, dryland fieldwork is not possible in the UK, although fieldwork related to the other options in the landscape theme is possible. Similarly, aspects of development are not amenable to UK-based fieldwork. The panel agreed that to limit study only to areas with potential for fieldwork in the UK would unnecessarily curtail the breadth of topics. Within the core there are sufficient topics that local fieldwork in both human and physical geography should be accessible in all contexts and fieldwork may also relate to non-core material selected by the awarding organisations.

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Key areas of knowledge and skill that are required at A and AS level are distinguished in the list below with all of the AS level skills required at A level in addition to the A level skills:

- The ability to define research questions that underpin field investigations. (A)
- The ability to research relevant literature sources and to understand and write up the theoretical or comparative context for a 'research question'. (A)
- The ability to observe and record phenomena in the field and to devise and justify practical approaches taken in the field including frequency/timing of observation, sampling, and data collection approaches. (AS/A)
- Practical knowledge of field methodologies appropriate to the investigation of core human and physical content including the measurement of physical processes. (AS/A)
- The ability to implement these methods to collect data/information of good quality and relevant to the topic under investigation (AS/A)
- Knowledge of the techniques appropriate for analysing field data and representing results and the ability to select appropriate approaches and apply them. (A)
- The ability to interrogate field data in order to comment on its accuracy and representativeness and develop geographical understanding. (A)
- The ability to apply existing knowledge and concepts to order and understand field observations. (AS/A)

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- The ability to write up field results clearly and logically to produce a fieldwork report, to evaluate and reflect on fieldwork investigations and how the results relate to the wider context. (A)
- An understanding of the ethical dimensions of field research. (A)
- The ability to write a coherent, argued and evidence-based analysis of fieldwork findings in order to answer a specific geographical question. (A)

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The panel's strong view is that the only appropriate method of assessment for fieldwork at A level is through a non-examination-assessed independent investigation. In order for students to demonstrate the full suite of skills above, a piece of field research and extended writing is required. The panel's view is that nothing students can write in an examination can demonstrate the synthesis of skills, knowledge and practical ability that is the hallmark of excellent fieldwork. The panel recommends therefore that at A level there should be a requirement for an independent investigation that incorporates field evidence and that is supported by the student's own research and/or secondary data.

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This meets the desire from higher education departments that students have undertaken a substantial piece of independent work and that they develop some independent research skills. Independent in this context does not mean lone working. The panel recognised that for logistical and health and safety reasons students will often undertake fieldwork in groups. This is appropriate and reflects the real world situation where fieldwork is commonly a team exercise. What is important is that students show independence of thought in the

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contextualisation, analysis and reporting of their work so that they produce an independent investigation that demonstrates the required fieldwork attributes identified above.

Commented [GC156]: Learner attributes?

The panel recognised that the demands of co-teachability might require a different assessment model for AS level fieldwork.

Fieldwork opportunities in core material

As noted above, fieldwork will draw on core and non-core content. The panel took the view that limiting the choice of core topics only to those with clear local fieldwork opportunities unnecessarily limited the range of contexts and environments which could be studied. Instead, the panel has identified key fieldwork opportunities associated with core topics which will allow the awarding organisations to develop specifications offering a balanced range of fieldwork options accessible from a wide range of learning contexts. These notes are only offered as guidance and should not place any limit on the development of innovative fieldwork approaches relating to any of the core content.

In the human geography core the widest range of fieldwork opportunities occurs in the changing places content. Because this content explicitly studies a local area there is an opportunity for local fieldwork to address any of the themes within this area. As identified in the content description, local fieldwork in this area will draw on both qualitative and quantitative approaches. Changing places fieldwork opportunities will be easily accessible from all possible learning contexts.

Although it may appear that by its nature the global systems and global governance content is less amenable to small-scale primary fieldwork, there is scope for local investigations which address the impact of global scale processes in particular contexts. Population movement, human rights and access to markets are potential themes which lend themselves to this approach. The global systems content is an excellent opportunity to integrate secondary research on the global system with local observation.

The landscape systems content lends itself readily to fieldwork, including the observation and measurement of physical processes, the identification of landforms and descriptions of associated sediments, and the geo-spatial mapping of different inter-related elements in the landscape as a whole. The panel notes that coastal and glacial landscapes readily lend themselves to UK fieldwork. The panel recognised that centres offering drylands are likely to look elsewhere in the content for fieldwork options.

Water and carbon cycling offers the potential for a wide range of fieldwork investigations, such as measurement of rainfall, infiltration and runoff (including river flow estimation) and the simple estimation of carbon storage in soils and vegetation. In particular this topic offers good opportunities for fieldwork in urban settings. The concept of the cycle provides an excellent opportunity for students to understand the links between their small scale investigation and global environmental systems, and provides good opportunities to integrate field measurement with secondary data.

**Geographical skills**

We would expect A/AS level students to be familiar with methods of collecting, visualising, analysing and interpreting qualitative and quantitative data. There should be application of data collection and analysis methods learned at GCSE and reinforced at A/AS level, and the range of methods and approaches must be extended through their application in the core and option topics studied.

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This should include:

- An understanding of different types of geographical information, experience of collecting and/or manipulating such information, and application and understanding of suitable analytical approaches for the different information types. In each case, this should encompass the following (overlapping) forms of data and methods:
  - o qualitative and quantitative data and methods;
  - o primary and secondary data;
  - o visual and textual data;
  - o numerical data and digital spatial data; and o innovative forms of data collection (for example, 'big data' and crowd-sourced data).

Commented [GC158]: DK-GeoSk

- Informed questioning of data sources, analytical methodologies, data reporting and presentation. This should involve a critical approach to data, for

example, the ability to identify sources of error in data, and to be able to identify the misuse of data.

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- Skills specific to qualitative data include:

o An ability to use and understand a mixture of methodological approaches including interviews and interpreting textual and visual sources, as applied to particular data sets and communities.

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o An understanding of the opportunities and limitations of qualitative techniques such as coding and sampling, and how they actively create particular geographical representations of places and communities.

Commented [GC161]: DK-GeoSk-Eval

o A basic understanding of the ethical and socio-political implications of collecting, studying and representing geographical data on communities.

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- Skills specific to quantitative data include:

o An understanding of what makes data geographical and of the geo-spatial technologies (for example, geographical information systems, remote sensing, global positioning systems) that are used to collect, analyse and present geographical data.

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o The ability to collect geo-located data, and to understand a range of approaches to the use and analysis of such data. This might include virtual globes, understanding of the application of geographical information systems to combine data layers, or the use of location based-services or geo-spatially referenced field data.

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- An understanding of the purpose, use and difference between descriptive statistics of central tendency and dispersion, descriptive measures of difference and association, inferential statistics and the foundations of relational statistics (for example, measures of correlation or lines of best fit on a scatter plot); together with an understanding of measurement, measurement errors, and sampling.

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Geographical skills must be understood in the context of geographical knowledge covered in both the core and non-core content. The consensus among the panel and in the teacher consultations was strongly that skills teaching should be embedded and not a stand-alone component of specifications. The awarding organisations should deliver a balanced selection of skills at AS level appropriate to the selected core content and at an appropriate level of demand.

Commented [GC166]: Something as an additional code about subject community... as an aspect of disciplinary identity, maybe?

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**Core content in relation to the draft criteria considered by the Smith Review**

Some of the core content proposed by panel is an extension of topics previously considered and put forward by the Smith Review, whilst in some areas there are new content proposals. The thinking behind these changes is summarised below.

In physical geography the landscape systems content is broadly similar in scope to the landscape and change content identified in the previous draft subject content document considered by the Smith review. It is, however, outlined in more detail in order to make it

clear how this content differs from and builds upon the study of UK landscapes at GCSE. A more significant change is the substitution of water and carbon cycling for the global climate system topic previously proposed. The justification for this change is as follows:

- Climate change is a significant component of the GCSE content and a key principle in selecting content was to avoid excessive repetition. The panel took the view that an understanding of processes driving climate change through study of the carbon cycle will extend GCSE knowledge and underpin further study in higher education. The water cycle, which is a topic that has not been studied in detail at GCSE, is well suited to developing a process-based understanding of the impacts of climate change.

- As written the previous core content excluded weather (as noted by the Royal Meteorological Society's submission to the panel). In current A level specifications weather and climate topics are typically optional content and there are excellent existing units on weather and climate, which could be retained as non-core content in the new A/AS levels.

- The proposed topic on carbon and water cycling includes understanding of a key driver of climate change and the opportunity to study aspects of hydrometeorology. It demands understanding of earth, ocean and atmosphere interactions and therefore provides a more widely applicable basis for further study.

- Meteorology is not a major component of most current higher education courses in geography. Consequently, whilst the preservation of good non-core content in this area is desirable, the panel felt that a more integrative topic was appropriate for inclusion in the core.

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**Commented [GC169]:** P-T

**Commented [GC170]:** P-T

**Commented [GC171]:** P-T

**Commented [GC172R171]:** But there is also an aspect of power (who decides on the curriculum content) here.

The core human geography content on the global system and global governance is closely related to the previous topic on economic change. It has the same focus on geo-politics and development, globalisation, and global processes, but widens the scope beyond just economic systems. The rationale for this change is the significant coverage of economic globalisation in the GCSE specifications. The content outlined here is complementary, building on existing knowledge and extending the range of material considered in the context of global systems.

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The changing places topic replaces the core content previously identified as population dynamics. This topic shifts the emphasis to the study of place and also has some emphasis on meaning and representation. The topic outlines a conceptual framework, which emphasises both the social, economic and demographic character of places and also the cultural meanings and representations attached to places. The key cultural, social and demographic content in the previous specification is therefore preserved, but will be studied in a way which is more in line with the approaches current in higher education geography.

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Perhaps the most significant departure from the previous content criteria is the fact that the panel has chosen not to specify a core people-environment topic. As discussed above, this is a deliberate choice. The awarding organisations have an excellent track record in producing attractive and innovative material in this area. Prescribing material here would potentially limit the range of material offered. The panel regards choice in this area as positive since it

allows schools and teachers to play to their strengths and provides a diversity of provision consistent with the breadth of the discipline.

Commented [GC175]: Something around power - who decides content?

The presence of people-environment topics in the new specifications is required by the principle that there should be a significant component of this material in the content, but the panel was content to leave the choice of topics to the awarding organisations. Since the people-environment material needs to be supported by sound process knowledge it is expected that these topics will either develop out of core material or will include some element of process understanding within the units.

**Non-core content**

The panel does not seek to prescribe content beyond the core (other than the principle of balance between human and physical content). In specifying the core material set out above the panel aimed to ensure the inclusion of a common core relevant to further study.

The core content is focused on topics that develop understanding of processes in human and physical geography. Therefore the requirement to offer a significant component of people-environment study will require that the latter are an important part of the non-core content. The panel recognises that there are some excellent and popular topics in existing options that the awarding organisations may wish to use in developing core content. Topics such as weather and climate, tectonics, ecosystems, health, sustainability, tourism, energy and water resources, food supply, urbanisation, pollution, environmental management, amongst others

are important areas of geography which are either not covered or partially covered in the core content. This is an inevitable consequence of selecting material from a broad discipline in order to ensure suitable depth of study, but the panel would hope to see rigorous, attractive and popular content retained from existing specifications in the non-core content. This will also address a concern from teachers that the new specifications should be evolutionary rather than revolutionary.

Commented [GC176]: SubK-General

**A level and AS level geography**

The panel discussed the intersection between the core content and the two qualifications. The option of confining core content to A level was discussed. However, the consensus was that there should be a core at A and AS level for two reasons: (i) in order to facilitate co-teaching; and (ii) so that the people-environment topics are supported by a thorough process grounding in physical and human geography. The panel took the clear view that fieldwork should form part of the core at A and AS level.

A further discussion took place about which content should be core at A and AS level. The panel took the view that geographical skills and fieldwork should be core at both levels. For fieldwork we have defined the skills that should be taught at AS level and these are listed above. For geographical skills the awarding organisations must identify a balanced selection that should be addressed at AS level and which is consistent with their content choices.

The panel was similarly content for the awarding organisations to determine the division of the core content between A and AS level, subject to the provision that both years should have an equal balance of human and physical topics. The panel did not regard any of the core themes as having a greater intellectual demand than the others, rather they represent the breadth of the discipline and can be taught and assessed at either level. A choice of core content at each level provides further freedom for the awarding organisations to develop distinctive, rigorous and attractive specifications.

**Continuing professional development (CPD)**

Because of the way that parts of the A level geography curriculum have become increasingly divergent from geography in higher education there is likely to be a need for investment in CPD and resources in order to support teachers in delivering elements of the new curriculum.

**Commented [GC177]:** Teacher attributes

Key areas that are likely to require support include:

- Physical processes related to carbon cycling, since this is not covered in detail in existing specifications;
- Techniques, particularly approaches to understanding geographical information and geo-located data;
- The teaching of themes relating to meaning and representation, particularly in the context of the changing places unit; and

- Consideration of the ethical dimensions of fieldwork.

Commented [GC178]: Teacher Attributes

This is will have resource implications but could be delivered successfully by subject associations. The DfE funded 'Action Plan for Geography' programme, which is delivered jointly by the Geographical Association and the Royal Geographical Society, was cited as an example of best practice. The panel believes that investment in appropriate CPD and accompanying resources will be essential for the effective delivery of the new qualifications.

Commented [GC179]: Teacher attributes? Subject community?

# Appendix 8: Formatted and Coded DfE-KS5.

## Geography GCE AS and A Level subject content (December 2014)

### The content for AS and A level geography

#### Introduction

1. The AS and A level subject content sets out the knowledge, understanding and skills common to all AS and A level specifications in geography.

**Commented [GC1]:** Reminiscent of the 'know, understand, can do' language of previous NCs. No distinction here between forms of knowledge and no assumption can be made that any reference to 'knowledge' is to substantive knowledge.

#### Aims and objectives

2. AS and A level specifications in geography should encourage students to gain enjoyment, satisfaction and a sense of achievement as they develop their knowledge and understanding of the subject. The content should enable students to be inspired by their geographical understanding, to engage critically with real world issues and places, and to apply their geographical knowledge, theory and skills to the world around them. Students should grow as independent thinkers and as informed and engaged citizens, who understand the role and importance of geography as one of the key disciplines relevant to understanding the world's changing peoples, places and environments.

**Commented [GC2]:** Additional Code: Learner attributes?

**Commented [GC3]:** Learner Attributes?

**Commented [GC4]:** DK-A

**Commented [GC5]:** DK-A

**Commented [GC6]:** Additional Code: Disciplinary Identity?

3. AS and A level specifications must enable students to:

- develop their knowledge of locations, places, processes and environments, at all geographical scales from local to global across the specification as a whole

**Commented [GC7]:** DK-KC

1

- develop an in-depth understanding of the selected core and non-core processes in physical and human geography at a range of temporal and spatial scales, and of the concepts which illuminate their significance in a range of locational contexts

- recognise and be able to analyse the complexity of people-environment interactions at all geographical scales, and appreciate how these underpin understanding of some of the key issues facing the world today

- develop their understanding of, and ability to apply, the concepts of place, space, scale and environment, that underpin both the national curriculum and GCSE, including developing a more nuanced understanding of these concepts

- gain understanding of specialised concepts relevant to the core and non-core content. These must include the concepts of causality, systems, equilibrium, feedback, inequality, representation, identity, globalisation, interdependence, mitigation and adaptation, sustainability, risk, resilience and thresholds

- improve their understanding of the ways in which values, attitudes and circumstances[1] have an impact on the relationships between people, place and environment, and develop the knowledge and ability to engage, as citizens, with the questions and issues arising

- become confident and competent in selecting, using and evaluating a range of quantitative and qualitative skills and approaches, (including observing, collecting and analysing geo-located data) and applying them as an integral part of their studies

**Commented [GC8]:** SubK-Physical Processes

**Commented [GC9]:** SubK-Human Processes

**Commented [GC10]:** DK-OC-Ti and DK-OC-Sc

**Commented [GC11]:** DK-KC-Sp

**Commented [GC12]:** DK-KC-Env

**Commented [GC13]:** P-CU

**Commented [GC14]:** Coding this as DK-OC in general, although some of these might more strongly relate to pre-established OC codes (e.g., identity and representation might be coded as DK-OC-Div) and there are also links to some DK-KC such as Place.

**Commented [GC15]:** DK-OC-IntP

**Commented [GC16]:** DK-GeoSk

**Commented [GC17]:** DK-A

[1] 'Circumstances' in this case refers to the context of people's lives, the socio-economic and political milieu in which they find themselves.

- understand the fundamental role of fieldwork as a tool to understand and generate new knowledge about the real world, and become skilled at planning, undertaking and evaluating fieldwork in appropriate situations

Commented [GC18]: DK-GeoSk-Fwk

- apply geographical knowledge, understanding, skills and approaches in a rigorous way to a range of geographical questions and issues, including those identified in fieldwork, recognising both the contributions and limitations of geography

Commented [GC19]: DK-GeoSk-Obs

Commented [GC20]: Additional Code: Disciplinary Identity

- develop as critical and reflective learners, able to articulate opinions, suggest relevant new ideas and provide evidenced argument in a range of situations

Commented [GC21]: DK-GeoSk-Eval

4. Awarding organisations must ensure that the content is developed at an appropriate level of demand for AS and A level, and that there is a clear progression in the breadth and depth of content from GCSE. Awarding organisations must aim to:

Commented [GC22]: P-CU

- build on knowledge of contexts, locations, places and environments, by extending the scope and scale of study, the variety of physical, social, economic, cultural and political contexts encountered, the depth of conceptual understanding required, and the range of spatial and temporal scales included

Commented [GC23]: SubK (general)

- ensure emphasis on deep understanding of both physical and human processes, and on applying this understanding to interrogate people-environment interactions and people-place connections at all scales from local to global

Commented [GC24]: DK-KC-Env

Commented [GC25R24]: And DK-OC-Sc

- require study that builds on and reinforces the conceptual understanding underpinning GCSE, and extends demand to include a wider range of more complex and specialised concepts that relate to the core and non-core content

Commented [GC26]: P-CU

• ensure that specifications demand engagement with models, theories and generalisations, and require a mature understanding of the nature and limitations of objectivity and the significance of human values and attitudes

Commented [GC27]: DK-GeoSk-Exp

Commented [GC28]: DK-GeoSk-Eval

Commented [GC29]: DK-OC-IntP

• promote understanding of the rationale for, and applications of, skills and approaches used, together with a considerable degree of independence in selecting and using a wide range of geographical methods, techniques and skills, involving both qualitative and quantitative methods

Commented [GC30]: DK-GeoSk

• ensure that fieldwork plays a key role in encouraging both AS and A level students to apply and evaluate theory in the real world and that A level fieldwork in particular demands a high degree of responsibility from students for selecting research questions, applying relevant techniques and skills, and identifying appropriate ways of analysing and communicating findings

Commented [GC31]: DK-GeoSk-Fwk

Commented [GC32]: DK-GeoSk

## Subject content

### The core content

5. The core content comprises 60% of both the AS and A level specifications and must address the following requirements:

• for AS, specifications must include at least one core physical geography theme and one core human geography theme, together with an appropriate selection of skills and fieldwork requirements relating to both physical and human themes, representing overall 60% of the AS

- for A level, specifications must include all four core themes, all the geographical skills, and all fieldwork requirements relating to both physical and human themes, representing overall 60% of the A level
- the core themes are equal in weight and depth of content (although the length of explanatory text may differ) and must be implemented with the depth, breadth and coverage specified for each theme
- the specification must require geographical skills and fieldwork to be embedded within the required content knowledge

Commented [GC33]: SubK (general)

Commented [GC34]: SubK (general)

The non-core content

6. The remaining 40% of both the AS and A level must be selected by the awarding organisation, but must also:

- maintain the depth, breadth and challenge of the specification as a whole
- ensure that at least half of the 40% material selected for a specification addresses people-environment questions and issues
- draw in a balanced way from physical geography and human geography across the 40% non-core content as a whole, so that whatever form the content takes (eg people-environment issues; process studies, thematic topics) in the 40% non-core content, it must draw evenly from physical geography and human geography overall in order to maintain the balance required in the specification as a whole
- the specification must require geographical skills and fieldwork to be embedded within the required content knowledge

Commented [GC35]: SubK-Environment

Commented [GC36]: SubK (general)

Commented [GC37]: SubK (General)

Commented [GC38]: SubK (General)

The four core themes; knowledge and understanding

*(1) Water and carbon cycles*

7. A level specifications, and AS specifications which address this theme, must require students to study the physical processes which control the cycling of both water and carbon between land, oceans and the atmosphere.

Commented [GC39]: DK-KC-ES

8. Study must:

- develop the required knowledge and understanding through study of both:
    1. the carbon cycle; and
    2. the water cycle
- take place within a systems framework emphasising the integrated nature of land, earth and atmosphere

Commented [GC40]: DK-KC-ES

- ensure engagement with a range of quantitative skills within this theme, including understanding of simple mass balance, unit conversions, and the analysis and presentation of field data. Qualitative approaches may be used if appropriate

Commented [GC41]: DK-GeoSk-Exp

9. Specifications must require students to demonstrate knowledge and understanding of the key areas of content listed below, and through this knowledge to understand that the carbon and water cycles play a key role in supporting life on Earth:

Commented [GC42]: DK-OC-IntC

- the distribution and size of the most important stores of carbon on land, in the oceans and the atmosphere, and the factors driving change in the size of these stores over time and in space

Commented [GC43]: SubK-Physical Processes

Commented [GC44]: DK-OC-Ti

- the pathways and processes which control the cycling of carbon within and between land, oceans and atmosphere at a range of time (seconds to millions of years) and space (plant to continental) scales. These processes must include (though need not be limited to) photosynthesis, respiration, decomposition, fossil fuel combustion, land use change, carbon sequestration in oceans and sediments, weathering

Commented [GC45]: DK-KC-ES

Commented [GC46]: DK-OC-Ti and DK-OC-Sc

Commented [GC47]: SubK-Physical Processes

- the distribution and size of the most important stores of water on land, in the ocean, atmosphere and cryosphere, and the factors driving change in the size of these stores over time and in space

Commented [GC48]: SubK-Physical Processes

Commented [GC49]: DK-OC-Ti

- the pathways which control cycling between land, ocean, atmosphere and cryosphere, and the processes which control transfers within and between them at a range of time (minutes to millennia) and space (hillslope to global) scales. These processes must include (though need not be limited to) evaporation and condensation, the formation of clouds and the causes of precipitation, runoff generation, catchment hydrology, water extraction and groundwater, land use change, cryospheric processes

Commented [GC50]: DK-KC-ES

Commented [GC51]: DK-OC-Ti and DK-OC-Sc

Commented [GC52]: SubK-Physical Processes

- the links between the two cycles using climate as a key context for exploring these linkages and for developing and applying understanding of the role of feedbacks within and between the two cycles

Commented [GC53]: DK-OC-IntC

Commented [GC54]: DK-KC-ES

*(2) Landscape systems*

10. A level specifications, and AS specifications which address this theme, must require students to undertake an integrated study of earth surface processes, landforms and resultant landscapes.

Commented [GC55]: DK-KC-ES

11. Study must:

- develop the required knowledge and understanding through study of one landscape system chosen from either:
  - drylands: drylands are characterised by limited soil moisture, caused by low precipitation and high evaporation, and by aeolian and episodic fluvial processes. They occur at all latitudes of the planet. Study must include at least one of: either drylands in high latitude polar regions or mid and low latitude deserts or semi-arid environments. UK fieldwork may include consideration of aeolian processes in coastal dune systems or other suitable environments or;

Commented [GC56]: SubK-Physical Processes

Commented [GC57]: DK-GeoSk-Fwk

  - coastal landscapes: coastal landscapes develop by the interaction of winds, waves and currents, and the sediment supply sourced from terrestrial and offshore sources. Study must include both high energy coasts (such as rocky and sandy coastlines) and low energy coasts (such as estuarine coastlines) or;

Commented [GC58]: SubK-Physical Processes

  - glaciated landscapes: glaciated and formerly glaciated landscapes must include landscapes shaped by valley glaciers and by ice sheets, bearing erosional and/or depositional imprints of the former passage of glacier ice in a range of features

Commented [GC59]: SubK-Physical Processes

- take place within a systems framework, focusing on transfers of energy and movements of materials

Commented [GC60]: DK-KC-ES

- include landscapes from beyond the UK but may also include UK examples

Commented [GC61]: SubK-Place Knowledge

- emphasise the use of quantitative approaches including developing observation skills, measurement and geo-spatial mapping skills, together with data manipulation and statistical skills applied to field measurement. Qualitative approaches may be used if appropriate

Commented [GC62]: DK-GeoSk-Fwk

12. Specifications must require students to demonstrate knowledge and understanding of the key areas of content listed below, and through this knowledge to gain understanding of how earth processes are a vital context for human activity:

Commented [GC63]: DK-KC-ES

- the variety of geomorphological processes that operate within landscape systems and how the flows of energy and materials within the chosen landscape system combine to create specific landforms

Commented [GC64]: DK-KC-ES

- how landforms are inter-related and how, together, they make up characteristic landscapes

Commented [GC65]: DK-OC-IntC

- the characteristics of physical processes and patterns at a variety of spatial (landform to landscape) and temporal (seconds to millennia) scales
- how landforms and landscapes evolve as a result of processes driven by past, present and future climate changes

Commented [GC66]: DK-KC-Env

- the impact of human activity as another factor causing change within landscape systems

Commented [GC67]: DK-OC-IntC

*(3) Global systems and global governance*

13. Greater connectivity between people, places and environments across the globe means that movements of goods, people, technology and ideas have become easier, and the systems which facilitate and direct these flows have become truly global in reach and impact. A level specifications, and AS specifications which address this theme, must require students to undertake study of the way in which global systems shape relationships between individuals, states and environments. They must also investigate the increasing numbers of norms, laws and conventions, referred to here as 'global governance', that aim to regulate the consequences of globalisation on people, places and environments around the world.

Commented [GC68]: DK-KC-Sp

Commented [GC69]: SubK-Human Processes

14. Study must:

- focus equally on two sub-themes:

  (a) one from the following list allowing investigation of the operation of global systems; either:

  Commented [GC70]: DK-KC-Sp

  (i) international trade and access to markets in the contemporary world; or

  (ii) patterns of human development and life expectancy (for example, as understood through the human development index); or

  (iii) processes and patterns of global population migration

  (b) one from the following list illustrating the impacts of global governance; either:

  Commented [GC71]: DK-KC-Sp

(i) governance of the global commons (selecting either Antarctica or the Earth's atmosphere or the oceans); or

(ii) human rights and the geopolitics of intervention; or

(iii) sovereignty and territorial integrity

Commented [GC72]: DK-KC-Sp

- use both quantitative and qualitative approaches across the theme as a whole

15. Specifications must require students to demonstrate knowledge and understanding of the key areas of content listed below, and through this knowledge to gain understanding of the way in which global systems and global governance underlie their own and other people's lives across the globe:

Commented [GC73]: DK-KC-Sp (but also some elements of DK-KC-PI, in particular relating to identity/home/sense of place?)

Global Systems

- the nature of economic, political, social and environmental interdependence in the contemporary world

Commented [GC74]: DK-KC-Sp

- how unequal flows of people, money, ideas and technology within global systems can sometimes act to promote stability, growth and development but can also cause inequalities, conflicts and injustices for people and places

Commented [GC75]: SubK-Human Processes

- how unequal power relations enable some states to drive global systems to their own advantage and to directly influence geopolitical events, while others are only able to respond or resist in a more constrained way

Commented [GC76]: SubK-Human Processes

Global Governance

- the role of norms, laws and institutions in regulating and reproducing global systems, and analysis of the geographical consequences for citizens and places

Commented [GC77]: DK-KC-Sp

- how attempts at global governance (including the example of the United Nations in the post-1945 era) can work to promote growth and stability but may also exacerbate inequalities and injustices

Commented [GC78]: SubK-Human Processes

- how interactions between the local, regional, national, international and global scales are fundamental to an understanding of global governance

Commented [GC79]: DK-OC-Sc

*(4) Changing place; changing places*

16. Relationships and connections between people, the economy, society and the environment help to explain why places are constantly changing. In addition, the meanings and representations attached to places help to shape actions and behaviours affecting that place. A level specifications, and AS specifications which address this theme, must require that students undertake study of the way in which these factors (relationships, connections, meaning, representation) affect continuity and change in the nature of places and our understanding of place.

Commented [GC80]: DK-OC-IntC

Commented [GC81]: DK-KC-Pt

Commented [GC82]: DK-KC-Pt

17. Study must develop the required knowledge and understanding:

- by starting study from the local place within which students live or study and at least one further contrasting place through which to develop the required knowledge and understanding. Study must involve moving out from the local place to encompass regional, national, international and global scales in order to understand the dynamics of place. (Note that a local place may be a locality, neighbourhood or small community, either urban or rural)

Commented [GC83]: DK-OC-Sc

- focusing equally on two sub-themes:

(a) One from the list below which will allow investigation of the impact of relationships and connections on people and place; either:

(i) changing demographic and cultural characteristics; or

(ii) economic change and social inequalities; or

(iii) food production, circulation and consumption and

(b) one from the list below which will allow investigation of the importance of the meanings and representations attached to places by people; either:

(i) place making and marketing as revealed and contrasted in the work of a range of formal and informal agencies or their materials[2] ; or

(ii) cultural and artistic approaches[3] to representing place; or

(iii) lived experience of place (i.e. how people see, experience and understand places) in the past and present

- give particular weight to qualitative approaches involved in representing place, and to analysing critically the impacts of different media on place meanings and perceptions. The use of quantitative data, including the use of geospatial data must also be used to present place characteristics

Commented [GC84]: DK-OC-IntC

Commented [GC85]: DK-OC-IntP

Commented [GC86]: DK-OC-Ti

Commented [GC87]: DK-OC-IntP, but also aspects of DK-OC-Div

Commented [GC88]: DK-GeoSk-Exp

18. Specifications must require students to demonstrate knowledge and understanding of the key areas of content listed below, and through this knowledge to gain understanding

[2] examples are, but are not limited to : governments, regional development bodies, investment companies, community groups, local artists or writers, campaign materials, local museum and gallery exhibitions.

[3] examples are, but are not limited to: photography, film, music, art, literature, poetry, drama.

of the way in which their own lives and those of others are affected by continuity and change in the nature of places:

Commented [GC89]: Also aspects of DK-OC-Div

Commented [GC90]: DK-KC-Pl

Relationships and connections

- how the demographic, socio-economic and cultural characteristics of places are shaped by shifting flows of people, resources, money and investment, and ideas at all scales from local to global

Commented [GC91]: Dk-KC-Pl

Commented [GC92]: DK-OC-Sc

- how past and present connections, within and beyond localities, shape places and embed them in the regional, national, international and global scales

Commented [GC93]: DK-OC-Ti

Commented [GC94]: DK-OC-IntC

Commented [GC95]: DK-OC-Sc

- the characteristics and impacts of external forces operating at different scales from local to global, including at least one of (i) government policies, (ii) the decisions of multinational corporations, or (iii) the impacts of international or global institutions

Commented [GC96]: DK-OC-Sc

Meaning and representations

- how humans perceive, engage with and form attachments to places and how they present and represent the world to others, including the way in which everyday place meanings are bound up with different identities, perspectives and experiences

Commented [GC97]: DK-OC-Div

- how external agencies, including (but not limited to) governments, corporate bodies and community or local groups make attempts to influence or create specific place-meanings and thereby shape the actions and behaviours of individuals, groups, businesses and institutions

Commented [GC98]: DK-OC-IntP

- that places may be represented in a variety of different forms[4] and use different media[5] that often give contrasting images to that presented more formally or statistically[6]

- that both past and present processes of development can be seen to influence the social and economic characteristics of places and so be implicit in present meanings

Geographical skills

19. Competence in using geographical skills should be developed during study of core content and non-core content, not as a separate theme or topic. While the relative balance of quantitative and qualitative methods and skills will differ between each of the core and non-core themes, students must be introduced to a roughly equal balance of quantitative and qualitative across the specification as a whole.

20. AS and A level specifications must require students to:

- understand the nature and use of different types of geographical information, including qualitative and quantitative, primary and secondary, images, factual text and discursive/creative material, digital data, numerical and spatial data and innovative forms of data, including crowd-sourced and 'big data'

- collect, analyse and interpret such information, and demonstrate the ability to understand and apply suitable analytical approaches for the different information types

Commented [GC99]: DK-OC-IntP

Commented [GC100]: DK-OC-Ti

Commented [GC101]: DK-KC-Pl

Commented [GC102]: DK-GeoSk

Commented [GC103]: DK-GeoSk-Desc

Commented [GC104]: DK-GeoSk-Exp

[4] for example but not limited to: advertising copy, tourist agency material, local art exhibitions.
[5] for example but not limited to: photography, film, music, art, literature, poetry, graffiti.
[6] formal approaches and statistical representations might include but are not limited to: cartography, census data, digital worlds, geospatial technologies.

- undertake informed and critical questioning of data sources, analytical methodologies, data reporting and presentation, including the ability to identify sources of error in data and to identify the misuse of data

Commented [GC105]: DK-GeoSk-Eval

- communicate and evaluate findings, draw well-evidenced conclusions informed by wider theory, and construct extended written argument about geographical matters

Commented [GC106]: DK-GeoSk-Pres

21. A level specifications must require students to demonstrate all the following skills. AS level specifications must include a selection from both qualitative and quantitative skills listed below, as appropriate to the specification content.

22. Students must demonstrate the following skills specific to qualitative data:

- use and understand a mixture of methodological approaches, including using interviews

Commented [GC107]: DK-GeoSk-Desc

- interpret and evaluate a range of source material including textual and visual sources

Commented [GC108]: DK-GeoSk-Exp

- understand the opportunities and limitations of qualitative techniques such as coding and sampling, and appreciate how they actively create particular geographical representations

Commented [GC109]: DK-GeoSk-Eval

- understand the ethical and socio-political implications of collecting, studying and representing geographical data about human communities

Commented [GC110]: DK-GeoSk-Eval

23. Students must demonstrate the following skills specific to quantitative data:

- understand what makes data geographical and the geospatial technologies (e.g. GIS) that are used to collect, analyse and present geographical data

Commented [GC111]: DK-GeoSk-Exp

- demonstrate an ability to collect and to use digital, geo-located data, and to understand a range of approaches to the use and analysis of such data;

Commented [GC112]: DK-GeoSk-Desc

- understand the purposes and difference between the following and be able to use them in appropriate contexts:
  - descriptive statistics of central tendency and dispersion
  - descriptive measures of difference and association, inferential statistics and the foundations of relational statistics, including (but not limited to) measures of correlation and lines of best fit on a scatter plot
  - measurement, measurement errors, and sampling

Commented [GC113]: DK-GeoSk-Exp

Fieldwork

24. AS and A level specifications must require students to undertake fieldwork which meets the minimum requirements of 2 days of fieldwork at AS, and 4 days of fieldwork for A level. Awarding Organisations must require evidence of this fieldwork in the form of a written statement from Centres.

25. AS specifications must require students to:

- undertake fieldwork in relation to processes in both physical and human geography (some, but not all of this, may be within the context of people-environment questions and issues)
- identify appropriate field research questions, based on their knowledge and understanding of relevant aspects of physical and human geography

• understand how to observe and record phenomena in the field and be able to devise and justify practical approaches taken in the field, (including frequency/timing of observation, sampling, and data collection approaches)

• demonstrate knowledge and understanding of how to undertake practical field methodologies appropriate to the investigation of core human and physical processes

• demonstrate knowledge and understanding of implementing chosen methodologies to collect data/information of good quality that is relevant to the topic under investigation

• apply existing knowledge and concepts to identify, order and understand field observations

• show the ability to write a coherent analysis of fieldwork findings and results in order to answer a specific geographical question and to justify conclusions

26. A level specifications must require students to:

• undertake fieldwork in relation to processes in both physical and human geography, but the fieldwork which is part of the individual investigation may be either human, physical or integrated

**Commented [GC114]:** DK-GeoSk-Fwk

• define the research questions which underpin field investigations

• research relevant literature sources and understand and write up the theoretical or comparative context for a research question

**Commented [GC115]:** DK-GeoSk-Obs

• observe and record phenomena in the field and devise and justify practical approaches taken in the field including frequency/timing of observation, sampling, and data collection approaches

• demonstrate practical knowledge and understanding of field methodologies appropriate to the investigation of core human and physical processes

Commented [GC116]: DK-GeoSk-Fwk

• implement chosen methodologies to collect data/information of good quality and relevant to the topic under investigation

Commented [GC117]: DK-GeoSk-Desc

• demonstrate knowledge and understanding of the techniques appropriate for analysing field data and information and for representing results, and show ability to select suitable quantitative or qualitative approaches and to apply them

Commented [GC118]: DK-GeoSk-Desc

• demonstrate the ability to interrogate and critically examine field data in order to comment on its accuracy and/or the extent to which it is representative, and use the experience to extend geographical understanding

Commented [GC119]: DK-GeoSk-Eval

• apply existing knowledge, theory and concepts to order and understand field observations

Commented [GC120]: DK-GeoSk-Exp

• show the ability to write up field results clearly and logically, using a range of presentation methods

Commented [GC121]: DK-GeoSk-Pres

• evaluate and reflect on fieldwork investigations, explain how the results relate to the wider context and show an understanding of the ethical dimensions of field research

Commented [GC122]: DK-GeoSk-Eval

- demonstrate the ability to write a coherent analysis of fieldwork findings in order to answer a specific geographical question and to do this drawing effectively on evidence and theory to make a well-argued case

Commented [GC123]: DK-GeoSk-Pres

27. A level specifications must ensure that each student undertakes one independent investigation that involves, but need not be restricted to, fieldwork. The independent investigation must:

- be based on a question or issue defined and developed by the student individually to address aims, questions and/or hypotheses relating to any of the core or non-core content

Commented [GC124]: DK-GeoSk-Obs

- incorporate field data and/or evidence from field investigations, collected individually or in groups

Commented [GC125]: DK-GeoSk-Fwk

- draw on the student's own research, including their own field data and, if relevant, secondary data sourced by the student

Commented [GC126]: DK-GeoSk-Fwk

Commented [GC127]: DK-GeoSk-Desc

- require the student independently to contextualise, analyse and summarise findings and data

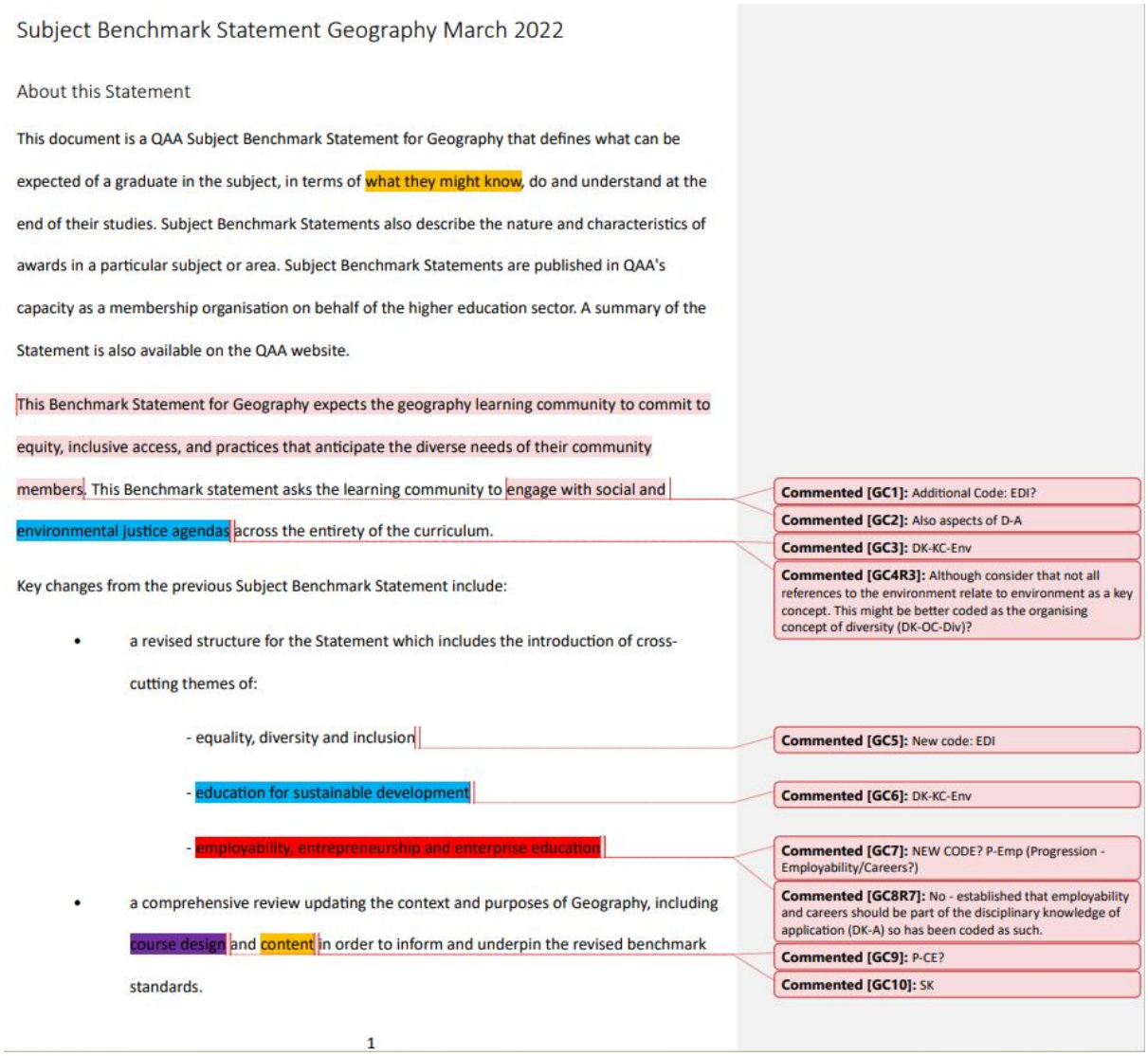
Commented [GC128]: DK-GeoSk-Exp

Commented [GC129]: DK-GeoSk-Pres

- involve the individual drawing of conclusions and their communication by means of extended writing and the presentation of relevant data

Commented [GC130]: DK-GeoSk-Pres

# Appendix 9: Formatted and Coded SBS.



Subject Benchmark Statement Geography March 2022

About this Statement

This document is a QAA Subject Benchmark Statement for Geography that defines what can be expected of a graduate in the subject, in terms of what they might know, do and understand at the end of their studies. Subject Benchmark Statements also describe the nature and characteristics of awards in a particular subject or area. Subject Benchmark Statements are published in QAA's capacity as a membership organisation on behalf of the higher education sector. A summary of the Statement is also available on the QAA website.

This Benchmark Statement for Geography expects the geography learning community to commit to equity, inclusive access, and practices that anticipate the diverse needs of their community members. This Benchmark statement asks the learning community to engage with social and environmental justice agendas across the entirety of the curriculum.

Key changes from the previous Subject Benchmark Statement include:

- a revised structure for the Statement which includes the introduction of cross-cutting themes of:
  - equality, diversity and inclusion
  - education for sustainable development
  - employability, entrepreneurship and enterprise education
- a comprehensive review updating the context and purposes of Geography, including course design and content in order to inform and underpin the revised benchmark standards.

1

**Commented [GC1]:** Additional Code: EDI?

**Commented [GC2]:** Also aspects of D-A

**Commented [GC3]:** DK-KC-Env

**Commented [GC4R3]:** Although consider that not all references to the environment relate to environment as a key concept. This might be better coded as the organising concept of diversity (DK-OC-Div)?

**Commented [GC5]:** New code: EDI

**Commented [GC6]:** DK-KC-Env

**Commented [GC7]:** NEW CODE? P-Emp (Progression - Employability/Careers?)

**Commented [GC8R7]:** No - established that employability and careers should be part of the disciplinary knowledge of application (DK-A) so has been coded as such.

**Commented [GC9]:** P-CE?

**Commented [GC10]:** SK

## How can I use this document?

Subject Benchmark Statements are often used by higher education providers in the design and development of new courses in the relevant subject, as they provide a framework for specifying intended learning outcomes in an academic or vocational discipline. They are also used as a reference point when reviewing or revalidating degree courses. They may be used by external examiners in considering whether the design of a course and the threshold standards of achievement are comparable with other higher education providers. They also provide professional, statutory and regulatory bodies (PSRBs) and learned societies with the academic standards expected of students.

Subject Benchmark Statements provide general guidance for articulating the learning outcomes associated with a course but are not intended to represent a national curriculum in a subject or to prescribe set approaches to teaching, learning or assessment. Instead, they allow for flexibility and innovation in course design within a framework agreed by the subject community.

Commented [GC11]: P-CE?

Commented [GC12]: P-O

Commented [GC13]: P-O

Commented [GC14]: P-O

Commented [GC15]: P-CE

You may want to read this document if you are:

- involved in the design, delivery and review of courses in Geography
- a prospective student thinking about undertaking a course in Geography
- an employer, to find out about the knowledge and skills generally expected of Geography graduates.

## Relationship to legislation and regulation

The responsibility for academic standards lies with the higher education provider which awards the degree. Higher education providers are responsible for meeting the requirements of legislation and any other regulatory requirements placed upon them by their relevant funding and regulatory bodies. This Statement does not interpret legislation, nor does it incorporate statutory or regulatory requirements.

The regulatory status of the Statement will differ with regard to the educational jurisdictions of the UK. In England, Subject Benchmark Statements are not sector-recognised standards as set out under the Office for Students' regulatory framework. However, they are specified as a key reference point, as appropriate, for academic standards in Wales under Quality Assessment Framework for Wales and in Scotland as part of the Quality Enhancement Framework. Subject Benchmark Statements are part of the current quality requirements in Northern Ireland. Because the Statement describes outcomes and attributes expected at the threshold standard of achievement in a UK-wide context, many higher education providers will use them as an enhancement tool for course design and approval, and for subsequent monitoring and review, in addition to helping demonstrate the security of academic standards.

### Additional sector reference points

Higher education providers are likely to consider other reference points in addition to this Statement in designing, delivering and reviewing courses. These may include requirements set out by PSRBs and industry or employer expectations. QAA has also published Advice and Guidance to support the Quality Code which will be helpful when using this Statement, for example, in course design, learning and teaching, external expertise and monitoring and evaluation.

Explanations of unfamiliar terms used in this Subject Benchmark Statement can be found in QAA's Glossary. Sources of information about other requirements and examples of guidance and good practice are signposted within the Statement where appropriate.

## 1 Context and purposes of a Geography degree

### Context

1.1 Geography occupies a distinctive place in the world of learning, offering an integrated study of the complex reciprocal relationships between societies and environments. Geographers study through the concepts of scale, place, space and time. They recognise the commonalities, differences

**Commented [GC16]:** DK-OC-IntC

**Commented [GC17]:** No distinction here between Key Concepts (DK-KC) and Organising Concepts (DK-OC).

**Commented [GC18]:** DK-OC-Sc

**Commented [GC19]:** DK-KC-Pl

**Commented [GC20]:** DK-KC-Sp

**Commented [GC21]:** DK-OC-Ti

and dynamics in populations and cultures, political systems, economies, landscapes and environments across the world, as well as the links between them.

1.2 Geography is an established subject within the UK higher education system. It attracts students from a wide range of intellectual backgrounds with diverse interests and experiences. BA and BSc degree courses (and also MA in Scotland) are prevalent, alongside integrated master's programmes. This reflects geography's sustained engagement with the natural and social sciences, the arts and humanities. The subject's breadth means that many of its core constituents may be approached through several routes.

## Purposes of a Geography degree

1.3 A major intellectual task within the subject is to encompass the diversity of contexts and the different types of knowledge that inform the study of environments and societies, and the interactions between the two, at a range of scales. Consequently, Geography courses encourage holistic thinking across social and natural sciences, arts and humanities. They provide the intellectual foundations, tools and practical experience to enable graduates to integrate and apply a variety of fields of knowledge and forms of enquiry and to gather and evaluate evidence in the creation of innovative, inclusive and equitable solutions. Geography courses also develop a range of personal attributes, geocapabilities and skills with applied, real-world relevance beyond higher education. Geography is both a STEM (Science, Technology, Engineering, Mathematics) and a SHAPE (Social Sciences, Humanities and Arts) subject, and its courses develop graduates who use their skills to lead the response to emerging strategic priorities. As such, Geography courses develop graduates who are well placed to help identify and address economic, environmental and social challenges at a range of scales. The specialist research skills provided by Geography courses also make geographers adept at assessing risks, considering ethics and participating in civic engagement. This leads to a rewarding, self-determined professional life.

**Commented [GC22]:** Several different strands in here - revisit and unpick?

**Commented [GC23R22]:** Some suggestion of potential SK?

**Commented [GC24R22]:** Isn't this just 'what geographers do' - potentially an additional code of learner attributes and/or disciplinary identity?

**Commented [GC25]:** NEW [BROAD] CODE? L (Learners) ?

**Commented [GC26R25]:** OR - given the subsequent suggestion of a new category of SI, should 'learner attributes' be subsumed into a broader category of 'Identity' - personal attributes, learner attributes, identity, 'being a geographer' - BEING v KNOWING

**Commented [GC27R25]:** I think this should be coded as a form of 'learner attribute'

**Commented [GC28]:** IDENTITY

**Commented [GC29R28]:** Disciplinary Identity

**Commented [GC30]:** SubK-General

**Commented [GC31]:** IDENTITY

**Commented [GC32R31]:** Disciplinary identity

**Commented [GC33]:** D-A

**Commented [GC34]:** D-A

**Commented [GC35]:** NEW CODE? Interdisciplinarity?

**Commented [GC36R35]:** Stick with Disciplinary Identity (can encompass interdisciplinarity and multidisciplinarity)

**Commented [GC37]:** D-A

## Characteristics of a Geography degree

1.4 Geography is characterised by a breadth of subject matter which recognise the complex intersections of society and environment relations. A valued feature of the subject is its diverse ways of knowing and understanding the world, as evidenced by the use of both qualitative and quantitative research techniques. The depth to which individual specialisms are studied varies according to the expertise of specific institutions. Fieldwork and experiential learning in the development of knowledge and understanding are essential aspects of geography. Laboratory study, spatial data analysis, modelling, information and communication technologies (ICT), geographic information science (GISci) and remote sensing are also key components of the subject's teaching, learning and research strategies. These approaches are underpinned by knowledge of, and skills in, the ethical, methodological and theoretical frameworks that inform their conduct.

Commented [GC38]: SubK-General

Commented [GC39]: DK-GeoSk-Exp

Commented [GC40]: Teacher attributes

Commented [GC41]: DK-GeoSk-Fwk

Commented [GC42]: P-CE

Commented [GC43]: DK-GeoSk

## Equity, equality, diversity and inclusion

1.5 Geography, as an inclusive learning community, has a collective responsibility to embed equity, equality, diversity and inclusion within all institutions, processes, curricula, and pedagogies. This responsibility to go beyond the minimum expectations of equality ensures an equitable community that recognises learners' difference in prior experience and opportunity and can help to remedy systemic disadvantages in the subject, for example: through widening participation agendas to ensure economic disadvantage does not hinder a student's access, experience or outcome; countering the under-representation of marginalised groups inclusive of, and beyond, those with protected characteristics as defined by the Equality Act 2010; adopting a zero-tolerance approach to discrimination and harassment, including everyday microaggressions; anticipating access for neurodiverse community members; and closing structural awarding gaps. All participants in the community will need to engage, reflect and change in order to uphold this responsibility and duty.

Commented [GC44]: EDI

Commented [GC45]: Learners

Commented [GC46]: Subject community?

1.6 Contemporary geography draws from knowledge traditions formed through colonial enlightenment science. Geographical concepts and techniques contributed to the overseas

expansion of British and European empires, which was justified using narratives of white, able and heteronormative superiority. Colonial and imperial geographies, and their contemporary legacies of systemic disadvantage, for example, racism, classism, ablism, homophobia and patriarchy, must therefore be acknowledged and countered by fostering an inclusive learning community encompassing a range of participants, such as students, academics, technicians, professional staff, visitors and external partners.

Commented [GC47]: Decolonisation?

Commented [GC48R47]: Power?

1.7 The following core values underpin geography's inclusive learning community: an ethics of care towards inhabitants and environments; embracing and valuing plurality of knowledges and experiences; respect for alternative perspectives and lifestyles; attentiveness to the opportunities and challenges raised by decolonial imperatives; and solidarity in recognising and addressing injustice. These values should be integrated throughout the curriculum and not be siloed within individual modules and/or sub-disciplines. This will enhance the contribution that studying geography can make to realising transformative justice across our human, biodiverse and geodiverse world.

Commented [GC49]: Probably multiple codes in here - TBD once additional codes have been clearly identified.

1.8 The core values underpinning geography's inclusive learning community aligns with, and encourages, curricula design principles that stimulate critical thinking informed by a variety of progressive theoretical perspectives. These include, but are not limited to, theoretical perspectives from critical theory, critical race theory, decoloniality, disability studies, feminist, queer, and science and technology studies. The application of critical theory is relevant to, and should be applied across, the geographical discipline. The core values also promote anticipatory design and practices, which are considerate of the particularities associated with sites of learning, for example, online, face-to-face, in the field or in the laboratory, paying close attention to those that may have historically been less inclusive, such as fieldwork sites and laboratories.

Commented [GC50]: Disciplinary identity? EDI?

Commented [GC51]: Accessibility? EDI?

1.9 Effective anticipatory design and practice in geography acknowledges the importance of providing a supportive cultural and institutional context for teaching, learning and research, within

which participants are encouraged to embrace intellectual, methodological and practical challenges. Effective anticipatory design and practice also enhance the individual and collective capability to work with the discomfort associated with encountering alternative perspectives, learning new knowledge and gaining new skills. This requires geography's inclusive learning community to develop and promote techniques to care for the self and others, as part of a sustained consideration for emotional, mental and physical well-being.

Commented [GC52]: EDI?

Commented [GC53]: EDI?

## Sustainability

1.10 Sustainable development addresses social, economic and environmental concerns at local, regional and global scales to create a more just world. Geography's broad curriculum, subject content and focus on interactions and interconnections, and application of critical theory, make it well placed to support and enact diverse and alternative approaches to sustainable development. This is achieved through emphasis on the development of student values and geocapabilities, behaviours and attitudes, alongside traditional acquisition of knowledge, skills and competencies.

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From Advance HE and QAA's Education for Sustainable Development (ESD) Guidance, three core principles inform ESD in geography:

1 Introducing and generating spatial approaches to sustainable development that foster capabilities in systems, critical and integrative thinking about the complex relationships between societies and environments and between the needs of those of past, present and future generations. This enables geographers to question norms, practises and ideologies; and develop inclusive and equitable solutions to multidimensional challenges.

Commented [GC55]: D-A

2 Developing a personal commitment to ethical practice. This aids geographers in developing key skills, including problem-solving and collaborating with others. These skills are essential to respecting difference and negotiating conflict.

Commented [GC56]: D-A

3 Establishing learning environments that promote global citizenship and sustainable development that are conducive to 1 and 2. This includes providing opportunities to collaborate with

stakeholders working on sustainable development, such as movements working towards alternative futures and greater social, economic and environmental justice.

Commented [GC57]: D-A

## Entrepreneurship and enterprise education

1.11 The geography curriculum develops behaviours, attributes and geocapabilities that have a significant impact on society and the individual student through civic engagement, career advancement and values-led growth. The subject's conceptual and methodological breadth prepares graduates for changing economic, technological, and cultural conditions, and provides graduates with an acute awareness of the current drivers of economic change, such as climate change, net zero, the green economy and environmental management. It also provides scope to establish effective relationships between academic institutions and advocacy and activist groups, as well as organisations in the public, private and third sectors.

Commented [GC58]: D-A

1.12 Geography graduates are able to collect, analyse and manipulate a range of quantitative and qualitative data. Their approach to spatial analytics is distinctive, and highly valued in the private, public and third sectors, because of their ability to transcend scales and integrate knowledge and geocapabilities across multiple disciplines, not only in the natural and social sciences, but also in the humanities and arts. Consequently, Geography graduates use their geospatial awareness and practical experience to understand and solve complex societal and economic challenges, and know how to gather and evaluate evidence to inform innovation and decision-making. Geography graduates also understand the intrinsic value of a range of alternative economies and entrepreneurial approaches, including, but not limited to, green entrepreneurship, social entrepreneurship and digital entrepreneurship. As such, enterprise and entrepreneurship education in geography encompasses and goes beyond facilitating the creation of surplus economic value through an allied focus on social, cultural and environmental value. A deeper generic analysis can be found in the QAA document, Enterprise and Entrepreneurship Education: Guidance for UK Higher Education Providers.

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Commented [GC60]: Disciplinary Identity? Interdisciplinarity?

Commented [GC61]: DK-GeoSk

## 2 Distinctive features of a Geography degree

### Design

2.1 Geography degrees are designed to give students an integrative education in the discipline of geography. Courses should be built on progressively more complex learning outcomes which are aligned with teaching methods and assessment. Course design is led by experts and practitioners of the discipline, while also acknowledging the role of student engagement and co-production in evolving and reflective course design. Geography courses in the UK increasingly utilise mechanisms for student-centred learning.

2.2 Course design normally includes experiential as well as theoretical components, with a focus on both fieldwork and the 'spaces' and 'places' of the discipline. There are often overlaps with cognate disciplines. The discipline is uniquely holistic and integrative in its reach, but with a number of overarching concepts that define its boundaries. These include, but are not limited to, space, place, time, landscape, environment and scale.

### Accessibility

2.3 Inclusive and equitable design is considered across all elements of geographical teaching, learning and assessment, and delivered through every interaction within the learning community. This includes, but is not limited to, classroom-based teaching, independent student work, field work, laboratory work, computer work and assignments.

2.4 The inherent value of live, experiential teaching and learning is central to the discipline. The value of blended learning in providing additional educational options to students is recognised. Pedagogic methods for teaching geography will generally reflect the needs of the student body, with an inclusive curriculum that prioritises the accessibility, equity, appropriateness and resourcing of learning and teaching resources and materials being key.

**Commented [GC62]:** DK-OC-IntC

**Commented [GC63]:** P-O

**Commented [GC64]:** P-CE

**Commented [GC65]:** DK-GeoSk-Fwk

**Commented [GC66]:** Additional Code: Cognate disciplines?

**Commented [GC67]:** General statement about DK-KC and DK-OC

**Commented [GC68]:** EDI

**Commented [GC69R68]:** Maybe also P-CE?

**Commented [GC70]:** P-CE

**Commented [GC71]:** Learners?

2.5 Enabling all members of the learning community to 'see themselves' in the curricula and find solidarity with other members is recognised as a strategy for supporting students of diverse backgrounds and as a key approach to the equity agenda for the discipline. Distinct barriers to learning are acknowledged for first-generation learners, international students and students from diverse backgrounds.

**Commented [GC72]:** EDI? Learners? Power?

2.6 Geographers employ an expansive understanding of the field and require access to a variety of types of fields for fieldwork. While fieldwork is an essential part of the discipline, an awareness of the individual needs of the student body during fieldwork should also be recognised. Leaders and coordinators of fieldwork are responsible for implementing anticipatory design to ensure field spaces are not exclusionary on the basis of all protected characteristics, class, gender identity and neurodiversity, and that sufficient facilities and resources exist for all individuals present. Equally, course designers need to take care to ensure learning experiences are not prohibitive on the basis of additional costs associated with fieldwork and specialist clothing and equipment.

**Commented [GC73]:** DK-GeoSk-Fwk

## Progression

2.7 Progression within higher-level study of a subject such as geography is likely to involve some measure of specialisation. In the initial stages of a degree course, students achieve a basic knowledge and understanding of a range of different approaches across the breadth of the subject. Thereafter, progression and specialisation in a particular branch of the discipline informs critical reflection about both the subject's diversity and its unifying themes. By the end of a course, students are able to situate their chosen specialisms within a wider understanding of geography, its approach, history and theoretical underpinnings. Given the emphasis on diversity of programmes, it is important that potential students are fully informed of the particular nature and strengths of individual courses.

**Commented [GC74]:** P-CU

**Commented [GC75]:** P-O

**Commented [GC76]:** P-CE

2.8 As students progress, they are able to evaluate evidence and knowledge critically and make value judgements about the sources of information with increasing sophistication. Students will have opportunities to demonstrate increasing levels of critical reflection and understanding as they

progress through their studies. They will also demonstrate an increasing ability to undertake fieldwork or projects independently, using primary and/or secondary data.

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2.9 As they progress, students should develop an increased understanding of the impacts of the epistemology of primary data collection, and its impacts on the ontological understanding we have of the world. Thus, they should have opportunities to develop an increased understanding of the nature of data as it pertains to the real world, and geographic knowledge as outlined below.

2.10 Integrated Geography master's degrees (FHEQ Level 7; FQHEIS Level 11) typically comprise a four-year full-time course or a part-time course of not less than five and not more than eight academic years. Students exiting earlier may be eligible for a Certificate of Higher Education, a Diploma of Higher Education or an honours degree depending upon the years of study completed to a satisfactory standard. Similarly, in a standard three-year undergraduate honours degree qualification, students may also exit earlier with a Certificate or Diploma, depending upon their achievements. Scottish bachelor's degrees with honours are typically designed to include four years of study, which relates to the structure of Scottish primary and secondary education.

## Flexibility

2.11 Flexibility in content, delivery mode and timing is an inherent characteristic of an accessible and inclusive Geography course. This may require potentially competing objectives to be balanced, for example responding to the needs of the student cohort as well as ensuring core learning outcomes are achieved.

Commented [GC78]: Learner Attributes?

2.12 A flexible course is one that accommodates the varying needs of both large and small group teaching, and integrates online and in-person teaching in a complementary way. It is also aware of the pedagogic implications of different delivery modes, which may allocate control to students over the pace and depth of their learning and engagement with content.

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2.13 The provision of accessible, inclusive and flexible material requires additional resources to ensure high-quality content and delivery. The design should also reflect diversity in students' access to technology, ensuring that the flexibility of design does not lead to unintended consequences.

**Commented [GC80]:** Learners?

**Commented [GC81R80]:** Parallels to the notion of 'digital deserts' as revealed during C19 remote learning?

## Partnerships

2.14 Partnerships within geography may be with external partners or brokered within institutions. External partnerships include internships, work or industry placements, civic engagement projects and research placements, as well as contributions by industry professionals and experts in related fields. They facilitate the long-term progression of students beyond their degree into the wider world of work, increasing student experience, employability and enhancing their ability to see the place of geography outside academia and in the wider world.

**Commented [GC82]:** D-A

2.15 Institutions should ensure that equality of experience is given to all students in their ability to engage in partnerships, where appropriate. The facilitation of partnerships within institutions, such as student societies or interdepartmental working, are of equal value, giving students the opportunity to communicate, build networks and understand the context in which geography as a discipline operates. Partners become part of the geography learning community and have the responsibility to attend to the same principles of equity, equality, diversity and inclusion in their interactions. Partners offer important opportunities to enhance the learning community's engagement with equity agendas.

**Commented [GC83]:** EDI?

**Commented [GC84]:** D-A

**Commented [GC85R84]:** But maybe also elements of Disciplinary Identity?

**Commented [GC86]:** EDI?

2.16 Partnership activities can be at a variety of scales and sectors, for example cross-disciplinary, cross-institutional, non-governmental organisations, industry, research, private and public. The activities may range from short-term activities to a long-term relationship and should be designed to be student centred and to support the understanding of the subject beyond the academic experience.

**Commented [GC87]:** Interdisciplinarity?

**Commented [GC88R87]:** Subject Community?

2.17 Feedback from employers indicates that alongside core geographical skills such as data skills, fieldwork and an understanding of place, there are a set of transferable skills which are valued. These

include the ability for critical thinking and personal reflection, building professional relationships, and working both within teams and independently. Many of these skills can be enhanced through partnerships, as well as through experience within courses.

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2.18 Institutions can take advantage of working with appropriate learned societies. This supports an understanding of professional careers within the discipline, and associated routes to accreditation where relevant, including the Royal Geographical Society (with the Institute of British Geographers) Chartered Geographer accreditation.

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## Monitoring and review

2.19 A major feature of academic quality assurance and enhancement at a higher education institution is having in place monitoring and regular review processes for the courses it delivers. Degree-awarding bodies routinely collect and analyse information and undertake periodic course review according to their own needs. They draw on a range of external reference points, including this Statement, to ensure that their provision aligns with sector norms. Monitoring and evaluation is a periodic assessment of a course, conducted internally or by external independent evaluators. Evaluation uses information from both current and historic monitoring to develop an understanding of student achievement and inform future course planning.

Commented [GC91]: QA as additional code somewhere?

Commented [GC92]: Parallels with the GA Quality Marks - are there (should there be) other mechanisms for quality assurance in school curricula?

Commented [GC93R92]: Is external QA an aspect of power? (ie who decides on the content and who checks that the content is appropriate?)

2.20 Externality is an essential component of the quality assurance system in the UK. Higher education providers will use external reviewers as part of periodic review to gain an external perspective on any proposed changes and ensure threshold standards are achieved and content is appropriate for the subject.

Commented [GC94]: As above - external QA

2.21 External examination currently in use across the UK higher education sector also helps to ensure consistency in the way academic standards are secured by degree-awarding bodies. Typically, external examiners will be asked to comment on the types, principles and purposes of assessments being offered to students. They will consider the types of modules on offer to students, the outcomes of a cohort and how these compare to similar provision offered within the UK. External

examiners produce a report each year and make recommendations for changes to modules and assessments (where appropriate). Subject Benchmark Statements, such as this one, can play an important role in supporting external examiners in advising on whether threshold standards are being met in a specific subject area.

## 3 Content, structure and delivery

### Content

#### Subject knowledge and understanding

3.1 It is anticipated that single honours degree courses in Geography address the areas of knowledge and understanding described in the following paragraphs so that graduates are conversant with these aspects of the subject. Integrated master's courses in Geography also address the material covered in this document. Other degree courses containing geography address these areas proportionally according to the subject balance within, and goals of, such courses. As they progress, students develop a greater depth of knowledge and gain an understanding of the vital contribution made by research in their subject.

**Commented [GC95]:** P-CU

3.2 Geographers can articulate the knowledge, understanding, skills and approaches that characterise the discipline as a whole. They understand the place of their discipline in contributing a holistic perspective on natural and human worlds, interactions and processes that is distinctive compared with other disciplines. Geographers understand the complex relationships between natural and human aspects of environments and landscapes, including concepts such as the Anthropocene. They appreciate the geographical meanings of concepts that encompass:

**Commented [GC96]:** More of a general statement about the discipline - but potential to feed into disciplinary identity, perhaps?

**Commented [GC97]:** D-A

**Commented [GC98]:** DK-KC-Env

**Commented [GC99]:** DK-OC-Ti

- knowledge of environments as the result of natural processes and as a consequence of human activity

**Commented [GC100]:** DK-KC-Env

- approaches to sustainable development

**Commented [GC101]:** DK-KC-Env

- a critically informed understanding of ways of representing and interpreting the world

- appropriate skills, attributes and values to examine how the world is, and how to shape a better, more socially just and sustainable world.

3.3 Geography graduates are able to demonstrate knowledge and explanations of spatial distributions in both physical and human phenomena. Geographers understand the dynamics and rates of change at different temporal and spatial scales and can evaluate the processes shaping the geographies of the past, present and future. Geographers have a critical awareness of the significance of spatial and temporal scale for natural processes, human processes and their interactions and analysis. They comprehend how such processes operate across local, regional and global scales to produce particular geographies. They are also aware of how the scale of study can impact upon the conclusions that may be drawn.

3.4 The ways in which the distinctiveness of a particular place is constituted and remade by physical and human processes is understood by geographers, as is the influence of place-specific characteristics on such processes and how these may change through time. Geographers demonstrate an awareness of the constitution of places, including and beyond their own immediate everyday experience. Fieldwork, an experiential form of learning, provides opportunities for geographers to engage ethically, sustainably and respectfully with places that are familiar and unfamiliar to them, gaining critical insights on the dynamics that shape differences and commonalities, local and global practices, the connections in between, and civic/planetary responsibilities.

3.5 Geographers are able to use a systems framework to critically conceptualise patterns, processes, interactions and change in the context of a human, biodiverse and geodiverse world. This acknowledges environmental impacts on human activity; human impacts on biophysical systems and on components of the climate system; and the management of environments and landscapes.

Commented [GC102]: DK-GeoSk

Commented [GC103]: D-A

Commented [GC104]: DK-KC-Sp

Commented [GC105]: DK-OC-Ti and DK-OC-Sc

Commented [GC106]: DK-OC-Sc (and to some extent DK-OC-Ti

Commented [GC107]: DK-KC-Pl

Commented [GC108]: DK-GeoSk-Fwk

Commented [GC109]: DK-KC

3.6 Geographers demonstrate knowledge of the main dimensions and scales of economic, social, cultural, political and environmental patterns and are familiar with a range of interpretations of the processes that shape and sustain commonalities and differences. They are aware that the spatial scales at which these processes operate can be questioned, contested and politicised, and considered in relation to time. A critical evaluation of the concepts underlying development and sustainability needs to be an integral part of this knowledge base.

**Commented [GC110]:** DK-KC

**Commented [GC111]:** DK-OC

**Commented [GC112]:** DK-KC-Env (for sustainability) and DK-KC-Sp (for development)

3.7 Geographers have a clear understanding of the drivers of change in environments over space and time, demonstrating knowledge of the interactions between climate, ecosystems and landscapes. They understand controls on fluxes of energy and matter within and between the Earth's surface and the atmosphere. They are aware of rates of change, and of methods and approaches used to study change in the natural world. Concepts such as thresholds, intrinsic and extrinsic drivers, along with approaches such as biogeochemical cycles, sediment and water budgets and environmental reconstruction, underpin this knowledge of spatial and temporal change in biophysical environments.

**Commented [GC113]:** DK-OC

**Commented [GC114]:** DK-KC-ES

**Commented [GC115]:** DK-OC-Ti

**Commented [GC116]:** DK-KC-ES

3.8 Geographers have a critical understanding of the history of the subject, the social, cultural, economic and political context of past and present knowledge production; and the people and forms of knowledge excluded. Central to this is a critical awareness of the discipline's place within wider histories of colonialism and imperialism, meaning that geographers possess a critical understanding of knowledge practices formed through colonial enlightenment science; the distinctive contributions the discipline made to this; related contemporary legacies of systemic disadvantage and injustice and the lived experience of this; and how the discipline can address these legacies. A geographical education requires that learners examine their own place in the world and the responsibilities this entails, recognising injustices and reflecting on ways to build inclusive, transformative practices of solidarity and justice. Decolonial approaches and practice provide a way to support this learning and

**Commented [GC117]:** D-A

**Commented [GC118]:** Power

**Commented [GC119]:** D-A

reflection and foster anti-racist praxis within the learning community when integrated across the entire curricula.

Commented [GC120]: Power

3.9 Geographers are increasingly aware of the impact of the diverse ways that societies and environments can be abstracted and represented, including during spatial data creation, and the mappings they support. They know how representational choices shape understandings and measurements of societies and environments. Such awareness is also important in an increasingly connected world, where many everyday transactions result in a digital record with some form of location attached which are subsequently rendered into maps and/or used to underpin spatial analysis. This is critical, as maps in particular play an important role in representing the world, and geographers are conversant with both the technical dimensions and the cultural politics of their production. However, geographers also have a similar depth of understanding of other representational forms, including texts, objects, visual images and digital technologies.

Commented [GC121]: DK-GeoSk

Commented [GC122]: Maps (debate still to be resolved)

3.10 Geographers have a firm grasp of the principles of research design, ethical and safety considerations, the main methodological strategies used in the analysis and interpretation of geographical information, and show a critical understanding of the appropriate contexts for their use. While there is variation in the methodologies taught in different courses, geographers develop familiarity with a range of methodologies, including those used in data collection and analysis; data handling and management; field and laboratory work; process modelling; programming; social surveys; focus groups; interviewing; archival work; visualisation; discourse and textual analysis; ethnography, participant observation and creative making methods including, for example, performance, poetry, and craft.

Commented [GC123]: DK-GeoSk

3.11 Geolocated data and geospatial technologies are increasingly central to geography in a digital and data-rich world. Geographers study how digital worlds are created and analysed through the study of geographic information science (GISci) and apply that knowledge through the use of geographic information systems (GIS) and remote sensing. geographers require skills in the

Commented [GC124]: DK-A

presentation, interpretation, analysis and consideration of quantitative data, including new forms of spatial data. They are familiar with a range of statistical techniques, including simple descriptive statistics, inferential tests, relational statistics and multivariate analyses. They are skilled in the retrieval and manipulation of secondary data sets and appreciate the ethical considerations of working with non-traditional spatial data sources, such as social media or linked administrative data. They are familiar with geospatial technologies such as digital cartography, GIS and remote sensing. They can apply spatial statistics and tools for handling spatial dependency and spatial autocorrelation in data as well as process spatial heterogeneity. They are aware of the effects of scale in their analyses.

Commented [GC125]: DK-GeoSk

3.12 Geographical knowledge and understanding inform concern about the Earth and its inhabitants; the subject is intrinsically global and international. Geographers compare and contrast processes occurring in different parts of the world. They critically analyse global, national, regional and local issues and their work proposes ways of mitigating human and physical challenges and identifies and addresses new ones. Geographers can take a global view but are able to inter-relate global and local perspectives. Geographers are aware of the relevance of geographical concepts, techniques and expertise to creative problem-solving and decision-making, for example in addressing inequality, poverty reduction and improving the quality of life and well-being in the context of climate change, environmental and social injustice, environmental management and sustainable development. However, awareness of this is balanced by recognition of limitations, a critical understanding of broader social, economic, political and environmental contexts and the ethical implications of applications.

Commented [GC126]: DK-KC-Sp

Commented [GC127]: DK-OC-Sc

Commented [GC128]: DK-A

Commented [GC129]: DK-OC-Sc

Commented [GC130]: DK-A

## Fieldwork

3.13 Fieldwork is integral to all Geography courses. It provides geographers with a unique opportunity for experiential active learning that inspires students' practical engagement with the

subject. It reflects that real-world learning and context-based applied learning is fundamental to understanding, and changing, our world.

Commented [GC131]: DK-GeoSk-Fwk

3.14 Geographers employ an expansive understanding of the 'field' and require access to a variety of types of 'fields' in order to meet programme learning outcomes. This includes opportunities for all Geography students to engage with environments that are both familiar and unfamiliar. For example, they will require access to particular landscapes, ecosystems, urban environments, archives and digital spaces.

Commented [GC132]: DK-GeoSk-Fwk

3.15 Fieldwork encompasses directed learning, peer-assisted learning and self-directed student learning and requires extended and in-depth time in the field, including multi-day trips and residential trips. Fieldwork is required throughout a Geography degree to enable progression in core skills and capabilities, often resulting in self-directed fieldwork by the end of a Geography degree. Fieldwork provides geographers with a unique opportunity for experiential learning; teamwork; problem-based learning; research design, planning and implementation; data collection, management and analysis; resilience, flexibility and coping with uncertainty and unfamiliar situations; and understanding and managing risks. It is a key means of delivery for specific skills that cannot readily be obtained in the classroom. Fieldwork also helps hone skills in group work, planning, sampling, research design and problem-solving. Finally, as nearly all data are spatial (they are collected somewhere), only fieldwork gives students experience and critical understanding of the link between the real world and measurement as captured in spatial data and place-based representations.

Commented [GC133]: About fieldwork, yes, but the focus seems to be more on the curriculum experiences associated with fieldwork (and its role in progression).

Commented [GC134R133]: P-CE

Commented [GC135]: DK-GeoSk-Fwk

3.16 Fieldwork involves collecting primary and/or secondary data, which are then processed and analysed using qualitative and/or quantitative techniques. In order to meet programme learning outcomes, geographers require access to field equipment and other resources to collect data and information. Data processing and analysis requires access to a range of laboratories, and appropriate

Commented [GC136]: DK-GeoSk

software and hardware, such as geospatial, qualitative and quantitative analysis tools. This processing and analysis can be achieved independently or as part of a group.

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3.17 Virtual fieldwork is increasingly important within geography, and providers are increasing resources for this model. Virtual fieldwork can help to meet course learning outcomes, help minimise the environmental impact of fieldwork and also scaffold and enhance pre and post-fieldwork teaching. However, many types of fieldwork are immersive and/or cannot be replicated virtually, digitally or online.

Commented [GC138]: DK-GeoSk-Fwk

3.18 Fieldwork is an opportunity to reflect on sensibilities, such as the positionalities, responsibilities and relationalities of students and staff. Consequently, all fieldwork should be planned and conducted in a way that is ethical, responsible, careful and safe, for students, staff, visited communities and all other stakeholders. An ethics assessment and risk assessment should be undertaken prior to all taught fieldwork.

Commented [GC139]: EDI

3.19 Fieldwork should be planned and conducted in such a way as to be inclusive and accessible, considering the well-being of students and staff, including their mental and physical health, and all other protected characteristics. Fieldwork opportunities should be fair and providers, to the extent possible, should consider the resourcing needed to overcome costs and other barriers that might impact a student's ability to participate fully. An inclusivity impact assessment should be undertaken prior to all taught fieldwork.

Commented [GC140]: EDI

3.20 The environmental impact of fieldwork, its sustainability and its carbon footprint should be considered by conducting a carbon audit prior to all taught fieldwork. The choice of destination(s) visited and the mode of transport should be clearly justified by the programme learning outcomes. This justification should balance the environmental costs involved with the geographical learning, transferable skills, development of social and cultural capital and other educational benefits derived by learning experientially within specific environments.

Commented [GC141]: DK-A

Commented [GC142R141]: (Education for sustainable development)

3.21 Staff take on significant responsibilities in delivering taught fieldwork. Appropriate resourcing by the provider should ensure that staff are fully trained and supported to deliver high-quality field learning. Employers must also recognise that staff have differing capacities to lead and/or participate in geography fieldwork.

Commented [GC143]: Teacher attributes

## Skills, attributes and geocapabilities

3.22 Geography students learn 'through' geography in addition to learning 'about' geography and graduates have the ability to work on a wide range of applied research, utilising both quantitative and qualitative analysis. They acquire both subject-specific and wider intellectual and transferable skills that together provide the basis for academic achievement, career prospects and contributions to the wider economy and society. As they progress within their degree, geographers also acquire geocapabilities; that is, a set of subject-specific capabilities which include an understanding of the significance of place, space and scale, as well as landscape and nature, in the constitution and conduct of life on Earth; the ability to think spatially and explore places in a structured way; an awareness of complex reciprocal relationships between society and environment; expertise in the pattern and dynamic nature of spatial variation in Earth's surface, environmental and societal processes; a sensitivity to changes occurring over time, or the situated contexts of aspects of study; and the ability to think holistically, creatively and critically about themselves, their societies and the world.

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3.23 Given the rich diversity of Geography degrees and the range of options in which students are able to specialise, it is unwise to be too rigid or prescriptive in setting out the skills that graduates are likely to possess. Nonetheless, in broad terms, they are able to demonstrate competence in most of the skills, capabilities and attributes itemised in this Subject Benchmark Statement.

Commented [GC145]: Something here about disciplinary identity/breadth?

3.24 While recognising and valuing the diversity of good practice, it is useful to emphasise some of the general principles underpinning successful acquisition of skills. The skills dimension is best planned in conjunction with the knowledge-based curriculum, so that the relationship between the

two is given detailed consideration. Skills are taught, practiced and assessed within a curriculum framework that is balanced, coherent, inclusive and progressive, so that the level of challenge and achievement is gradually increased throughout, taking students to the frontiers of research.

Commented [GC146]: DK-GeoSk

## Subject-specific skills

3.25 Geography enhances a range of intellectual skills and abilities that are acquired through use of its learning resources, frequent practise of its methods and immersion in appropriate research contexts. Some of these skills are subject-specific, but all are relevant and transferable to other intellectual contexts. Geographers are adept at bringing together perspectives from multiple disciplines across STEM and SHAPE, thinking laterally across debates, synthesising materials, and holding ideas in creative tension.

Commented [GC147]: Interdisciplinarity

3.26 Geographers use a variety of sources of evidence and are able to apply appropriate forms of both quantitative and qualitative analysis, making informed judgements based on the evidence available. Geographers are numerate and able to establish the appropriate spatial and temporal scales for the purpose of their analysis.

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3.27 Geographers are skilled in specific quantitative and qualitative techniques and understand the appropriate context of their use. They understand the complexity of the real world and learn to interrogate multiple data sources and recognise gaps in the evidence base. They have an appreciation of situations when conclusions drawn from data are ambiguous or uncertain. Geographers are also skilled in issues of data ethics, both in the generation of data but also in the use and reuse of data to draw robust and reliable conclusions. As analyses of spatial data underpin all kinds of decision-making, from individual credit scores to large-scale policy decisions, geographers understand the importance of notions of openness, transparency and reproducibility (the duplication of results and inference).

Commented [GC149]: DK-GeoSk-Exp

Commented [GC150]: DK-GeoSk-Pres

3.28 Geography graduates are adept at research design and data collection; analysing, presenting, interpretating and communicating qualitative and quantitative data; retrieving and manipulating big

geospatial data sets; using inferential and relational statistics; modelling and mapping geospatial events; coding; using geospatial technologies such as digital cartography, GIS and remote sensing; and deploying interpretative, creative and social survey methods. Consequently, Geography graduates are a crucial part of the multidisciplinary approach needed to tackle the big issues faced by the economy and society, leading ambitious environmental policies, supporting inclusive and sustainable communities and economies, and strengthening relationships and partnerships across the globe.

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Commented [GC152]: DK-A

Commented [GC153R152]: But also links to interdisciplinarity

3.29 As nearly all data are spatial, geographers require resources for spatial data collection and handling and access to fieldwork sites, libraries, information systems, laboratories, equipment and technical resources is essential. Geographers take a critical spatial data science perspective and are familiar with open-source tools and software to support this.

Commented [GC154]: DK-GeoSk

3.30 A geographical education develops a range of subject-specific skills, including:

- spatial awareness and observation

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- recognising the moral, ethical and safety issues involved in all aspects of geographical enquiry

Commented [GC156]: DK-GeoSk-Eval

- conducting fieldwork and data collection, assessing risks and their mitigation

Commented [GC157]: DK-GeoSk-Fwk

- employing a variety of interpretative methods, for example, participant observation, ethnographic interviews, and auto-ethnography

Commented [GC158]: DK-GeoSk

- employing a variety of social survey methods, for example, questionnaire surveys and semi-structured interviews

Commented [GC159]: DK-GeoSk

- employing a variety of science laboratory skills and methods, for example, soil, water and sediment sample preparation and analysis

Commented [GC160]: DK-GeoSk

- primary data generation, collection and recording, and the use of secondary data sets, both quantitative and qualitative
- critically evaluating, interpreting and combining different types of geographical evidence, for example, texts, visual and material culture, archival data, maps, digitised and laboratory data
- analysis and problem-solving through quantitative and qualitative methods
- applying methods for the collection and analysis of spatial and environmental information, for example, by using GIS, remote sensing, statistical and mathematical modelling
- preparing effective maps, diagrams and visualisations.

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Commented [GC162]: DK-GeoSk-Desc

Commented [GC163]: DK-GeoSk-Exp

Commented [GC164]: DK-GeoSk

## Generic skills and personal attributes

3.31 Geography fosters the development of a range of generic intellectual skills, generic skills and personal attributes.

3.32 **Generic intellectual skills** include:

- assessing the merits of contrasting theories and explanations
- an awareness of the social, cultural and political context in which knowledge is produced (epistemological hegemonies), the positionalities of the researcher and the researched alike, and the democratisation of knowledge production
- understanding the appropriate and ethical use of evidence and data
- planning, designing and executing a piece of rigorous research or enquiry, both independently and in groups, including the production of a final report
- numeracy and statistical literacy

- abstraction and synthesis of information
- developing a reasoned argument
- taking responsibility for learning and reflection upon that learning.

3.33 **Generic skills** include:

- learning and studying, developing autonomous learning and metacognition
- decision-making, time management and prioritising tasks
- record-keeping and archiving
- synthesising, contextualising and critically evaluating information of different styles and from different sources
- oral, written and graphical communication
- retrieval, handling and archiving of datasets
- an understanding of intellectual property and data privacy
- communication with a variety of audiences, employing formats appropriate to the audience
- the ability to work in groups and teams and to recognise and respect the viewpoints of others
- the ability to take creative approaches to problem-solving.

3.34 **Personal attributes** include:

- motivation
- innovation
- entrepreneurialism

- ability to work responsibly, autonomously and with others
- self-awareness, reflection, resilience, self-management and self-confidence
- empathy and insight
- intellectual integrity and ethical behaviour
- awareness of responsibility as a local, national and international citizen with a global perspective
- the skills to engage in lifelong learning
- flexibility and adaptability.

## Teaching and learning

3.35 Geographers develop and use innovative teaching methods. The range of teaching and learning contexts is continually evolving, for example, with the development of flexible, virtual and distance-learning environments, work and community-based learning, and the increasing use of self-determined learning.

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3.36 Courses enable students to experience active and reflective learning through exposure to a range of teaching approaches. For example: lectures; seminars; tutorials; supervisions or other small-group formats; directed self-study; reading and library use; laboratory practical classes, including the use of scientific laboratories and advanced computer facilities; fieldwork, both taught and self-organised; a range of student-centred learning opportunities, which might include virtual learning environments, self-directed study, simulations, problem-based learning, teamwork, volunteering, work-integrated learning and international exchanges; e-learning and distance learning.

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3.37 An education in geography involves a considered engagement with the world. Fieldwork and experiential learning constitutes an essential aspect of this engagement and thus has a variety of roles in providing an opportunity to develop and apply theoretical, technical and scientific laboratory

methods and findings to more complex, uncontrolled field environments; identifying problems and framing research questions, anticipating risks, testing hypotheses and designing research; encouraging consideration of the ethical aspects of research processes; developing a sense of place, identity, awareness of difference, and sensitivity to others; promoting generic skills such as teamwork and observation.

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3.38 Within honours degree courses in Geography, it is anticipated that some form of independent research work is supported throughout the degree. Students experience the entire research process, from framing enquiry to communicating findings. Independent research is often communicated in the form of a dissertation presented in the later stages of the course. Other formats could include research posters, journal articles, vlogs or final reports and a choice of assessment format may be appropriate. Independent research may involve field-based data collection, or other forms of primary or secondary research, civic engagement or work placements. Regardless of the nature of the research, the student's learning requires critical reflection on the potential risks as well as the moral and ethical issues of the research project. On joint and combined honours courses, students still conduct independent research work, although this may be in an interdisciplinary context or outside geography.

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Commented [GC169]: Interdisciplinarity?

3.39 The balance within a degree course of these teaching and learning styles and of the associated assessment methods will clearly vary from one higher education provider to another, consistent with the overall mission, aims and objectives of both the provider and the course. However, honours degree courses in Geography will characteristically have recourse to a wide range of learning and teaching styles, as befits the intellectual heritage of a discipline whose concerns are with both environment and society.

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## Assessment

3.40 An assessment and feedback for learning strategy will allow all students to demonstrate their level of attainment, and reflect upon and discuss their progress. For each method of assessment, the

aims, requirements and marking criteria are clearly defined and aligned, allowing appropriate progression throughout the degree course. Such a strategy reflects the variety of abilities and skills developed within the curriculum, the types of teaching methods and learning contexts used, and the learning outcomes of the degree course. Moreover, it recognises the value of formative assessment for promoting deep reflective learning. Students are given opportunities to take part in self-assessment and peer review, authentic assessments, and to work individually and in groups.

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Students are encouraged to demonstrate their full range of abilities, with providers offering a mix of assessment methods that are accessible to students from varying educational backgrounds and in different learning situations, in some cases offering a choice of assessment formats and authentic public-facing outputs.

Commented [GC172]: Learner attributes? EDI? Both?

3.41 Students of Geography are likely to encounter a variety of assessment methods in their degree course, where appropriate: written work of varying lengths (essays, reports, press releases, consultancy reports, briefing papers, annotated bibliographies, article critiques); the creation of digital resources (web pages, blogs, audio and video podcasts); oral presentations (debates, conference-style poster presentations, seminars); practical work (in the field, scientific and computer laboratories, and relating to quantitative and qualitative analyses); unseen and seen examinations with a range of types of questions/tasks; reflective learning journals; independent research dissertations and capstone projects (and proposals for these); work-integrated assessments.

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## 4 Benchmark standards

### Introduction

4.1 This Subject Benchmark Statement sets out the minimum threshold standards that a student will have demonstrated when they are awarded an honours degree in Geography. Demonstrating these standards over time will show that a student has achieved the range of knowledge, understanding and skills expected of graduates in Geography.

4.2 The vast majority of students will perform significantly better than the minimum threshold standards. Each higher education provider has its own method of determining what appropriate evidence of this achievement will be and should refer to Annex D: Outcome classification descriptions for FHEQ Level 6 and FQHEIS Level 10 degrees. This Annex sets out common descriptions of the four main degree outcome classifications for bachelor's degrees with honours: 1st, 2:1, 2:2 and 3rd.

4.3 The performance of all honours graduates in Geography may be expressed with reference to the areas of achievement identified: knowledge and understanding; and intellectual, subject-specific, and generic skills (section 3).

4.4 The following table expresses performance in terms of discipline-specific learning outcomes at the end of a bachelor's degree with honours or integrated master's degree. It is important to note that Subject Benchmark Statements are phrased in broad terms, to encourage higher education providers to develop diverse and innovative courses within the overall framework provided by this document. It is not intended that the benchmark standards are used in a prescriptive manner. Likewise, these descriptors are intended to aid the preparation of the curriculum and are neither prescriptive nor exhaustive.

4.5 **Threshold graduates** possess a basic knowledge and understanding of change within human and physical environments, of interrelationships between these environments, of sustainability and sustainable development, and of the interdependence of places at various scales. Their view of the subject and its methodologies is strongly influenced by formal teaching and has a limited critical perspective. Competence in essential subject-specific, intellectual and generic skills is demonstrated.

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4.6 **Typical graduates** display a critical awareness of the scope and methodologies of the subject, based on a solid foundation of knowledge, consistently demonstrating a command of appropriate subject-specific and generic skills as well as proficiency in most of the higher-level intellectual skills

Typical graduates are also distinguished from the threshold level by a capacity for developing and applying personal perspectives critically to their studies.

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4.7 Geography graduates that achieve **excellence** beyond the typical standard are distinguished primarily by superior intellectual skills, which are deployed in the context of wide-ranging knowledge of the various aspects of the subject. The strength of geography's methodological breadth is most clearly demonstrated in its best graduates, who bring originality, insight and superior critical and reflective abilities to bear upon this knowledge and have the capacity to link theory and practice in identifying and tackling research problems. This quality is evident across the spectrum of assessed work, but is perhaps most clearly demonstrated in independent work, especially dissertations, which may produce outcomes that are at or close to the levels of publishable research, and which represent an advance within subject knowledge.

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4.8 In addition to the knowledge and understanding, subject-specific skills and generic skills outlined in the table below, successful graduates of bachelor's (and integrated master's) degrees with honours in Geography should have developed the ability to:

- collaborate equitably, and empathise and respect the views, perspectives and needs of others
- understand and reflect critically on the norms and values that underlie one's own and others' perspectives and actions
- work collaboratively with others offering different knowledge, views and experiences
- be aware of, and have an understanding of, the impact of their own, and others' emotional response and well-being.

| | Threshold | Typical | Excellent |
|---|---|---|---|
| **Knowledge and Understanding** | Describe and exemplify the nature of change and variability within societies and environments. | Demonstrate comprehension of the nature of change and variability within societies and environments. | Demonstrate critical insight into the nature and causes of change and variability within societies and environments. |
| | Describe and exemplify the reciprocal relationships between societies and environments at multiple spatial and temporal scales. | Demonstrate comprehension of the reciprocal relationships between societies and environments at multiple spatial and temporal scales. | Demonstrate critical insight of the complexity of the reciprocal relationships between societies and environments at multiple spatial and temporal scales. |
| | Describe approaches to sustainability and sustainable development in relation to the complex interactions between societies and environments. | Demonstrate comprehension of sustainability and sustainable development practices in relation to the complex interactions between societies and environments. | Demonstrate critical insight into sustainability and sustainable development practices in relation to the complex interactions between societies and environments. |
| | Describe the history of geography as a discipline and the relevant contexts of past and present geographical knowledge production, and contemporary | Demonstrate comprehension of the history of geography as a discipline and the relevant contexts of past and present geographical knowledge production, and | Demonstrate a critical understanding of the history of geography as a discipline and the relevant contexts of past and present geographical knowledge production, and |

| | | | |
|---|---|---|---|
| | implications of this history. | contemporary implications of this history. | contemporary implications of this history. |
| | Describe and exemplify the diversity and interdependency of places. | Demonstrate comprehension of the diversity and interdependency of places at various spatial scales. | Reflect on and appraise the reasons for the diversity and interdependency of places at various spatial scales. |
| | Describe and exemplify the diversity of approaches to generation of knowledge and understanding deriving from experience of the epistemologies of the natural and social sciences and humanities. | Evaluate the diversity of approaches to the generation of knowledge and understanding deriving from experience of the epistemologies of the natural and social sciences and humanities. | Critically appraise the diversity of approaches to the generation of knowledge and understanding deriving from experience of the epistemologies of the natural and social sciences and humanities. |
| | Carry out routine investigations as instructed. | Apply understanding of geographical concepts in different situations. | Apply a reflective understanding of geographical concepts in different situations. |
| | Know the difference between accuracy and precision. | Apply a systematic approach to accuracy, precision and uncertainty. | Critically reflect on the accuracy, precision and uncertainty of research data. |

| | Threshold | Typical | Excellent |
|---|---|---|---|
| **Subject Specific Skills** | Illustrate the issues involved in applying research design and execution skills within the specific context of field-based research. | Evaluate the issues involved in applying research design and execution skills within the specific context of field-based research. | Formulate a sophisticated and comprehensive analysis of the issues involved in applying research design and execution skills within the specific context of field-based research, including alternative options. |
| | Illustrate diversity of techniques and approaches involved in collecting geographical information (for example, instrumentation, remote sensing, cartographic surveying, social survey, observation and the use of textual and archival sources). | Evaluate the diversity of techniques and approaches involved in collecting geographical information (for example, instrumentation, remote sensing, cartographic surveying, social survey, observation and the use of textual and archival sources). | Critically appraise and reflect on use of the diversity of techniques and approaches involved in collecting geographical information (for example, instrumentation, remote sensing, cartographic surveying, social survey, observation and the use of textual and archival sources). |
| | Illustrate both quantitative and qualitative approaches for analysis of geographical information and data | Evaluate both quantitative and qualitative approaches for analysis of geographical information and data, including competence. | Critically appraise and reflect on the application of quantitative and qualitative approaches for analysis of geographical data, |

| | | | |
|---|---|---|---|
| | and perform basic applications. | | including excellent and in the application of a range of these approaches. sophisticated application of a range of these approaches. |
| | Illustrate diversity of specialised techniques and approaches involved in analysing geographical information (for example, special techniques for the analysis of spatial information, GIS, laboratory techniques, qualitative and quantitative techniques). | Evaluate the diversity of specialised techniques and approaches involved in analysing geographical information (for example, special techniques for the analysis of spatial information, GIS, laboratory techniques, qualitative and quantitative techniques). | Demonstrate a mastery of techniques and approaches involved in analysing geographical information (for example, special techniques for the analysis of spatial information, GIS, laboratory techniques, qualitative and quantitative techniques) and very good judgement of their effectiveness. |
| | Summarise information and data and make accurate interpretations. | Synthesize information and data and make accurate interpretations in the context of current geographical knowledge. | Synthesize information and data and make accurate and critically reflective interpretations in the context of current geographical knowledge. |
| | Illustrate diversity of specialised techniques and approaches | Evaluate the diversity of specialised techniques and | Critically evaluate and reflect on the appropriate |

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| | involved in presenting geographical knowledge and information (for example, GIS, cartography and different textual strategies). | approaches involved in presenting geographical information (for example, GIS, cartography and different textual strategies). | application of the diversity of specialised geographical techniques and approaches. |
| | Communicate geographical ideas, principles and theories by written, oral and graphical means. | Communicate geographical ideas, principles and theories effectively and fluently by written, oral and graphical means. | Communicate geographical ideas, principles and theories with flair, accuracy and sophistication by written, oral and graphical means. |

| | **Threshold** | **Typical** | **Excellent** |
|---|---|---|---|
| **Generic Skills** | Communicate personal views about geographical issues. | Communicate and compare different views about geographical issues. | Critically reflect on a range of views about geographical issues and come to a reasoned evaluation. |
| | Demonstrate an awareness of their positionality and assumptions and the potential implications and consequences of them. | Recognise their positionality and assumptions and evaluate the potential implications and consequences of them. | Recognise their positionality and assumptions and critically evaluate the potential implications and consequences of them. |
| | Present material to support a reasoned argument. | Synthesize material appropriately to support the presentation of a | Synthesize complex information to support the presentation of a |

| | | | |
|---|---|---|---|
| | | reasoned argument to the intended audience. | reasoned argument to both specialist and non-specialist audiences. |
| | Use communications and ICT to select, analyse, present and communicate geographical information. | Use communications and ICT effectively and appropriately to select, analyse, present and communicate geographical information. | Use communications and ICT with a high level of competence to select, analyse, present and communicate geographical information. |
| | Undertake independent/ self-directed study/ learning (including time management) within a supportive framework. | Undertake independent/ self-directed study/ learning (including time management) to achieve consistent, proficient and sustained attainment. | Undertake highly autonomous and well organised study/ learning and time management to achieve consistent, proficient and sustained attainment. |
| | Perform assigned tasks within a group setting and take part in group discussions. | Work as a participant or leader of a group and contribute effectively to the achievement of objectives. | Demonstrate group leadership and supportive participation of others within a group setting to achieve objectives. |
| | Describe the process of learning and present a basic assessment of personal strengths and weaknesses. | Analyse the process of learning and evaluate personal strengths and weaknesses. | Critically reflect on the process of learning, evaluating personal strengths and weaknesses and demonstrating an understanding of alternative strategies. |

# Appendix 10: Summary of Document Analysis.

| **Broad Code (GA, 2022a)** ***Additional codes[1]*** | **Sub Code** ***Additional codes*** | **Key Term(s) and Associated Concepts** ***Additional terms and concepts*** | **References** | | | | |
|---|---|---|---|---|---|---|---|
| | | | **GNC2014 (DfE, 2013a)** | **KS4 (DfE, 2014a)** | **KS5** | | **QAA SBS[2]** |
| | | | | | **ALCAB, 2014** | **DfE, 2014b** | |
| **Disciplinary Knowledge**: Key Concepts | | *Reference to the key concepts of disciplinary knowledge in general terms*<br><br>*Reference to the key concepts of disciplinary knowledge in integrative terms* | | "develop and extend [students'] knowledge of locations, places, environments and processes…" (Subject Aims and Learning Outcomes, p.2) | "…understand the importance of key concepts in geographical understanding, including those of space, place, [time, and scale]…" (Guiding Principles, p.8) | "…develop [students'] knowledge of locations, places, processes and environments, [at all geographical scales from local to global]…" (Aims and Objectives, p.1) | "Geographers study through the concepts of scale, place, space and time" (Context, p.3)<br><br>"The discipline is uniquely holistic and integrative in its reach, but with a number of overarching concepts that define its boundaries. These include, but are not limited to, space, place, time, landscape, environment and scale" (Design, p.9)<br><br>"Geographers are able to use a systems framework to critically conceptualise patterns, processes, interactions and change in the context of a human, biodiverse and geodiverse world. This acknowledges environmental impacts on human activity; human impacts on biophysical systems and on components of the climate system; and the |

[1] Additional codes generated by the researcher through the document analysis, to supplement the framework established through the use of the GA (2022) *A Framework for the School Geography Curriculum*, are shown in italics.

[2] QAA Subject Benchmark Statement for Geography; the Subject Benchmark Statement for ES3 has not been coded.

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| | | | | | | | management of environments and landscapes" (Subject knowledge and understanding, p.15)<br><br>"Geographers demonstrate knowledge of the main dimensions and scales of economic, social, cultural, political and environmental patterns and are familiar with a range of interpretations of the processes that shape and sustain commonalities and differences" (Subject knowledge and understanding, p.16) |
| | Space | Location<br>Distribution<br>Pattern<br>Interaction[3]<br>Interdependence<br>Globalisation<br>*Development*<br>Distance<br>Spatial process<br>Spatial dynamics<br>Spatial narratives<br>Spatial possibilities<br>Spatial justice<br>*Spatial variation*<br>Flows<br>*Global systems*<br>*International trade*<br>*Global governance*<br>*Geopolitics* | "develop contextual knowledge of the location of globally significant places" (Aims, p.1)<br><br>"…understand the processes that give rise to key physical and human geographical features of the world…and how they bring about spatial variation [and change over time]…" (Aims, p.1)<br><br>"…develop [pupils'] use of geographical | "…change in places and processes over space [and time]…" (Subject Aims and Learning Outcomes, p.2)<br><br>"…different spatial, cultural and political contexts…." (Scope of Study, p.4)<br><br>"…causes and effects of rapid urbanisation and contrasting urban trends in different parts of the world with varying characteristics of economic and social | "Understanding spatial and temporal variations in the processes which cycle material in the earth system is a key part of physical geography" (Proposed Content, p.17)<br><br>"…an understanding of factors driving change in the magnitude of [water and carbon] stores over time and in space" (Proposed Content, p.19)<br><br>"Study [of landscape systems] must embrace an understanding of physical processes and patterns at a variety of | "…develop an in-depth understanding of the selected core and non-core processes in physical and human geography…and of the concepts which illuminate their significance in a range of locational contexts" (Aims and Objectives, p.2)<br><br>"…the way in which global systems shape relationships between individuals, states and environments" (Subject Content, p.10) | "…demonstrate knowledge and explanations of spatial distributions in both physical and human phenomena" (Subject knowledge and understanding, p.15)<br><br>"A critical evaluation of the concepts underlying development [and sustainability] needs to be an integral part of [the geographical knowledge base]" (Subject knowledge and understanding, p.16) |

[3] Distinct from 'interconnection' as an organising concept within disciplinary knowledge (DK-OC-IntC).

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| | | | knowledge, understanding and skills to enhance their locational and place knowledge…" (KS2, p.4)<br><br>"…position and significance of latitude, longitude, Equator, Northern Hemisphere, Southern Hemisphere, the Tropics of Cancer and Capricorn, Arctic and Antarctic Circle, the Prime/Greenwich Meridian and time zones (including day and night)" (KS2, p.4)<br><br>"…enrich [pupils'] spatial [and environmental] understanding" (KS3, p.5)<br><br>"…deepen their spatial awareness of the world's countries…focus on Africa, Russia, Asia (including China and India), and the Middle East…" (KS3, p.6) | development…" (Scope of Study, p.7)<br><br>"…causes and consequences of uneven development at global level as the background for considering the changing context of population, economy and society and of technological and political development…" (Scope of Study, p.8) | spatial (landform to landscape) [and temporal (seconds to millennia)] scales" (Proposed Content, p.22)<br><br>"[Global systems and global governance] will focus on the processes and flows that occur at the global level, and the ways in which these influence people, places and institutions" (Proposed Content, p.24)<br><br>"…explore how the 'global commons', human rights protection and territorial integrity provide powerful case studies for investigating how these systems and rules work" (Proposed Content, p.28) | "…the operation of global systems…international trade and access to markets in the contemporary world.. patterns of human development and life expectancy… processes and patterns of global population migration" (Subject Content, p.10)<br><br>"…the impacts of global governance…governance of the global commons… human rights and the geopolitics of intervention… sovereignty and territorial integrity" (Subject Content, pp.10-11)<br><br>"…understanding of the way in which global systems and global governance underlie their own and other people's lives across the globe" (Subject Content, p.11)<br><br>"the nature of economic, political, social and environmental interdependence in the contemporary world" (Subject Content, p.11)<br><br>"the role of norms, laws and institutions in regulating and reproducing global systems, and analysis of | "Geographical knowledge and understanding inform concern about the Earth and its inhabitants; the subject is intrinsically global and international. Geographers compare and contrast processes occurring in different parts of the world" (Subject knowledge and understanding, p.18) |

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| | | | | | | the geographical consequences for citizens and places" (Subject Content, p.11) | |
| | Place | Character<br>Identity<br>Home<br>Community<br>Landscape[4]<br>Sense of place<br>Diversity<br>Nation<br>Assemblage<br>Meanings<br>Place narratives<br>Culture<br>Cultural diversity<br>Migration | "…the formation and use of landscapes…" (Purpose, p.1)<br><br>"…develop [pupils'] use of geographical knowledge, understanding and skills to enhance their locational and place knowledge…" (KS2, p.4)<br><br>"…detailed place-based exemplars [at a variety of scales]…" (KS3, p.6) | "…different spatial, cultural and political contexts…." (Scope of Study, p.4)<br><br>"[In relation to urban change] Both city studies should be set within the context of their region, country and the wider world, including an understanding of the causes and impacts of national and international migration on the growth and character of these cities." (Scope of Study, p.8) | "…concepts such as representation, meaning and identity are important to parts of human geography in higher education but which have had limited expression at A level" (Guiding Principles, p.7)<br><br>"[Changing places] will develop nuanced geographical understanding of a particular and familiar place…and provides a strong context to introduce some of the ideas and methods in human geography, particularly around meaning and representation" (Proposed Content, p.24)<br><br>"…global governance, examines the role of rules, norms and laws in reproducing global systems and the geographical consequences for citizens and places" (Proposed Content, p.26)<br><br>"…explore both the continuity and the changing nature of place | "…processes and patterns of global population migration" (Subject Content, p.10)<br><br>"…understanding of the way in which global systems and global governance underlie their own and other people's lives across the globe" (Subject Content, p.11)<br><br>"…the meanings and representations attached to places help to shape actions and behaviours affecting that place" (Subject Content, p.12)<br><br>"…the way in which these factors (relationships, connections, meaning, representation) affect continuity and change in the nature of places and our understanding of place" (Subject Content, p.12)<br><br>"…the way in which their own lives and those of others are affected by continuity and change in | "The ways in which the distinctiveness of a particular place is constituted and remade by physical and human processes is understood by geographers, as is the influence of place-specific characteristics on such processes and how these may change through time. Geographers demonstrate an awareness of the constitution of places, including and beyond their own immediate everyday experience" (Subject knowledge and understanding, p.15) |

[4] Distinct from landscape as a broader context within which key and organising concepts can be applied and exemplified.

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| | | | | | and places through empirical data and as perceived by groups and individuals…the socio-economic and demographic characteristics, relationships and connections of places…the cultural meanings and representations attached to places. The understanding of places, as shaped by flows (of people, goods/resources, money/investment and ideas), and interconnections both within and beyond the places themselves, are also central to this topic" (Proposed Content, pp.28-29)<br><br>"…forces for change [in relationships and connections] are reflected in the demographic, socioeconomic and cultural characteristics of residents and in the fabric and nature of places" (Proposed Content, p.30) | the nature of places" (Subject Content, p.14)<br><br>"…the demographic, socio-economic and cultural characteristics of places are shaped by shifting flows of people, resources, money and investment, and ideas [at all scales from local to global]" (Subject Content, p.14)<br><br>"…both past and present processes of development can be seen to influence the social and economic characteristics of places and so be implicit in present meanings" (Subject Content, p.15) | |
| | Earth Systems | Physical Processes<br>Physical Cycles<br>Dynamic Changes<br>-Biological<br>-Chemical<br>-Physical<br>Land use change<br>Land use management<br>Landform processes | "…how the Earth's features [at different scales are shaped, [interconnected and change over time]." (Purpose, p.1) | "How geomorphic processes at different scales, operating in combination with geology, climate and human activity have influenced and continue to influence [the] landscapes [of | "[The study of landscape systems] will focus on flows of energy and matter and the way in which they combine to produce a dynamic geomorphological system" (Proposed Content, pp.16-17) | "…study the physical processes which control the cycling of both water and carbon between land, oceans and the atmosphere" (Subject Content, p.6) | "Concepts such as thresholds, intrinsic and extrinsic drivers, along with approaches such as biogeochemical cycles, sediment and water budgets and environmental reconstruction, |

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| | | | "…the water cycle…" (KS2, p.5) | the UK]" (Scope of Study, p.6)<br><br>"The causes, consequences of and responses to extreme weather conditions and natural weather hazards, [recognising their changing distribution in time and space] and drawing on an understanding of the global circulation of the atmosphere" (Scope of Study, p.7) | "[Water and carbon] cycles also link the earth's lands, oceans, and atmosphere into an integrated system and provide a relevant context for understanding an earth systems approach to physical geography" (Proposed Content, p.17)<br><br>"This theme will introduce students to the integrated study of earth surface processes, landforms and resultant landscapes within the conceptual framework of a systems approach, for the first time" (Proposed Content, p.20) | "[Study must] take place within a systems framework emphasising the integrated nature of land, earth and atmosphere" (Subject Content, p.6)<br><br>"…the pathways and processes which control the cycling of carbon within and between land, oceans and atmosphere…" (Subject Content, p.7)<br><br>"…the pathways which control cycling between land, ocean, atmosphere and cryosphere, and the processes which control transfers within and between them…" (Subject Content, p.7)<br><br>"the links between [the water cycle and the carbon cycle] using climate as a key context for exploring these linkages and for developing and applying understanding of the role of feedbacks within and between the two cycles" (Subject Content, p.7)<br><br>"…integrated study of earth surface processes, landforms and resultant landscapes" (Subject Content, p.8)<br><br>"[Study of landscape systems must] take place | underpin this knowledge of spatial and temporal change in biophysical environments" (Subject knowledge and understanding, p.16) |

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| | | | | | | within a systems framework, focusing on transfers of energy and movements of materials" (Subject Content, p.9)<br><br>"…gain understanding of how earth processes are a vital context for human activity" (Subject Content, p.9)<br><br>"the variety of geomorphological processes that operate within landscape systems and how the flows of energy and materials within the chosen landscape system combine to create specific landforms" (Subject Content, p.9) | |
| | Environment | Interactions between physical and human geography<br>Ecosystems<br>Biodiversity<br>Environmental change<br>Environmental impact<br>Resources<br>Sustainability<br>Environmental stewardship<br>Environmental citizenship<br>*Climate change/climate crisis* | "…deep understanding of the Earth's key physical and human processes." (Purpose, p.1)<br><br>"…[understanding of] the interaction between physical and human processes…" (Purpose, p.1)<br><br>"…the formation and use of [landscapes and] environments…" (Purpose, p.1) | "…understanding of the interactions between people and environments…" Subject Aims and Learning Outcomes, p.2)<br><br>"The spatial and temporal characteristics, of climatic change and evidence for different causes, including human activity, from the beginning of the Quaternary period (2.6 million years ago) to the present day" (Scope of Study, p.7) | "The interface between human and physical geography is one of the unique features of geography. An understanding of interdisciplinary approaches to 'people and the environment' is one of geography's key characteristics and must be an important and attractive part of the A/AS level. An understanding of people-environment interactions must develop from a sound understanding of process in both physical and human geography" | "…recognise and be able to analyse the complexity of people-environment interactions…and appreciate how these underpin understanding of some of the key issues facing the world today" (Aims and Objectives, p.2)<br><br>"…emphasis on deep understanding of both physical and human processes, and on applying this understanding to interrogate people-environment | "This [SBS] asks the learning community to engage with social and environmental justice agendas across the entirety of the curriculum" (About this statement, p.1)<br><br>"Geographers understand the complex relationships between natural and human aspects of environments and landscapes…" (Subject knowledge and understanding, p.14)<br><br>"…knowledge of environments as the |

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| | | | "…understand the processes that give rise to key physical and human geographical features of the world, how these are interdependent and how they bring about spatial variation and change over time…" (Aims, p.1)<br><br>"…understand how geographical processes interact to create distinctive human and physical landscapes that change over time" (KS3, p.5)<br><br>"…enrich [pupils'] [spatial and] environmental understanding" (KS3, p.5)<br><br>"…environmental regions, including polar and hot deserts…" (KS3, p.6)<br><br>"…the change in climate from the Ice Age to the present…" (KS3, p.6) | "…distribution and characteristics of large scale natural global ecosystems…" (Scope of Study, p.7)<br><br>"…how humans use, modify and change ecosystems and environments in order to obtain food, energy and water resources" (Scope of Study, p.7) | (Guiding Principles, pp.7-8)<br><br>"…an understanding of process to major contemporary issues focused on the relationship between people and environment" (Purpose and aims of geography A level, p.11)<br><br>"The water and carbon cycling theme addresses the key process basis for two major contemporary environmental issues - climate change and flooding - and as such provides process underpinning for the development of a range of people-environment themes in non-core people-environment content" (Proposed Content, p.16)<br><br>"[The study of landscape systems] will include consideration of the role of climate and climate history in conditioning landscape and human impacts on such systems" (Proposed Content, p.17)<br><br>"…the continuous movement of water and carbon through the biological and physical components of the earth, is critical for humans and ecosystems and has strong links to global | interactions and people-place connections…" (Aims and Objectives, p.3)<br><br>"how landforms and landscapes evolve as a result of processes driven by past, present and future climate changes" (Subject Content, p.9) | result of natural processes and as a consequence of human activity" (Subject knowledge and understanding, p.14)<br><br>"…approaches to sustainable development" (Subject knowledge and understanding, p.14)<br><br>"A critical evaluation of the concepts underlying [development and] sustainability needs to be an integral part of [the geographical knowledge base]" (Subject knowledge and understanding, p.16) |

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| | | | | | climate" (Proposed Content, p.17)<br><br>"Water and carbon cycling are central to understanding and responding to many contemporary environmental issues such as climate change, sustainable water supply and flooding" (Proposed Content, p.18)<br><br>"[Students] will learn that an understanding of environmental history is a core part of understanding contemporary and future landscape systems" (Proposed Content, p.21)<br><br>"Study of landscape systems] will examine how landforms and landscapes evolve as a result of past, present and future climate-driven processes" (Proposed Content, p.22) | | |
| **Disciplinary Knowledge**: Organising Concepts | | *Reference to the organising concepts of disciplinary knowledge in general terms* | | | "…understand the importance of key concepts in geographical understanding, including those of [space, place,] time, and scale…" (Guiding Principles, p.8)<br><br>"…be familiar with, and recognise the importance to their studies of, a broader range of concepts…must include the concepts of causality, | "…specialised concepts relevant to the core and non-core content. These must include the concepts of causality, systems, equilibrium, feedback, inequality, representation, identity, globalisation, interdependence, mitigation and adaptation, sustainability, risk, resilience and | "Geographers study through the concepts of scale, place, space and time" (Context, p.3)<br><br>"The discipline is uniquely holistic and integrative in its reach, but with a number of overarching concepts that define its boundaries. These include, but are not limited to, space, place, |

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| | | | | | systems, difference, inequality, representation, interdependence, mitigation and adaptation, sustainability, risk, resilience and thresholds" (Guiding Principles, pp.8-9) | thresholds" (Aims and Objectives, p.2) | time, landscape, environment and scale" (Design, p.9)<br><br>"[Geographers] are aware that the spatial scales at which [geographical] processes operate can be questioned, contested and politicised, and considered in relation to time" (Subject knowledge and understanding, p.16)<br><br>"Geographers have a clear understanding of the drivers of change in environments over space and time, demonstrating knowledge of the interactions between climate, ecosystems and landscapes" (Subject knowledge and understanding, p.16) |
| | Time | Past<br>Present<br>Future<br>Stability<br>Dynamism<br>Continuity[5]<br>Change<br>*Geological timescale(s)*<br>*Epoch(s)*<br>*Era(s)*<br>*Period(s)* | "…how the Earth's features [at different scales are shaped, interconnected and] change over time." (Purpose, p.1)<br><br>"…understand the processes that give rise to key physical and human geographical | "…change in places and processes over [space and] time…" (Subject Aims and Learning Outcomes, p.2)<br><br>"The causes, consequences of and responses to extreme weather conditions and natural weather hazards, recognising | "[The study of landscape systems] will include consideration of the role of climate and climate history in conditioning landscape and human impacts on such systems" (Proposed Content, p.17)<br><br>"Understanding spatial and temporal variations in the processes which cycle material in the | "…a range of temporal and spatial scales…" (Aims and Objectives, p.2)<br><br>"…the factors driving change in the size of [carbon] stores over time and in space" (Subject Content, p.6)<br><br>"…the pathways and processes which control | "Geographers understand the complex relationships between natural and human aspects of environments and landscapes, including concepts such as the Anthropocene" (Subject knowledge and understanding, p.14)<br><br>"Geographers understand the |

[5] Distinct from the broad term of 'continuity' as the subject of the research questions.

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| | | | features of the world…and how they…change over time…" (Aims, p.1)<br><br>"…understand how some of these aspects [of locational and place knowledge of the UK] have changed over time" (KS2, p.4)<br><br>"[…understand how geographical processes interact to create distinctive human and physical landscapes] that change over time" (KS3, p.5)<br><br>"…geological timescales…" (KS3, p.6)<br><br>"…the change in climate from the Ice Age to the present…" (KS3, p.6) | their changing distribution in time and space…" (Scope of Study, p.7)<br><br>"The spatial and temporal characteristics, of climatic change and evidence for different causes, including human activity, from the beginning of the Quaternary period (2.6 million years ago) to the present day" (Scope of Study, p.7) | earth system is a key part of physical geography" (Proposed Content, p.17)<br><br>"…an understanding of factors driving change in the magnitude of [water and carbon] stores over time and in space" (Proposed Content, p.19)<br><br>"An understanding of pathways and processes that control the cycling of water and carbon…considered at a range of time and space scales" (Proposed Content, p.19)<br><br>"An understanding of the major controls on carbon and water cycling at global scales and how they vary over time including (i) natural variation, and (ii) human impacts, including land use change" (Proposed Content, p.19)<br><br>"Study [of landscape systems] must embrace an understanding of physical processes and patterns at a variety of [spatial (landform to landscape) and] temporal (seconds to millennia) scales" (Proposed Content, p.22)<br><br>"By examining how local change and actions relate to the wider contexts of national, international | the cycling of carbon within and between land, oceans and atmosphere at a range of time (seconds to millions of years) [and space (plant to continental)] scales…" (Subject Content, p.7)<br><br>"…the factors driving change in the size of [water] stores over time and in space" (Subject Content, p.7)<br><br>"the pathways which control cycling between land, ocean, atmosphere and cryosphere, and the processes which control transfers within and between them at a range of time (minutes to millennia) ]and space (hillslope to global) scales]" (Subject Content, p.7)<br><br>"the characteristics of physical processes and patterns at a variety of [spatial (landform to landscape) and] temporal (seconds to millennia) scales" (Subject Content, p.9)<br><br>"…lived experience of place (i.e. how people see, experience and understand places) in the past and present" (Subject Content, p.13) | dynamics and rates of change at different temporal [and spatial] scales and can evaluate the processes shaping the geographies of the past, present and future" (Subject knowledge and understanding, p.15)<br><br>"Geographers have a critical awareness of the significance of [spatial and] temporal scale…" (Subject knowledge and understanding, p.15)<br><br>"[Geographers] are aware of rates of change, and of methods and approaches used to study change in the natural world" (Subject knowledge and understanding, p.16) |

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| | | | | | and global forces, the dynamic nature of local places will be illuminated" (Proposed Content, p.29) | "…past and present connections, within and beyond localities, shape places and embed them in the regional, national, international and global scales" (Subject Content, p.14)<br><br>"…both past and present processes of development can be seen to influence the social and economic characteristics of places and so be implicit in present meanings" (Subject Content, p.15) | |
| | Scale | Size of investigation<br>Local<br>Regional<br>National<br>International<br>Global<br>*Planetary*<br>Spatial relations<br>Multi-scalar connections | "…how the Earth's features at different scales [are shaped, interconnected and change over time]." (Purpose, p.1)<br><br>"…[detailed place-based exemplars] at a variety of scales…" (KS3, p.6) | "…[highlight the dynamic links and interrelationships between places and environments] at different scales…" (Subject Aims and Learning Outcomes, p.1)<br><br>"…different scales including global…" (Subject Aims and Learning Outcomes, p.2)<br><br>"…interrelationship between geographical phenomena at different scales…" (Subject Aims and Learning Outcomes, p.2) | "An understanding of pathways and processes that control the cycling of water and carbon…considered at a range of time and space scales" (Proposed Content, p.19)<br><br>"The conceptual framework [for the theme of global systems and global governance] will emphasise the way in which global systems have local consequences" (Proposed Content, p.24)<br><br>"…scope for thinking about how scale, including local, regional, national, international and global, helps students to make sense of how global | "…[develop [students'] knowledge of locations, places, processes and environments] at all geographical scales from local to global…" (Aims and Objectives, p.1)<br><br>"…a range of temporal and spatial scales…" (Aims and Objectives, p.2)<br><br>"…interrogate people-environment interactions and people-place connections at all scales from local to global" (Aims and Objectives, p.3)<br><br>"…the pathways and processes which control the cycling of carbon within and between | "Geographers understand the dynamics and rates of change at different temporal and] spatial scales and can evaluate the processes shaping the geographies of the past, present and future" (Subject knowledge and understanding, p.15)<br><br>"Geographers have a critical awareness of the significance of spatial [and temporal] scale…comprehend how such processes operate across local, regional and global scales to produce particular geographies…also aware of how the scale of study can impact |

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| | | | | "…important links and inter-relationships between places and environments [at a range of scales from local to global]…" (Scope of Study, p.4) | interdependence, inequality and governance manifest themselves" (Proposed Content, p.26)<br><br>"By examining how local change and actions relate to the wider contexts of national, international and global forces, the dynamic nature of local places will be illuminated" (Proposed Content, p.29)<br><br>"…study for [changing place, changing places] should move across scales, including local, regional, national, international and global, revealing the way in which local places are embedded within and interconnected to these wider scales" (Proposed Content, p.29) | land, oceans and atmosphere at a range of [time (seconds to millions of years) and] space (plant to continental) scales…" (Subject Content, p.7)<br><br>"the pathways which control cycling between land, ocean, atmosphere and cryosphere, and the processes which control transfers within and between them at a range of [time (minutes to millennia) and] space (hillslope to global) scales" (Subject Content, p.7)<br><br>"the characteristics of physical processes and patterns at a variety of spatial (landform to landscape) [and temporal (seconds to millennia)] scales" (Subject Content, p.9)<br><br>"…interactions between the local, regional, national, international and global scales are fundamental to an understanding of global governance" (Subject Content, p.12)<br><br>"Study [of changing place, changing places] must involve moving out from the local place to encompass regional, national, international and global scales in | upon the conclusions that may be drawn" (Subject knowledge and understanding, p.15)<br><br>"[Geographers] critically analyse global, national, regional and local issues…" (Subject knowledge and understanding, p.18)<br><br>"Geographers can take a global view but are able to inter-relate global and local perspectives" (Subject knowledge and understanding, p.18) |

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| | | | | | | order to understand the dynamics of place" (Subject Content, p.12)<br><br>"…the demographic, socio-economic and cultural characteristics of places are shaped by shifting flows of people, resources, money and investment, and ideas at all scales from local to global" (Subject Content, p.14)<br><br>"…past and present connections, within and beyond localities, shape places and embed them in the regional, national, international and global scales" (Subject Content, p.14)<br><br>"the characteristics and impacts of external forces operating at different scales from local to global…government policies…the decisions of multinational corporations…the impacts of international or global institutions" (Subject Content, p.14) | |
| | Diversity | Range of characteristics<br>Similarity<br>Difference<br>Comparison<br>Contrast<br>Cultures | | | "…the existence of an unequal but interdependent world. Interdependence focuses on the relationships that are created by global systems, while inequality alerts us to how the world is shaped in | "give particular weight to qualitative approaches involved in representing place, and to analysing critically the impacts of different media on place meanings and | |

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| | | Identities[6]<br>*Inequality*<br>*Representation*[7] | | | unequal ways" (Proposed Content, p.25)<br><br>"…asks students to think about how, why and where interdependence and inequalities exist in the world today" (Proposed Content, p.26)<br><br>"Meaning and representation relates to how humans perceive, engage with and form attachments to the world…the everyday meanings that humans attach to places bound up with a sense of identity and belonging…ways that meanings of place might be created, such as through place making and marketing" (Proposed Content, pp.30-31) | perceptions" (Subject Content, p.13)<br><br>"…the way in which their own lives and those of others are affected by continuity and change in the nature of places" (Subject Content, p.14)<br><br>"how humans perceive, engage with and form attachments to places and how they present and represent the world to others, including the way in which everyday place meanings are bound up with different identities, perspectives and experiences" (Subject Content, p.14) | |
| | Interconnection | People<br>Places<br>Environments<br>Spaces<br>Integration/Integrative | "…diverse places, people, resources and natural and human environments…" (Purpose, p.1)<br><br>"…how the Earth's features [at different scales are shaped], interconnected [and change over time]." (Purpose, p.1) | "…complex people-environment interactions, highlight the dynamic links and interrelationships between places and environments [at different scales]…" (Subject Aims and Learning Outcomes, p.1)<br><br>"…interrelationship between geographical phenomena [at | "Material cycling in the earth system, specifically water and carbon cycling, is seen as a useful integrative theme, which allows a breadth of physical geography to be explored and requires rigour in understanding process and quantification" (Proposed Content, p.16)<br><br>"[Water and carbon] cycles also link the earth's | "…understand that the carbon and water cycles play a key role in supporting life on Earth" (Subject Content, p.6)<br><br>"the links between [the water cycle and the carbon cycle] using climate as a key context for exploring these linkages and for developing and applying understanding of the role of feedbacks within | "Geography occupies a distinctive place in the world of learning, offering an integrated study of the complex reciprocal relationships between societies and environments" (Context, p.3)<br><br>"Geography degrees are designed to give students an integrative education in the discipline of |

[6] Framed, for example, by feminist geographies, decolonising geographies, young people's geographies.
[7] Distinct from 'representation' as DI-Pow (Disciplinary Identity: Power)

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| | | | "…understand the processes that give rise to key physical and human geographical features of the world [and] how these are interdependent…" (Aims, p.1)<br><br>"…understand how geographical processes interact to create distinctive human and physical landscapes [that change over time]" (KS3, p.5)<br><br>"…aware of increasingly complex geographical systems… (KS3, p.5)<br><br>"understand how human and physical processes interact to influence and change landscapes, environments and the climate; and how human activity relies on the effective functioning of natural systems" (KS3, p.6) | different scales and] in different contexts…" (Subject Aims and Learning Outcomes, p.2)<br><br>"…important links and inter-relationships between places and environments [at a range of scales from local to global]…" (Scope of Study, p.4) | lands, oceans, and atmosphere into an integrated system and provide a relevant context for understanding an earth systems approach to physical geography" (Proposed Content, p.17)<br><br>"An understanding of the links between the two cycles. Climate change provides a key context for exploring these linkages, which will develop an understanding of concepts such as feedback and thresholds" (Proposed Content, p.19)<br><br>"…examine how landforms are inter-related and how, together, they make up characteristic landscapes" (Proposed Content, p.22)<br><br>"…the existence of an unequal but interdependent world. Interdependence focuses on the relationships that are created by global systems, while inequality alerts us to how the world is shaped in unequal ways" (Proposed Content, p.25)<br><br>"…asks students to think about how, why and where interdependence and inequalities exist in | and between the two cycles" (Subject Content, p.7)<br><br>"how landforms are inter-related and how, together, they make up characteristic landscapes" (Subject Content, p.9)<br><br>"the impact of human activity as another factor causing change within landscape systems" (Subject Content, p.9)<br><br>"Relationships and connections between people, the economy, society and the environment help to explain why places are constantly changing" (Subject Content, p.12)<br><br>"…investigation of the impact of relationships and connections on people and place… changing demographic and cultural characteristics… economic change and social inequalities… food production, circulation and consumption…" (Subject Content, p.13)<br><br>"give particular weight to qualitative approaches involved in representing place, and to analysing critically the impacts of different | geography…" (Design, p.9) |

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| | | | | | the world today" (Proposed Content, p.26)<br><br>"…think about how global governance works, with strong links of course to the first theme of global interdependence and inequalities" (Proposed Content, p.28) | media on place meanings and perceptions" (Subject Content, p.13)<br><br>"…past and present connections, within and beyond localities, shape places and embed them in the regional, national, international and global scales" (Subject Content, p.14) | |
| | Interpretation[8] | Changing narratives<br>Different values<br>Range of viewpoints<br>Range of interpretations<br>Contrasting imaginations<br>*Geographical similarities and differences* | "understand geographical similarities and differences…" (KS1, p.3; KS2, p.4) | "The spatial and temporal characteristics, of climatic change and evidence for different causes, including human activity, from the beginning of the Quaternary period (2.6 million years ago) to the present day" (Scope of Study, p.7) | "…understanding of the ways in which differences in values, attitudes and circumstances impact on an understanding of people-environment relations and developing the knowledge and ability to engage with these questions as citizens in the 21st century" (Purpose and aims of geography A level, p.12)<br><br>"Meaning and representation relates to how humans perceive, engage with and form attachments to the world…the everyday meanings that humans attach to places bound up with a sense of identity and belonging…ways that meanings of place might be created, such as through place making and marketing" | "…understanding of the ways in which values, attitudes and circumstances have an impact on the relationships between people, place and environment, and develop the knowledge and ability to engage, as citizens, with the questions and issues arising" (Aims and Objectives, p.2)<br><br>"…[understanding of the] significance of human values and attitudes" (Aims and Objectives, p.4)<br><br>"…the importance of the meanings and representations attached to places by people…<br>place making and marketing… | |

[8] Distinct from aspects of interpretation related to geographical skills (DK-GeoSk) or application (DK-A) as aspects of disciplinary knowledge.

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| | | | | | (Proposed Content, pp.30-31) | cultural and artistic approaches to representing place… lived experience of place (i.e. how people see, experience and understand places) in the past and present" (Subject Content, p.13)<br><br>"how external agencies, including (but not limited to) governments, corporate bodies and community or local groups make attempts to influence or create specific place-meanings and thereby shape the actions and behaviours of individuals, groups, businesses and institutions" (Subject Content, p.14)<br><br>"…places may be represented in a variety of different forms and use different media that often give contrasting images to that presented more formally or statistically" (Subject Content, p.15) | |
| **Disciplinary Knowledge**: Practice/Geographical Skills[9] | | *Reference to geographical skills in general terms*<br><br>*Reference to geographical skills in integrative terms* | "…competent in…geographical skills…" (Aims, p.1)<br><br>"…fieldwork to observe, measure, record and present the human and | "…competence in using a wide range of geographical investigative skills and approaches" (Subject Aims and Learning Outcomes, p.1) | "…should include opportunities for students to undertake some independent investigative and research work which must include fieldwork" (Executive Summary, p.2) | "…confident and competent in selecting, using and evaluating a range of quantitative and qualitative skills and approaches, (including observing, collecting and analysing geo-located | "These approaches [fieldwork and experiential learning, plus a range of teaching, learning and research strategies] are underpinned by knowledge of, and skills |

[9] GA (2022) draws on [the unpublished work' of] Roberts (2021) in outlining the nature of geographical practice.

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| | | | physical features in the local area using a range of methods, including sketch maps, plans and graphs, and digital technologies" (KS2, p.5)<br><br>"…greater competence in using geographical knowledge, approaches and concepts [such as models and theories] and geographical skills in analysing and interpreting different data sources" (KS3, p.5, square brackets in original)<br><br>"use fieldwork in contrasting locations to collect, analyse and draw conclusions from geographical data, using multiple sources of increasingly complex information" (KS3, p.7) | "…competence…in using maps and Geographical Information Systems (GIS)…" (Subject Aims and Learning Outcomes, p.2)<br><br>"The use of a range of maps, atlases, Ordnance Survey maps, satellite imagery and other graphic and digital material including the use of Geographical Information Systems (GIS), to obtain, illustrate, analyse and evaluate geographical information. To include making maps and sketches to present and interpret geographical information" (Scope of Study, p.5)<br><br>"Using data should include its collection, interpretation and analysis, including the application of appropriate quantitative and statistical techniques… it also includes the effective presentation, communication and evaluation of material" (Scope of Study, pp.5-6)<br><br>"…range and extent of mathematical and statistical techniques | "Geographers must be competent in a range of geographical skills, which include qualitative and quantitative research methods, fieldwork skills, and data manipulation/graphical skills as well as the ability to quantify rates and processes (understanding of units, and measurement" (Guiding Principles, p.8)<br><br>"Geographical skills must be embedded within the content so that it is clear why these are an important part of geographical understanding" (Guiding Principles, p.8)<br><br>"Teachers were concerned that tight prescription on the use of geographical information systems as part of the skills package may be difficult for some schools to deliver within their available resources" (Practical Considerations, p.10)<br><br>"The acquisition of skills required for geographical investigation including observation and data collection, handling geo-located data, as well as analysis, interpreting and presenting geographical information" (Purpose | data)…" (Aims and Objectives, p.2)<br><br>"…understanding of the rationale for, and applications of, skills and approaches used, together with a considerable degree of independence in selecting and using a wide range of geographical methods, techniques and skills, involving both qualitative and quantitative methods" (Aims and Objectives, p.4)<br><br>"…fieldwork…demands a high degree of responsibility from students for selecting research questions, applying relevant techniques and skills, and identifying appropriate ways of analysing and communicating findings" (Aims and Objectives, p.4)<br><br>"…use of quantitative approaches including developing observation skills, measurement and geo-spatial mapping skills, together with data manipulation and statistical skills applied to field measurement. Qualitative approaches may be used if | in, the ethical, methodological and theoretical frameworks that inform their conduct" (Characteristics of a Geography degree, p.5)<br><br>"Geography graduates use their geospatial awareness and practical experience to understand and solve complex societal and economic challenges, and know how to gather and evaluate evidence to inform innovation and decision-making…" (Entrepreneurship and enterprise education, p.8)<br><br>"…a critically informed understanding of ways of representing and interpreting the world" (Subject knowledge and understanding, p.15)<br><br>"Geographers are increasingly aware of the impact of the diverse ways that societies and environments can be abstracted and represented, including during spatial data creation, and the mappings they support. They know how representational choices shape understandings and measurements of |

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| | | | | considered appropriate to geography GCSE…" (Appendix: Use of mathematics and statistics in geography, p.10) | and aims of geography A level, p.12)<br><br>"Students must use both quantitative and qualitative approaches across the [changing place, changing places] theme as a whole in order to illuminate their understanding and to gain experience of different methods for undertaking geographical enquiry. Equal overall weight should be given to quantitative and qualitative approaches" (Proposed Content, p.29)<br><br>"The ability to write up field results clearly and logically to produce a fieldwork report, to evaluate and reflect on fieldwork investigations and how the results relate to the wider context" (Fieldwork and independent investigation, p.36)<br><br>"The ability to write a coherent, argued and evidence-based analysis of fieldwork findings in order to answer a specific geographical question" (Fieldwork and independent investigation, p.36)<br><br>"…would expect A/AS level students to be familiar with methods of collecting, visualising, | appropriate" (Subject Content, p.9)<br><br>"Competence in using geographical skills should be developed during study of core content and non-core content, not as a separate theme or topic" (Geographical Skills, p.15) | societies and environments. Such awareness is also important in an increasingly connected world, where many everyday transactions result in a digital record with some form of location attached which are subsequently rendered into maps and/or used to underpin spatial analysis" (Subject knowledge and understanding, p.17)<br><br>"Geographers have a firm grasp of the principles of research design, ethical and safety considerations, the main methodological strategies used in the analysis and interpretation of geographical information, and show a critical understanding of the appropriate contexts for their use…geographers develop familiarity with a range of methodologies, including those used in data collection and analysis; data handling and management; field and laboratory work; process modelling; programming; social surveys; focus groups; interviewing; archival work; visualisation; |

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| | | | | | analysing and interpreting qualitative and quantitative data…application of data collection and analysis methods learned at GCSE and reinforced at A/AS level…range of methods and approaches must be extended through their application in the core and option topics studied" (Geographical Skills, p.39)<br><br>"An understanding of different types of geographical information, experience of collecting and/or manipulating such information, and application and understanding of suitable analytical approaches for the different information types" (Geographical Skills, p.39)<br><br>"An ability to use and understand a mixture of methodological approaches including interviews and interpreting textual and visual sources, as applied to particular data sets and communities" (Geographical Skills, p.40)<br><br>"An understanding of the purpose, use and difference between descriptive statistics of central tendency and dispersion, descriptive measures of difference | | discourse and textual analysis; ethnography, participant observation and creative making methods including, for example, performance, poetry, and craft" (Subject knowledge and understanding, p.17)<br><br>"Geographers require skills in the presentation, interpretation, analysis and consideration of quantitative data, including new forms of spatial data…familiar with a range of statistical techniques, including simple descriptive statistics, inferential tests, relational statistics and multivariate analyses…skilled in the retrieval and manipulation of secondary data sets and appreciate the ethical considerations of working with non-traditional spatial data sources, such as social media or linked administrative data…familiar with geospatial technologies such as digital cartography, GIS and remote sensing…can apply spatial statistics and tools for handling spatial dependency and spatial autocorrelation in data as well as |

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| | | | | | and association, inferential statistics and the foundations of relational statistics (for example, measures of correlation or lines of best fit on a scatter plot); together with an understanding of measurement, measurement errors, and sampling" (Geographical Skills, p.41)<br><br>"Geographical skills must be understood in the context of geographical knowledge covered in both the core and non-core content…skills teaching should be embedded and not a stand-alone component…" (Geographical Skills, p.41) | | process spatial heterogeneity…aware of the effects of scale in their analyses" (Subject knowledge and understanding, p.18)<br><br>"Fieldwork involves collecting primary and/or secondary data, which are then processed and analysed using qualitative and/or quantitative techniques" (Fieldwork, p.19)<br><br>"…geographers require access to field equipment and other resources to collect data and information. Data processing and analysis requires access to a range of laboratories, and appropriate software and hardware, such as geospatial, qualitative and quantitative analysis tools. This processing and analysis can be achieved independently or as part of a group" (Fieldwork, pp.19-20)<br><br>"Virtual fieldwork is increasingly important within geography…can help to meet course learning outcomes, help minimise the environmental impact of fieldwork and also scaffold and enhance pre and post-fieldwork |

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| | | | | | | | teaching. However, many types of fieldwork are immersive and/or cannot be replicated virtually, digitally or online" (Fieldwork, p.20)<br><br>"The skills dimension is best planned in conjunction with the knowledge-based curriculum, so that the relationship between the two is given detailed consideration. Skills are taught, practiced and assessed within a curriculum framework that is balanced, coherent, inclusive and progressive, so that the level of challenge and achievement is gradually increased throughout, taking students to the frontiers of research" (Skills, attributes and geocapabilities, pp.21-22)<br><br>"Geography graduates are adept at research design and data collection; analysing, presenting, interpretating and communicating qualitative and quantitative data; retrieving and manipulating big geospatial data sets; using inferential and relational statistics; |

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| | | | | | | | modelling and mapping geospatial events; coding; using geospatial technologies such as digital cartography, GIS and remote sensing; and deploying interpretative, creative and social survey methods" (Subject specific skills, pp.22-23)<br><br>"As nearly all data are spatial, geographers require resources for spatial data collection and handling and access to fieldwork sites, libraries, information systems, laboratories, equipment and technical resources is essential. Geographers take a critical spatial data science perspective and are familiar with open-source tools and software to support this" (Subject specific skills, p.23)<br><br>"A geographical education develops a range of subject-specific skills, including…employing a variety of interpretative methods, for example, participant observation, ethnographic interviews, and auto-ethnography…a variety of social survey methods, for example, questionnaire surveys and semi-structured |

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| | | | | | | | interviews…a variety of science laboratory skills and methods, for example, soil, water and sediment sample preparation and analysis" (Subject specific skills, p.23)<br><br>"A geographical education develops a range of subject-specific skills, including…applying methods for the collection and analysis of spatial and environmental information, for example, by using GIS, remote sensing, statistical and mathematical modelling…" (Subject specific skills, p.24)<br><br>"A geographical education develops a range of subject-specific skills, including…preparing effective maps, diagrams and visualisations…" (Subject specific skills, p.24)<br><br>"Students experience the entire research process, from framing enquiry to communicating findings. Independent research is often communicated in the form of a dissertation presented |

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| | | | | | | | in the later stages of the course. Other formats could include research posters, journal articles, vlogs or final reports and a choice of assessment format may be appropriate. Independent research may involve field-based data collection, or other forms of primary or secondary research, civic engagement or work placements. Regardless of the nature of the research, the student's learning requires critical reflection on the potential risks as well as the moral and ethical issues of the research project" (Teaching and learning, p.27) |
| | Observing[10] | Identifying geographical questions<br>-What?<br>-Where?<br>-When?<br>-Why?<br>-Who?<br>-How?<br>-What might?<br>-What ought?<br>Observing<br>Perceiving<br>Identifying [questions[11]] | "…observational skills…" (KS1, p.3) | "…develop [students'] competence in applying sound enquiry and investigative approaches to questions and hypotheses" (Subject Aims and Learning Outcomes, p.2)<br><br>"…identify questions and sequences of enquiry…" (Scope of Study, p.6) | "The ability to define research questions that underpin field investigations" (Fieldwork and independent investigation, p.35)<br><br>"The ability to research relevant literature sources and to understand and write up the theoretical or comparative context for a 'research question'" (Fieldwork and | "…apply geographical knowledge, understanding, skills and approaches in a rigorous way to a range of geographical questions and issues, including those identified in fieldwork… (Aims and Objectives, p.3)<br><br>"define the research questions which underpin field investigations" (Fieldwork, p.18) | "A geographical education develops a range of subject-specific skills, including…spatial awareness and observation…" (Subject specific skills, p.23) |

[10] Through fieldwork, reading, media images, discussion, etc.

[11] Distinct from 'identifying sources of information, related to 'describing' (DK-GeoSk-Desc).

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| | | | | "…understanding of the kinds of question capable of being investigated [through fieldwork] and an understanding of the geographical enquiry processes appropriate to investigate these…" (Assessment of Fieldwork, p.9) | independent investigation, p.35) | "research relevant literature sources and understand and write up the theoretical or comparative context for a research question" (Fieldwork, p.18)<br><br>"The independent investigation must…be based on a question or issue defined and developed by the student individually to address aims, questions and/or hypotheses relating to any of the core or non-core content" (Fieldwork, p.20) | |
| | Describing | Identifying [sources of geographical information[12]]<br>Gathering sources of geographical information<br>*Collecting sources of geographical information*<br>Using sources of geographical information<br>Defining<br>Extracting<br>Describing<br>Classifying<br>Categorising<br>Evaluating the credibility and reliability of sources of geographical information[13]<br>Bias<br>Accuracy<br>*Geographical reasoning*<br>*Inference* | "…defining physical and human characteristics [of globally significant places]" (Aims, p.1)<br><br>"collect [analyse and communicate with] a range of data…" (Aims, p.2)<br><br>"use aerial photographs and plan perspectives to recognise landmarks and basic human and physical features…" (KS1, p.3) | "…researching secondary evidence, including digital sources…" (Subject Aims and Learning Outcomes, p.2)<br><br>"…data from both primary and secondary sources: fieldwork data; GIS material; written and digital sources; visual and graphical sources; and numerical and statistical information" (Scope of Study, p.5)<br><br>"…to write descriptively, | "The ability to interrogate field data in order to comment on its accuracy and representativeness and develop geographical understanding" (Fieldwork and independent investigation, p.35)<br><br>"…collect geo-located data, and to understand a range of approaches to the use and analysis of such data" (Geographical Skills, p.40) | "understand the nature and use of different types of geographical information, including qualitative and quantitative, primary and secondary, images, factual text and discursive/creative material, digital data, numerical and spatial data and innovative forms of data, including crowd-sourced and 'big data'" (Geographical Skills, p.15)<br><br>"use and understand a mixture of methodological | "A geographical education develops a range of subject-specific skills, including…primary data generation, collection and recording, and the use of secondary data sets, both quantitative and qualitative…critically evaluating, interpreting and combining different types of geographical evidence, for example, texts, visual and material culture, archival data, maps, digitised and laboratory data" (Subject specific skills, p.24) |

[12] Distinct from 'identifying geographical questions', related to 'observing' (DK-GeoSk-Obs).

[13] Distinct from 'evaluating *critically* the credibility and reliability of sources of geographical information, related to 'evaluating' (DK-GeoSk-Eval).

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| | | | | analytically and critically…" (Scope of Study, p.6) | | approaches, including using interviews" (Geographical Skills, p.16)<br><br>"demonstrate an ability to collect and to use digital, geo-located data, and to understand a range of approaches to the use and analysis of such data" (Geographical Skills, p.17)<br><br>"implement chosen methodologies to collect data/information of good quality and relevant to the topic under investigation" (Fieldwork, p.19)<br><br>"demonstrate knowledge and understanding of the techniques appropriate for analysing field data and information and for representing results, and show ability to select suitable quantitative or qualitative approaches and to apply them" (Fieldwork, p.19)<br><br>"draw on the student's own research including [their own field data and, if relevant,] secondary data sourced by the student" (Fieldwork, p.20) | |
| | Explaining | Analysing<br>Explaining | "…framework and approaches that | "…qualitative and quantitative data…" (Scope of Study, p.5) | "This [water and carbon cycles] content will develop a range of | "…demand engagement with models, theories and generalisations…" | "A valued feature of the subject is its diverse ways of knowing and |

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| | | Making connections[14]<br>Statistical techniques<br>Analysing quantitative and qualitative[15] data<br>Comparing<br>Contrasting<br>Interpreting<br>Identifying relationships<br>Identifying impacts<br>Identifying trends<br>Analysing values<br>Clarifying values | explain…" (Purpose, p.1)<br><br>"[collect], analyse [and communicate with] a range of data…" (Aims, p.2)<br><br>"interpret a range of sources of geographical information…" (Aims, p.2) | "…numerical and statistical information" (Scope of Study, p.5)<br><br>"…processing and presenting [fieldwork data] in various ways including maps, graphs and diagrams…" (Assessment of Fieldwork, p.9)<br><br>"analysing and explaining data collected in the field using knowledge of relevant geographical case studies and theories" (Assessment of Fieldwork, p.9) | quantitative skills including an understanding of simple mass balance, unit conversions, and the analysis and presentation of data…" (Proposed Content, p.20)<br><br>"Although both qualitative and quantitative approaches should be drawn upon to some extent, [global interdependence and inequalities] lends itself to the use of quantitative data and methods such as the world top income database and global wealth reporting by financial and intergovernmental institutions such as the United Nations" (Proposed Content, p.27)<br><br>"Although both qualitative and quantitative approaches should be drawn on to some extent, [the theme of global governance] lends itself to the use of qualitative material and methods" (Proposed Content, p.28) | (Aims and Objectives, p.4)<br><br>"ensure engagement with a range of quantitative skills within [the subject content of water and carbon cycles], including understanding of simple mass balance, unit conversions, and the analysis and presentation of field data. Qualitative approaches may be used if appropriate" (Subject Content, p.6)<br><br>"The use of quantitative data, including the use of geospatial data must also be used to present place characteristics [in relation to changing place, changing places]" (Subject Content, p.13)<br><br>"collect, analyse and interpret such [range of geographical] information, and demonstrate the ability to understand and apply suitable analytical approaches for the different information | understanding the world, as evidenced by the use of both qualitative and quantitative research techniques" (Characteristics of a Geography degree, p.5)<br><br>"Geographers use a variety of sources of evidence and are able to apply appropriate forms of both quantitative and qualitative analysis, making informed judgements based on the evidence available. Geographers are numerate and able to establish the appropriate spatial and temporal scales for the purpose of their analysis" (Subject specific skills, p.22)<br><br>"Geographers are skilled in specific quantitative and qualitative techniques and understand the appropriate context of their use. They understand the complexity of the real |

[14] To everyday knowledge, to what is known geographically, to theories and models.

[15] GA (2022) makes a distinction between 'analysing quantitative data' and 'comparing, contrasting, and interpreting qualitative material' (emphasis added). In coding, the researcher makes no distinction between the handling of quantitative and qualitative data, and rejects the distinction between 'quantitative *data*' and 'qualitative *material*' rather than *data*; the QAA (2022) SBS for Geography implies that quantitative and qualitative research methods, and therefore the data generated by these research methods, are of equal standing in the academic discipline of geography. In addition, ALCAB (2014) often recommend that both quantitative and qualitative methods are drawn on across the areas of core (and non-core) content.

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| | | | | | "Although both qualitative and quantitative approaches should be drawn on to some extent, [the theme of relationships and connections] lends itself to the use of quantitative data and methods" (Proposed Content, p.30)<br><br>"Although both qualitative and quantitative approaches should be drawn on to some extent, [the theme of meaning and representation] lends itself to the use of qualitative data and methods" (Proposed Content, p.32)<br><br>"An understanding of what makes data geographical and of the geo-spatial technologies (for example, geographical information systems, remote sensing, global positioning systems) that are used to collect, analyse and present geographical data" (Geographical Skills, p.40)<br><br>"...collect geo-located data, and to understand a range of approaches to the use and analysis of such data" (Geographical Skills, p.40) | types" (Geographical Skills, p.15)<br><br>"interpret and evaluate a range of source material including textual and visual sources" (Geographical Skills, p.16)<br><br>"understand what makes data geographical and the geospatial technologies (e.g. GIS) that are used to collect, analyse and present geographical data" (Geographical Skills, p.16)<br><br>"understand the purposes and difference between [specified quantitative and statistical approaches] and be able to use them in appropriate contexts..." (Geographical Skills, p.17)<br><br>"apply existing knowledge, theory and concepts to order and understand field observations" (Fieldwork, p.19)<br><br>"require the student independently to contextualise, analyse [and summarise] findings and data" (Fieldwork, p.20) | world and learn to interrogate multiple data sources and recognise gaps in the evidence base" (Subject specific skills, p.22)<br><br>"A geographical education develops a range of subject-specific skills, including... analysis and problem-solving through quantitative and qualitative methods..." (Subject specific skills, p.24) |

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| | Presenting | Reaching conclusions<br>Relating conclusions to presented findings<br>Summarising<br>*Communicating findings*<br>Drawing together<br>*Synthesising*<br>*Synopticity*<br>Presenting<br>Giving reasoned explanations/interpretations<br>*Geographical reasoning*<br>*Inference*<br>Relating findings to geographical knowledge<br>Relating findings to theories<br>Weighing up alternatives[16]<br>Generalisations | "[collect, analyse and] communicate with a range of data…" (Aims, p.2)<br><br>"devise a simple map; and use and construct basic symbols in a key…" (KS1, p.3) | "…develop well-evidenced arguments drawing on their geographical knowledge and understanding" (Subject Aims and Learning Outcomes, p.2)<br><br>"…communicate their ideas effectively, to develop an extended written argument, and to draw well-evidenced and informed conclusions about geographical questions and issues…" (Scope of Study, p.6)<br><br>"…processing and presenting [fieldwork data] in various ways including maps, graphs and diagrams…" (Assessment of Fieldwork, p.9)<br><br>"drawing evidenced conclusions and summaries from fieldwork transcripts and data" (Assessment of Fieldwork, p.9) | "Knowledge of the techniques appropriate for analysing field data and representing results and the ability to select appropriate approaches and apply them" (Fieldwork and independent investigation, p.35)<br><br>"The ability to apply existing knowledge and concepts to order and understand field observations" (Fieldwork and independent investigation, p.35) | "communicate and evaluate findings, draw well-evidenced conclusions informed by wider theory, and construct extended written argument about geographical matters" (Geographical Skills, p.16)<br><br>"show the ability to write up field results clearly and logically, using a range of presentation methods" (Fieldwork, p.19)<br><br>"demonstrate the ability to write a coherent analysis of fieldwork findings in order to answer a specific geographical question and to do this drawing effectively on evidence and theory to make a well-argued case" (Fieldwork, p.20)<br><br>"require the student independently to [contextualise, analyse and] summarise findings and data" (Fieldwork, p.20)<br><br>"…individual drawing of conclusions and their communication by means of extended writing and the | "[Geographers] have an appreciation of situations when conclusions drawn from data are ambiguous or uncertain. Geographers are also skilled in issues of data ethics, both in the generation of data but also in the use and reuse of data to draw robust and reliable conclusions. As analyses of spatial data underpin all kinds of decision-making, from individual credit scores to large-scale policy decisions, geographers understand the importance of notions of openness, transparency and reproducibility (the duplication of results and inference" (Subject specific skills, p.22) |

[16] Distinct from, but related to, 'designing alternative models' in 'learning how to apply' (DK-A)

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| | | | | | | presentation of relevant data" (Fieldwork, p.20) | |
| | Evaluating | Reflecting on what has been learned<br>Evaluating critically the credibility and reliability of sources of geographical information[17]<br>Responding<br>Reflecting on further avenues of enquiry<br>Clarifying one's own values, moral stance, and ethical stance<br>*Positionality*<br>Recognising possible courses of action for oneself<br>Recognising possible courses of action for others | | "reflecting critically on fieldwork data, methods used, conclusions drawn and knowledge gained" (Assessment of Fieldwork, p.9) | "An understanding of the ethical dimensions of field research" (Fieldwork and independent investigation, p.36)<br><br>"Informed questioning of data sources, analytical methodologies, data reporting and presentation. This should involve a critical approach to data, for example, the ability to identify sources of error in data, and to be able to identify the misuse of data" (Geographical Skills, pp.39-40)<br><br>"An understanding of the opportunities and limitations of qualitative techniques such as coding and sampling, and how they actively create particular geographical representations of places and communities" (Geographical Skills, p.40)<br><br>"A basic understanding of the ethical and socio-political implications of collecting, studying and representing geographical data on communities" (Geographical Skills, p.40) | "…develop as critical and reflective learners, able to articulate opinions, suggest relevant new ideas and provide evidenced argument in a range of situations" (Aims and Objectives, p.3)<br><br>"…mature understanding of the nature and limitations of objectivity…" (Aims and Objectives, p.4)<br><br>"undertake informed and critical questioning of data sources, analytical methodologies, data reporting and presentation, including the ability to identify sources of error in data and to identify the misuse of data" (Geographical Skills, p.16)<br><br>"understand the opportunities and limitations of qualitative techniques such as coding and sampling, and appreciate how they actively create particular geographical representations" | "A geographical education develops a range of subject-specific skills, including… recognising the moral, ethical and safety issues involved in all aspects of geographical enquiry…" (Subject specific skills, p.23) |

[17] Distinct from 'evaluating the credibility and reliability of sources of geographical information, related to 'describing' (DK-GeoSk-Desc).

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| | | | | | | (Geographical Skills, p.16)<br><br>"understand the ethical and socio-political implications of collecting, studying and representing geographical data about human communities" (Geographical Skills, p.16)<br><br>"demonstrate the ability to interrogate and critically examine field data in order to comment on its accuracy and/or the extent to which it is representative, and use the experience to extend geographical understanding" (Fieldwork, p.19)<br><br>"evaluate and reflect on fieldwork investigations, explain how the results relate to the wider context and show an understanding of the ethical dimensions of field research" (Fieldwork, p.19) | |
| | Fieldwork | Memorable experiences<br>Inspiration<br>Practical work<br>Practical group work<br>Leadership skills<br>Increased confidence<br>Ability to deal with risk<br>Ability to deal with uncertainty | "…experiences of fieldwork that deepen [pupils'] understanding of geographical processes" (KS1, p.2) | "…competence in a range of skills including those used in fieldwork…" (Subject Aims and Learning Outcomes, p.2)<br><br>"…fieldwork undertaken in at least two contrasting | "Fieldwork in physical and human geography is integral to both A and AS level" (Executive Summary, p.2)<br><br>"…should include opportunities for students to undertake some independent | "understand the fundamental role of fieldwork as a tool to understand and generate new knowledge about the real world, and become skilled at planning, undertaking and evaluating fieldwork in | "Fieldwork and experiential learning in the development of knowledge and understanding are essential aspects of geography" (Characteristics of a Geography degree, p.5) |

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| | | Acquisition of knowledge through direct observation<br>Framing enquiry<br>Fieldwork methods<br>Fieldwork tools<br>Fieldwork approaches<br>*Accessibility*<br>*Inclusion (and exclusion)*<br>*Belonging*<br>*Othering* | "…simple fieldwork…" (KS1, p.3)<br><br>"use fieldwork to [observe, measure record and present the human and physical features in the local area using a range of methods, including sketch maps, plans and graphs, and digital technologies]" (KS2, p.5)<br><br>"build on their knowledge of globes, maps and atlases, and apply and develop this knowledge routinely in the classroom and in the field" (KS3, p.6)<br><br>"…fieldwork in contrasting locations…" (KS3, p.7) | environments…include exploration of physical and human processes and the interactions between them…involve the collection of primary physical and human data" (Scope of Study, p.5)<br><br>"Geographical fieldwork may be defined as the experience of understanding and applying specific geographical knowledge, understanding and skills to a particular and real out-of-classroom context." (Assessment of Fieldwork, p.8)<br><br>"In undertaking fieldwork, students practise a range of skills, gain new geographical insights and begin to appreciate different perspectives on the world around them." (Assessment of Fieldwork, p.8)<br><br>"…assessment of students' own experiences of fieldwork… as well as including assessment of fieldwork in unfamiliar contexts which may be based | investigative and research work which must include fieldwork" (Executive Summary, p.2)<br><br>"There is a unanimous view that fieldwork is central to geographical enquiry. Fieldwork must be integral to both A and AS level and comprise fieldwork in both human and physical geography" (Guiding Principles, p.6)<br><br>"Teachers stressed the importance of fieldwork and noted that for them to deliver fieldwork in a crowded curriculum it needed to be explicitly specified as a core requirement" (Practical Considerations, p.9)<br><br>"Experience and understanding of the key role that fieldwork plays in the generation of geographical knowledge and understanding" (Purpose and aims of geography A level, p.12)<br><br>"Through the understanding that small scale processes drive global changes [the theme of water and carbon cycles] provides an opportunity for students to carry out fieldwork, which they can understand as directly relevant to major environmental issues | appropriate situations" (Aims and Objectives, p.3)<br><br>"ensure that fieldwork plays a key role in encouraging…students to apply and evaluate theory in the real world…" (Aims and Objectives, p.4)<br><br>"…[relating to the study of dryland landscapes] fieldwork may include consideration of aeolian processes in coastal dune systems or other suitable environments" (Subject Content, p.8)<br><br>"undertake fieldwork in relation to processes in both physical and human geography, but the fieldwork which is part of the individual investigation may be either human, physical or integrated" (Fieldwork, p.18)<br><br>"observe and record phenomena in the field and devise and justify practical approaches taken in the field including frequency/timing of observation, sampling, and data collection approaches" (Fieldwork, p.19)<br><br>"demonstrate practical knowledge and | "Course design normally includes experiential as well as theoretical components, with a focus on both fieldwork and the 'spaces' and 'places' of the discipline" (Design, p.9)<br><br>"Geographers employ an expansive understanding of the field and require access to a variety of types of fields for fieldwork…an awareness of the individual needs of the student body during fieldwork should also be recognised. Leaders and coordinators of fieldwork are responsible for implementing anticipatory design to ensure field spaces are not exclusionary on the basis of all protected characteristics, class, gender identity and neurodiversity, and that sufficient facilities and resources exist for all individuals present…ensure learning experiences are not prohibitive on the basis of additional costs associated with fieldwork and specialist clothing and equipment" (Accessibility, p.10)<br><br>"Fieldwork, an experiential form of |

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| | | | | on exemplar data" (Assessment of Fieldwork, p.9)<br><br>"…understanding of the range of techniques and methods used in fieldwork, including observation and different kinds of measurement…" (Assessment of Fieldwork, p.9)<br><br>"…fieldwork is an essential aspect of geography which ensures that young people are given the opportunity to consolidate and extend their achievement by relating learning to real experiences of the world…" (Assessment of Fieldwork, p.10) | which fire their enthusiasm for geographical study" (Proposed Content, p.20)<br><br>"Fieldwork is an essential component of geography. The ability to conduct field investigations in order to test ideas, build evidence, reflect on concepts, and create new geographical knowledge is one of the defining characteristics of a geographer" (Fieldwork and independent investigation, p.32)<br><br>"Fieldwork requires the application of knowledge, skills and understanding of concepts to the particular circumstances of a real world location in order to investigate a defined question and create geographical understanding" (Fieldwork and independent investigation, p.33)<br><br>"…students require sufficient time in the field to achieve the required depth of understanding and to develop the ability to apply their geographical knowledge and appropriate data collection and measurement techniques in real world contexts" (Fieldwork and | understanding of field methodologies appropriate to the investigation of core human and physical processes" (Fieldwork, p.19)<br><br>"incorporate field data and/or evidence from field investigations, collected individually or in groups" (Fieldwork, p.20)<br><br>"draw on the student's own research, including their own field data [and, if relevant, secondary data sourced by the student]" (Fieldwork, p.20) | learning, provides opportunities for geographers to engage ethically, sustainably and respectfully with places that are familiar and unfamiliar to them, gaining critical insights on the dynamics that shape differences and commonalities, local and global practices, the connections in between, and civic/planetary responsibilities" (Subject knowledge and understanding, p.15)<br><br>"Fieldwork is integral to all Geography courses. It provides geographers with a unique opportunity for experiential active learning that inspires students' practical engagement with the subject. It reflects that real-world learning and context-based applied learning is fundamental to understanding, and changing, our world" (Fieldwork, pp.18-19)<br><br>"Geographers employ an expansive understanding of the 'field' and require access to a variety of types of 'fields' in order to meet programme learning outcomes. This includes opportunities for all Geography students to engage with |

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| | | | | | independent investigation, p.33)<br><br>"…to limit study only to areas with potential for fieldwork in the UK would unnecessarily curtail the breadth of topics. Within the core there are sufficient topics that local fieldwork in both human and physical geography should be accessible in all context" (Fieldwork and independent investigation, p.34)<br><br>"The ability to observe and record phenomena in the field and to devise and justify practical approaches taken in the field including frequency/timing of observation, sampling, and data collection approaches" (Fieldwork and independent investigation, p.35)<br><br>"Practical knowledge of field methodologies appropriate to the investigation of core human and physical content including the measurement of physical processes" (Fieldwork and independent investigation, p.35)<br><br>"The ability to implement these methods to collect data/information of good quality and relevant to the topic under | | environments that are both familiar and unfamiliar" (Fieldwork, p.19)<br><br>"Fieldwork is required throughout a Geography degree to enable progression in core skills and capabilities, often resulting in self-directed fieldwork by the end of a Geography degree…provides geographers with a unique opportunity for experiential learning; teamwork; problem-based learning; research design, planning and implementation; data collection, management and analysis; resilience, flexibility and coping with uncertainty and unfamiliar situations; and understanding and managing risks. It is a key means of delivery for specific skills that cannot readily be obtained in the classroom…also helps hone skills in group work, planning, sampling, research design and problem-solving…as nearly all data are spatial (they are collected somewhere), only fieldwork gives students experience and critical understanding of the link between the real |

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| | | | | | investigation" (Fieldwork and independent investigation, p.35) | | world and measurement as captured in spatial data and place-based representations" (Fieldwork, p.19)<br><br>"A geographical education develops a range of subject-specific skills, including… conducting fieldwork and data collection, assessing risks and their mitigation…" (Subject specific skills, p.23)<br><br>"An education in geography involves a considered engagement with the world. Fieldwork and experiential learning constitutes an essential aspect of this engagement and thus has a variety of roles in providing an opportunity to develop and apply theoretical, technical and scientific laboratory methods and findings to more complex, uncontrolled field environments; identifying problems and framing research questions, anticipating risks, testing hypotheses and designing research; encouraging consideration of the ethical aspects of research processes; developing a sense of place, identity, |

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| | | | | | | | awareness of difference, and sensitivity to others; promoting generic skills such as teamwork and observation" (Teaching and learning, pp.26-27) |

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| **Disciplinary Knowledge**: Application<br><br>"…a revised structure for the [SBS] which includes the introduction of cross-cutting themes of: education for sustainable development… employability, entrepreneurship and enterprise education…" (About this statement, p.1)<br><br>"Geographers have a critical understanding of the history of the subject, the social, cultural, economic and political context of past and present knowledge production; and the people and forms of knowledge excluded" (Subject knowledge and understanding, p.16)<br><br>"Geography students learn 'through' geography in addition to learning 'about' geography and graduates have the ability to work on a wide range of applied research, utilising both quantitative and qualitative analysis. They acquire both subject-specific and | Application of spatial data | Geographical Information Systems (GIS)<br>*Geographical Information Science (GSci)* | "interpret a range of sources of geographical information, including maps, diagrams, globes, aerial photographs and Geographical Information Systems (GIS)" (Aims, p.2)<br><br>"use Geographical Information Systems (GIS) to view, analyse and interpret places and data" (KS3, p.7) | "…competence…in using maps and Geographical Information Systems (GIS)…" (Subject Aims and Learning Outcomes, p.2) | "Geographical information science is an important part of geography and an important arena for the employment of geographers at all levels. This area includes geographical information systems, remote sensing and the collection and handling of geo-located data. There is a need for students to engage with these key technologies" (Guiding Principles, p.8) | "understand what makes data geographical and the geospatial technologies (e.g. GIS) that are used to collect, analyse and present geographical data" (Geographical Skills, p.16) | "Geolocated data and geospatial technologies are increasingly central to geography in a digital and data-rich world. Geographers study how digital worlds are created and analysed through the study of geographic information science (GISci) and apply that knowledge through the use of geographic information systems (GIS) and remote sensing" (Subject knowledge and understanding, p.17) |

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| wider intellectual and transferable skills that together provide the basis for academic achievement, career prospects and contributions to the wider economy and society…geographers also acquire geocapabilities; that is, a set of subject-specific capabilities which include an understanding of the significance of place, space and scale, as well as landscape and nature, in the constitution and conduct of life on Earth; the ability to think spatially and explore places in a structured way; an awareness of complex reciprocal relationships between society and environment; expertise in the pattern and dynamic nature of spatial variation in Earth's surface, environmental and societal processes; a sensitivity to changes occurring over time, or the situated contexts of aspects of study; and the ability to think holistically, creatively and critically about themselves, their | | | | | | | |

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| societies and the world" (Skills, attributes and geocapabilities, p.21) | | | | | | | |

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| | Application of geography to 'real world issues' | Real world challenges and issues<br>Living peacefully with others<br>Living productively with others<br>Ensuring our future on the planet<br>*Education for sustainable development (ESD)* | | "…enables young people to become globally and environmentally informed and thoughtful, enquiring citizens" (Subject Aims and Learning Outcomes, p.1) | "…be inspired by their geographical understanding of the world they live in and to engage critically with real world issues and real world locations through the application of geographical knowledge, theory and concepts" (Executive Summary, p.1)<br><br>"…geography as a contemporary and engaging subject and recognise the degree to which the discipline engages with 'real world concerns'…" (Guiding Principles, p.6)<br><br>"…enables learners to think geographically, to be inspired by their geographical understanding of the world they live in and to engage critically with real world issues and real world locations through the application of geographical knowledge, theory and concepts" (Purpose and aims of geography A level, p.12) | "…engage critically with real world issues and places, and to apply their geographical knowledge, theory and skills to the world around them" (Aims and Objectives, p.1) | "This [SBS] asks the learning community to engage with social and environmental justice agendas across the entirety of the curriculum" (About this statement, p.1)<br><br>"Geography's broad curriculum, subject content and focus on interactions and interconnections, and application of critical theory, make it well placed to support and enact diverse and alternative approaches to sustainable development. This is achieved through emphasis on the development of student values and geocapabilities, behaviours and attitudes, alongside traditional acquisition of knowledge, skills and competencies" (Sustainability, p.7)<br><br>"Introducing and generating spatial approaches to sustainable development that foster capabilities in systems, critical and integrative thinking about the complex relationships between societies and environments and between the needs of those of past, present |

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| | | | | | | | and future generations. This enables geographers to question norms, practises and ideologies; and develop inclusive and equitable solutions to multidimensional challenge" (Sustainability, p.7)<br><br>"Developing a personal commitment to ethical practice…developing key skills, including problem-solving and collaborating with others. These skills are essential to respecting difference and negotiating conflict" (Sustainability, p.7)<br><br>"Establishing learning environments that promote global citizenship and sustainable development…providing opportunities to collaborate with stakeholders working on sustainable development, such as movements working towards alternative futures and greater social, economic and environmental justice" (Sustainability, pp.7-8)<br><br>"…understand the place of their discipline in contributing a holistic perspective on natural and human worlds, |

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| | | | | | | | interactions and processes that is distinctive compared with other disciplines" (Subject knowledge and understanding, p.14)<br><br>"…appropriate skills, attributes and values to examine how the world is, and how to shape a better, more socially just and sustainable world" (Subject knowledge and understanding, p.15)<br><br>"A geographical education requires that learners examine their own place in the world and the responsibilities this entails, recognising injustices and reflecting on ways to build inclusive, transformative practices of solidarity and justice" (Subject knowledge and understanding, p.16)<br><br>"[Geographers'] work proposes ways of mitigating human and physical challenges and identifies and addresses new ones" (Subject knowledge and understanding, p.18)<br><br>"Geographers are aware of the relevance of geographical concepts, techniques and expertise to creative problem-solving and |

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| | | | | | | | decision-making, for example in addressing inequality, poverty reduction and improving the quality of life and well-being in the context of climate change, environmental and social injustice, environmental management and sustainable development. However, awareness of this is balanced by recognition of limitations, a critical understanding of broader social, economic, political and environmental contexts and the ethical implications of applications" (Subject knowledge and understanding, p.18)<br><br>"The environmental impact of fieldwork, its sustainability and its carbon footprint should be considered by conducting a carbon audit prior to all taught fieldwork. The choice of destination(s) visited and the mode of transport should be clearly justified by the programme learning outcomes. This justification should balance the environmental costs involved with the geographical learning, transferable skills, |

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| | | | | | | | development of social and cultural capital and other educational benefits derived by learning experientially within specific environments" (Fieldwork, p.20)<br><br>"Geography graduates are a crucial part of the multidisciplinary approach needed to tackle the big issues faced by the economy and society, leading ambitious environmental policies, supporting inclusive and sustainable communities and economies, and strengthening relationships and partnerships across the globe" (Subject specific skills, p.23)<br><br>"[Successful geography graduates] should have developed the ability to… collaborate equitably, and empathise and respect the views, perspectives and needs of others…understand and reflect critically on the norms and values that underlie one's own and others' perspectives and actions…work collaboratively with others offering different knowledge, views and experiences…be aware |

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| | | | | | | | of, and have an understanding of, the impact of their own, and others' emotional response and well-being" (Benchmark standards, p.30) |

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| | Careers and employability | How geographers apply knowledge<br>Making use of geography<br>*Careers*<br>*Employability*<br>*Entrepreneurship*<br>*Predicting*<br>*Thinking creatively*<br>*Problem-solving*<br>Designing alternative models[18] | | "…apply geographical knowledge, understanding, skills and approaches appropriately and creatively to real world contexts, [including fieldwork], and to contemporary situations and issues…" (Subject Aims and Learning Outcomes, p.2) | "…recognised by teachers that A/AS level geography had a wider purpose than simply entry to higher education and that the content should take account of this" (Practical Considerations, p.9)<br><br>"…provide an appropriate geographical education to the 80 per cent of A/AS level candidates who do not go on to higher education geography courses. This is an important part of education for life and employment given the 'real world' engagement of geography and the geography curriculum" (Purpose and aims of geography A level, p.11)<br><br>"…geography delivers a range of specifically geographical skills… [but additionally] by engaging with a diverse range of subject matter, requires students to practice and have a mastery of a broad range of numerical, graphical, and reading skills as well as knowledge of the world and global issues. This is what makes geographers strongly employable" (Purpose and aims of geography A level, p.11) | "…applying [a range of geographical skills] as an integral part of their studies…" (Aims and Objectives, p.2) | "[Geography courses] provide the intellectual foundations, tools and practical experience to enable graduates to integrate and apply a variety of fields of knowledge and forms of enquiry and to gather and evaluate evidence in the creation of innovative, inclusive and equitable solutions" (Purposes of a Geography degree, p.4)<br><br>"Geography courses also develop a range of personal attributes, geocapabilities and skills with applied, real-world relevance beyond higher education" (Purposes of a Geography degree, p.4)<br><br>"[Geography] courses develop graduates who use their skills to lead the response to emerging strategic priorities…<br>graduates who are well placed to help identify and address economic, environmental and social challenges at a range of scales…<br>geographers adept at assessing risks, considering ethics and participating in civic engagement. This leads to a rewarding, self-determined professional |

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| | | | | | | | life" (Purposes of a Geography degree, p.4)<br><br>"The geography curriculum develops behaviours, attributes and geocapabilities that have a significant impact on society and the individual student…conceptual and methodological breadth prepares graduates for changing economic, technological, and cultural conditions…acute awareness of the current drivers of economic change, such as climate change, net zero, the green economy and environmental management" (Entrepreneurship and enterprise education, p.8)<br><br>"Geography graduates are able to collect, analyse and manipulate a range of quantitative and qualitative data. Their approach to spatial analytics is distinctive, and highly valued…" (Entrepreneurship and enterprise education, p.8)<br><br>"[Partnerships] facilitate the long-term progression of students |

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| | | | | | | | beyond their degree into the wider world of work, increasing student experience, employability and enhancing their ability to see the place of geography outside academia and in the wider world" (Partnerships, p.12)<br><br>"The facilitation of partnerships within institutions, such as student societies or interdepartmental working, are of equal value, giving students the opportunity to communicate, build networks and understand the context in which geography as a discipline operates" (Partnerships, p.12)<br><br>"Feedback from employers indicates that alongside core geographical skills such as data skills, fieldwork and an understanding of place, there are a set of transferable skills which are valued. These include the ability for critical thinking and personal reflection, building professional relationships, and working both within teams and independently. Many of these skills can be enhanced through |

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| | | | | | | | partnerships, as well as through experience within courses" (Partnerships, pp.12-13)<br><br>"…[working with appropriate learned societies]…supports an understanding of professional careers within the discipline, and associated routes to accreditation where relevant, including the Royal Geographical Society (with the Institute of British Geographers) Chartered Geographer accreditation" (Partnerships, p.13) |

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| **Progression** | Conceptual understanding | The inherent structure of the subject<br>Hierarchy of concepts/ideas<br>Hierarchy of skills<br>'Terraces not ladders'<br>Exploring horizontally (breadth and range) and then vertically (a 'step up') | "…growing knowledge about the world should help [pupils] to deepen their understanding…" (Purpose, p.1)<br><br>"…extend [pupils'] knowledge and understanding beyond the local area…" (KS2, p.4)<br><br>"…consolidate and extend [pupils'] knowledge of the world's major countries and their physical and human features…" (KS3, p.5) | "…enable students to build on their key stage 3 knowledge and skills…" (Subject Aims and Learning Outcomes, p.1)<br><br>"…curriculum emphases should progress from KS3…" (Progression Statement, p.2)<br><br>"broadening and deepening understanding of locational contexts…greater awareness of the importance of scale and the concept of global…a greater emphasis given to process studies that lead to an understanding of change<br>…a greater stress on the multivariate nature of 'human-physical' relationships and interactions<br>…a stronger focus on forming generalisations and/or abstractions, including some awareness of theoretical perspectives and of the subject's conceptual frameworks…an increased involvement of students in planning and undertaking independent enquiry | "…must have a balance of human geography and physical geography at an appropriate level of demand…" (Guiding Principles, p.6)<br><br>"The panel's thinking on content was influenced by…considerations of progression…and by a desire to provide a coherent core content characterised by process understanding and conceptual approaches at a level consistent with A/AS level study" (Proposed Content, p.14)<br><br>"This integrative topic [water and carbon cycles] will provide progression from the understanding of ecosystems, resources, and weather and climate change, developed at GCSE and will introduce students to more advanced concepts and areas of study that are an important part of contemporary physical geography" (Proposed Content, p.17)<br><br>"…content [for water and carbon cycles] must show progression from understanding developed at earlier key stages, and must build on two key principles: firstly, the understanding of a systems approach, and secondly a rigorous | "…develop their understanding of, and ability to apply, the concepts of place, space, scale and environment, that underpin both the national curriculum and GCSE, including developing a more nuanced understanding of these concepts" (Aims and Objectives, p.2)<br><br>"…content is developed at an appropriate level of demand for AS and A level, and that there is a clear progression in the breadth and depth of content from GCSE" (Aims and Objectives, p.3)<br><br>"…study that builds on and reinforces the conceptual understanding underpinning GCSE, and extends demand to include a wider range of more complex and specialised concepts…" (Aims and Objectives, p.3) | "Courses should be built on progressively more complex learning outcomes which are aligned with teaching methods and assessment…" (Design, p.9)<br><br>"In the initial stages of a degree course, students achieve a basic knowledge and understanding of a range of different approaches across the breadth of the subject. Thereafter, progression and specialisation in a particular branch of the discipline informs critical reflection about both the subject's diversity and its unifying themes" (Progression, p.10)<br><br>"As students progress, they are able to evaluate evidence and knowledge critically and make value judgements about the sources of information with increasing sophistication. Students will have opportunities to demonstrate increasing levels of critical reflection and understanding as they progress through their studies. They will also demonstrate an increasing ability to undertake fieldwork or |

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| | | | | in which skills and knowledge are applied to investigate geographical questions…enhancing competence in a range of intellectual and communication skills, including the formulation of arguments, that include elements of synthesis and evaluation of material" (Progression Statement, pp.2-3) | understanding of the key environmental processes driving the cycles" (Proposed Content, pp.19-20)<br><br>"[The theme of landscape systems] will build on the knowledge gained at GCSE about landscapes of the UK, introducing greater conceptual complexity and a more detailed understanding of earth surface processes, together with their associated transfers of energy and movements of materials" (Proposed Content, p.20)<br><br>"[Global systems and global governance] builds on GCSE studies on development and globalisation but introduces students to the geopolitical circumstances and factors shaping how actors such as states (but not exclusively) are affected by flows of people, money, ideas, technology, and renewable and non-renewable resources, and by factors such as extreme weather" (Proposed Content, p.25) | | projects independently, using primary and/or secondary data" (Progression, pp.10-11)<br><br>"…opportunities to develop an increased understanding of the nature of data as it pertains to the real world, and geographic knowledge…" (Progression, p.11)<br><br>"As they progress, students develop a greater depth of knowledge and gain an understanding of the vital contribution made by research in their subject" (Subject knowledge and understanding, p.14)<br><br>"An assessment and feedback for learning strategy will allow all students to demonstrate their level of attainment, and reflect upon and discuss their progress…the aims, requirements and marking criteria are clearly defined and aligned, allowing appropriate progression…reflects the variety of abilities and skills developed within the curriculum, the types of teaching methods and learning contexts used, and the learning…recognises the |

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| | | | | | | | value of formative assessment for promoting deep reflective learning. Students are given opportunities to take part in self-assessment and peer review, authentic assessments, and to work individually and in groups" (Assessment, pp.27-28) |
| | Curriculum experiences | Experiences planned by the teacher[19]<br>Teaching and learning experiences | | | "…must be part of a clear progression from age 11 to 19 and minimise repetition of material from earlier key stages" (Guiding Principles, p.6)<br><br>"The panel considered carefully whether to include fluvial landscapes as a case study under this topic but decided that this particular system already receives considerable coverage elsewhere at Key Stages 2-4 and that an important element of the new A level content was that it introduces new content that broadens student experience of key geographical issues" (Proposed Content, p.21)<br><br>"The place within which students live and study | | "…a comprehensive review updating the context and purposes of Geography, including course design…" (About this statement, p.1)<br><br>"Subject Benchmark Statements are often used by higher education providers in the design and development of new courses in the relevant subject…" (How can I use this document?, p.2)<br><br>"[SBS] allow for flexibility and innovation in course design within a framework agreed by the subject community" (How can I use this document?, p.2) |

[19] In the context of school geography, the 'teacher' is an easily identifiable source of curriculum experiences. In higher education, the 'teacher' with responsibility for developing curriculum experiences may include heads of academic departments, programme leaders, module leaders, lecturers, and postgraduate teaching assistants (PGTAs).

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| | | | | | are likely to be the starting point for investigation but at least one further contrasting place must also be studied in order to extend the opportunities for understanding concepts, including those of similarity, difference and inequality, and for comparing processes of past and present development and change" (Proposed Content, p.29) | | "Laboratory study, spatial data analysis, modelling, information and communication technologies (ICT), geographic information science (GISci) and remote sensing are also key components of the subject's teaching, learning and research strategies" (Characteristics of a Geography degree, p.5)<br><br>"Course design is led by experts and practitioners of the discipline, while also acknowledging the role of student engagement and co-production in evolving and reflective course design. Geography courses in the UK increasingly utilise mechanisms for student-centred learning" (Design, p.9)<br><br>"The inherent value of live, experiential teaching and learning is central to the discipline. The value of blended learning in providing additional educational options to students is recognised" (Accessibility, p.9)<br><br>"Given the emphasis on diversity of programmes, it is important that potential students are fully |

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| | | | | | | | informed of the particular nature and strengths of individual courses" (Progression, p.10)<br><br>"Fieldwork encompasses directed learning, peer-assisted learning and self-directed student learning and requires extended and in-depth time in the field, including multi-day trips and residential trips" (Fieldwork, p.19)<br><br>"Geographers develop and use innovative teaching methods. The range of teaching and learning contexts is continually evolving, for example, with the development of flexible, virtual and distance-learning environments, work and community-based learning, and the increasing use of self-determined learning" (Teaching and learning, p.26)<br><br>"Courses enable students to experience active and reflective learning through exposure to a range of teaching approaches. For example: lectures; seminars; tutorials; supervisions or other small-group formats; directed self-study; |

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| | | | | | | | reading and library use; laboratory practical classes, including the use of scientific laboratories and advanced computer facilities; fieldwork, both taught and self-organised; a range of student-centred learning opportunities, which might include virtual learning environments, self-directed study, simulations, problem-based learning, teamwork, volunteering, work-integrated learning and international exchanges; e-learning and distance learning" (Teaching and learning, p.26)<br><br>"…honours degree courses in Geography will characteristically have recourse to a wide range of learning and teaching styles, as befits the intellectual heritage of a discipline whose concerns are with both environment and society" (Teaching and learning, p.27) |
| | Outcome | Key features of learner performance<br>Threshold levels of performance | "By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified | | "…must provide a balanced geographical education for students who do not progress to higher level study" (Guiding Principles, p.6) | | "Subject Benchmark Statements are often used by higher education providers in the design and development of new courses in the relevant |

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| | | | in the relevant programme of study" (Attainment Targets, p.2) | | "…provide an appropriate geographical education to the 80 per cent of A/AS level candidates who do not go on to higher education geography courses. This is an important part of education for life and employment given the 'real world' engagement of geography and the geography curriculum" (Purpose and aims of geography A level, p.11)<br><br>"The expectation is that students will have a clear understanding of the physical processes that control the cycling of water and carbon between land, oceans and the atmosphere and the factors that influence change in flux and storage of water and carbon in time and space" (Proposed Content, pp.17-18)<br><br>"…nothing students can write in an examination can demonstrate the synthesis of skills, knowledge and practical ability that is the hallmark of excellent fieldwork…there should be a requirement for an independent investigation that incorporates field evidence and that is supported by the student's own research | | subject, as they provide a framework for specifying intended learning outcomes in an academic or vocational discipline" (How can I use this document?, p.2)<br><br>"[SBS] may be used by external examiners in considering whether the design of a course and the threshold standards of achievement are comparable with other higher education providers…" (How can I use this document?, p.2)<br><br>"[SBS] provide general guidance for articulating the learning outcomes associated with a course but are not intended to represent a national curriculum in a subject or to prescribe set approaches to teaching, learning or assessment" (How can I use this document?, p.2)<br><br>"Courses should be built on progressively more complex learning outcomes which are aligned with teaching methods and assessment…" (Design, p.9)<br><br>"By the end of a course, students are able to situate their chosen |

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| | | | | | and/or secondary data" (Fieldwork and independent investigation, p.36) | | specialisms within a wider understanding of geography, its approach, history and theoretical underpinnings" (Progression, p.10)<br><br>"Students of Geography are likely to encounter a variety of assessment methods in their degree course, where appropriate: written work of varying lengths (essays, reports, press releases, consultancy reports, briefing papers, annotated bibliographies, article critiques); the creation of digital resources (web pages, blogs, audio and video podcasts); oral presentations (debates, conference-style poster presentations, seminars); practical work (in the field, scientific and computer laboratories, and relating to quantitative and qualitative analyses); unseen and seen examinations with a range of types of questions/tasks; reflective learning journals; independent research dissertations and capstone projects (and proposals for these); work-integrated assessments" (Assessment, p.28) |

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| | | | | | | | "Threshold graduates possess a basic knowledge and understanding of change within human and physical environments, of interrelationships between these environments, of sustainability and sustainable development, and of the interdependence of places at various scales. Their view of the subject and its methodologies is strongly influenced by formal teaching and has a limited critical perspective. Competence in essential subject-specific, intellectual and generic skills is demonstrated" (Benchmark standards, p.29)<br><br>"Typical graduates display a critical awareness of the scope and methodologies of the subject, based on a solid foundation of knowledge, consistently demonstrating a command of appropriate subject-specific and generic skills as well as proficiency in most of the higher-level intellectual skills. Typical graduates are also |

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| | | | | | | | distinguished from the threshold level by a capacity for developing and applying personal perspectives critically to their studies" (Benchmark standards, pp.29-30)<br><br>"Geography graduates that achieve excellence beyond the typical standard are distinguished primarily by superior intellectual skills, which are deployed in the context of wide-ranging knowledge of the various aspects of the subject. The strength of geography's methodological breadth is most clearly demonstrated in its best graduates, who bring originality, insight and superior critical and reflective abilities to bear upon this knowledge and have the capacity to link theory and practice in identifying and tackling research problems. This quality is evident across the spectrum of assessed work, but is perhaps most clearly demonstrated in independent work, especially dissertations, which may produce outcomes that are at or close to the levels of publishable research, |

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| | | | | | | | and which represent an advance within subject knowledge" (Benchmark standards, p.30) |
| | *Transition* | *Preparation for subsequent stage of education* | | "…framework within which awarding organisations create the detail of their specifications, so ensuring progression from key stage 3 national curriculum requirements and the possibilities for development into A level" (Introduction, p.1) | "[Content] must prepare students who go on to study geography and related subjects at university, and be relevant to those who end their studies of geography at A level." (Executive Summary, p.1)<br><br>"…content should be pitched at an appropriate level of demand by showing clear progression in content, concepts and skills from GCSE. It must prepare students who go on to study geography and related subjects at university…" (Executive Summary, p.1)<br><br>"…must be part of a clear progression from age 11 to 19 and minimise repetition of material from earlier key stages. There must be clear progression from GCSE to A/AS level and through to university study" (Guiding Principles, p.6)<br><br>"…an understanding of modes of geographical enquiry which [students] can develop in an higher education context if they pursue further geographical study" (Guiding Principles, p.8) | | |

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| | | | | | "…an independent research element, developing extended geographical knowledge and skills as well as extended writing and research skills. This is an essential preparation for higher education geography…" (Guiding Principles, p.9)<br><br>"Content must allow clear progression from Key Stage 4 through to higher education. An attractive curriculum also meets the needs of higher education for the preparation of appropriately qualified and engaged geographers for higher education courses" (Purpose and aims of geography A level, p.10)<br><br>"Arguments for core content…were…The need for higher education departments to have some common base of assumed A/AS subject knowledge" (Prescription of core content, p.12)<br><br>"The panel's thinking on content was influenced by feedback from higher education on key aspects of geography required as preparation for higher education courses…" (Proposed Content, p.14) | | |

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| | | | | | "The panel's intention is to provide sufficient guidance so that A level candidates arrive in higher education with a sound core knowledge…" (Proposed Content, p.15)<br><br>"Familiarity with these [clear conceptual] frameworks [and approaches of the core content areas] is an important preparation for higher education and will provide a common grounding for all students progressing to further study from geography A level" (Proposed Content, p.15)<br><br>"The approach [to understanding earth systems] can be generalised and as such will be valuable preparation for students undertaking further study in geography and related subjects in higher education" (Proposed Content, p.18)<br><br>"[Landscape systems] will be studied in relation to one landscape type but will equip students with tools and conceptual approaches relevant to the study of any landscape system. It will constitute a sound foundation for courses in higher education in this | | |

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| | | | | | area" (Proposed Content, p.21)<br><br>"[Changing places] provides a strong context to introduce some of the ideas and methods in human geography, particularly around meaning and representation, which higher education institutions felt were lacking in the current A level" (Proposed Content, p.24)<br><br>"Fieldwork at A/AS level is therefore important as a preparation for higher education as well as a key educational context for geography at A/AS level" (Fieldwork and independent investigation, p.32)<br><br>"…desire from higher education departments that students have undertaken a substantial piece of independent work and that they develop some independent research skills" (Fieldwork and independent investigation, p.36)<br><br>"…landscape systems content is…outlined in more detail in order to make it clear how this content differs from and builds upon the study of UK landscapes at GCSE" | | |

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| | | | | | (Core content in relation to the draft criteria considered by the Smith Review, pp.41-42)<br><br>"Climate change is a significant component of the GCSE content and a key principle in selecting content was to avoid excessive repetition…an understanding of processes driving climate change through study of the carbon cycle will extend GCSE knowledge and underpin further study in higher education" (Core content in relation to the draft criteria considered by the Smith Review, p.42)<br><br>"…carbon and water cycling includes understanding of a key driver of climate change and the opportunity to study aspects of hydrometeorology. It demands understanding of earth, ocean and atmosphere interactions and therefore provides a more widely applicable basis for further study" (Core content in relation to the draft criteria considered by the Smith Review, p.42)<br><br>"Meteorology is not a major component of most current higher education courses in geography…the panel felt | | |

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| | | | | | that a more integrative topic was appropriate for inclusion in the core" (Core content in relation to the draft criteria considered by the Smith Review, p.42)<br><br>"…rationale for this change [from 'economic change' to 'global systems and global governance'] is the significant coverage of economic globalisation in the GCSE specifications. The content outlined here is complementary, building on existing knowledge and extending the range of material considered in the context of global systems" (Core content in relation to the draft criteria considered by the Smith Review, p.43)<br><br>"The [changing places] topic outlines a conceptual framework, which emphasises both the social, economic and demographic character of places and also the cultural meanings and representations attached to places. The key cultural, social and demographic content [of the previous topic of 'population dynamics] is therefore preserved, but will be studied in a way which is more in line with the approaches current in | | |

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| | | | | | higher education geography" (Core content in relation to the draft criteria considered by the Smith Review, p.43) | | |
| **Substantive Knowledge** | | *Reference to substantive knowledge in general terms* | | | "…content must be balanced between human and physical geography. Within this balanced content people and environment themes must be a significant part of the new specifications and must build from a clear understanding of relevant processes in physical and human geography" (Executive Summary, p.1)<br><br>"…core content must include the following themes: global systems and global governance; changing places; landscape systems; and water and carbon cycling" (Executive Summary, p.2)<br><br>"There was a view [from teachers] that current A level specifications were heavy on content and a challenge to teach in the available time" (Practical Considerations, p.9)<br><br>"It is important to retain an element of choice in the specifications, which will allow teachers to deliver material aligned to their own strengths and local situation" | "…core themes are equal in weight and depth of content…" (Subject Content, p.5)<br><br>"…require geographical skills and fieldwork to be embedded within the required content knowledge" (Subject Content, p.5, applicable to core and non-core content)<br><br>"draw in a balanced way from physical geography and human geography… so that whatever form the content takes (e.g., people-environment issues; process studies, thematic topics) in the 40% non-core content, it must draw evenly from physical geography and human geography overall in order to maintain the balance required…" (Subject Content, p.5) | "…a comprehensive review updating the context and purposes of Geography, including [course design and] content…" (About this statement, p.1)<br><br>"Geography is characterised by a breadth of subject matter which recognise the complex intersections of society and environment relations" (Characteristics of a Geography degree, p.5) |

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| | | | | | (Practical Considerations, p.10)<br><br>"Topics such as weather and climate, tectonics, ecosystems, health, sustainability, tourism, energy and water resources, food supply, urbanisation, pollution, environmental management, amongst others are important areas of geography which are either not covered or partially covered in the core content. This is an inevitable consequence of selecting material from a broad discipline in order to ensure suitable depth of study, but the panel would hope to see rigorous, attractive and popular content retained from existing specifications in the non-core content" (Non-core content, pp.44-45) | | |
| | Locational knowledge | Geographical features<br>Rivers<br>Seas/Oceans<br>Mountains<br>Cities<br>Positioning systems[20] | "…the world's 7 continents and 5 oceans" (KS1, p.2)<br><br>"…4 countries and capital cities of the United Kingdom and its surrounding seas" (KS1, p.2)<br><br>"…use world maps, atlases and globes to identify the | "…essential subject content outlined here provides the framework for developing a coherent study at GCSE" (Subject Content, p.3)<br><br>"…the world's continents, countries, regions and their physical, environmental and | | | |

[20] As suggested by Ofsted (2021).

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| | | | United Kingdom…countries, continents and oceans…simple compass directions… locational and directional language…to describe the location of features and routes on a map" (KS1, p.3)<br><br>"…United Kingdom and Europe, North and South America…" (KS2, p.4)<br><br>"…location and characteristics of a range of the world's most significant human and physical features…" (KS2, p.4)<br><br>"…focus on Europe (including the location of Russia) and North and South America… environmental regions, key physical and human characteristics, countries, and major cities…name and locate counties and cities of the United Kingdom, geographical regions and their identifying human and physical | human features…" (Scope of Study, p.4)<br><br>"…students must also study the UK as a country and draw across physical and human characteristics to summarise significant geographical features and issues" (Scope of Study, p.6) | | | |

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| | | | characteristics, key topographical features (including hills, mountains, coasts and rivers), and land-use patterns…" (KS2, p.4)<br><br>"use maps, atlases, globes and digital/computer mapping to locate countries…" (KS2, p.5)<br><br>"…8 points of a compass, 4- and 6-figure grid references, symbols and key (including the use of Ordnance Survey maps…" (KS2, p.5)<br><br>"…enrich [pupils'] locational knowledge… (KS3, p.6) | | | | |
| | Place knowledge | The connection of location and physical and/or human processes with personal experience[21]<br>Named case studies (on any scale)<br>Country studies<br>Continent studies | "understand geographical similarities and differences through studying the human and physical geography of a small area of the United Kingdom, and of a small area in a contrasting non-European country" (KS1, p.3) | "…the requirement for study of the geography of the UK means that some place-based study must be included" (Subject Content, pp.3-4)<br><br>"…contextual knowledge of any countries from which case studies and exemplars are chosen. | "The topic [of landscape systems] must examine landscapes beyond the UK, thereby introducing students to new content not covered at previous levels, but may also use UK examples since UK locations may be important for fieldwork opportunities" (Proposed Content, p.21) | "[Study of landscape systems must] include landscapes from beyond the UK but may also include UK examples" (Subject Content, p.9)<br><br>"…starting study [of changing place, changing places] from the local place within which students live or study and at least one further contrasting place | |

[21] As suggested by Ofsted (2021).

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| | | | "…study the geography of their school and its grounds and the key human and physical features of its surrounding environment" (KS1, p.3)<br><br>"…location and characteristics of a range of the world's most significant human and physical features…" (KS2, p.4)<br><br>"…focus on Europe (including the location of Russia) and North and South America… environmental regions, key physical and human characteristics, countries, and major cities…name and locate counties and cities of the United Kingdom, geographical regions and their identifying human and physical characteristics, key topographical features (including hills, mountains, coasts and rivers), and land-use patterns…" (KS2, p.4) | It is required that exemplars and case studies relate to at least two countries other than the UK" (Scope of Study, p.4)<br><br>"Knowledge and understanding of the UK's geography…to include its physical and human landscapes, environmental challenges, changing economy and society, the importance of cultural and political factors, and its relationships with the wider world" (Scope of Study, p.6)<br><br>"…detailed reference to at least two different and distinctive physical landscapes in the UK" (Scope of Study, p.6)<br><br>"…in at least one poorer country or one that is within a newly emerging economy. Country study should include examination of the wider political, social and environmental context within which the country is placed, the changing nature of industry and investment, and the characteristics of international trade, | "[Changing Places] will be based on a locality, most likely where the students live, and an alternate contrasting location" (Proposed Content, p.24)<br><br>"The focus on global systems is not intended to be geographically comprehensive. By using case studies, students will learn how the world is shaped around us" (Proposed Content, p.25)<br><br>"The place within which students live and study are likely to be the starting point for investigation [for changing place, changing places] but at least one further contrasting place must also be studied" (Proposed Content, p.29) | through which to develop the required knowledge and understanding…(Note that a local place may be a locality, neighbourhood or small community, either urban or rural)" (Subject Content, p.12) | |

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| | | | "understand geographical similarities and differences through the study of human and physical geography of a region of the United Kingdom, a region in a European country, and a region in North or South America" (KS2, p.4) | aid and geo-political relationships with respect to that country" (Scope of Study, p.8) | | | |
| | Human processes | | "city, town, village, factory, farm, house, office, port, harbour and shop" (KS1, p.3)<br><br>"…types of settlement and land use, economic activity including trade links, and the distribution of natural resources including energy, food, minerals and water…" (KS2, p.5)<br><br>"…population and urbanisation; international development; economic activity in the primary, secondary, tertiary and quaternary sectors; and the use of natural resources" (KS3, p.6) | "For at least one major city in an economically advanced country, and one major city in a poorer country or recently emerging economy, examine ways of life and contemporary challenges arising from and influencing urban change" (Scope of Study, pp.7-8)<br><br>"[In relation to global economic development issues] Country study should include examination of the wider political, social and environmental context within which the country is placed, the changing nature of industry and investment, and the characteristics of international trade, aid and geo-political relationships with respect to that | "…study of how global systems and global governance shape relationships between citizens, states and non-state actors (for example, the United Nations, multinational companies or non-governmental organisations) around the world" (Proposed Content, p.25)<br><br>"…one of the following topics through which to address [global interdependence and inequalities]: Access to markets in the contemporary world…Human development and life expectancy…Population movement and immigration control" (Proposed Content, p.27)<br><br>"…one of the following topics through which to address the theme of global governance: The governance of the global | "…investigate the increasing numbers of norms, laws and conventions, referred to here as 'global governance', that aim to regulate the consequences of globalisation on people, places and environments around the world" (Subject Content, p.10)<br><br>"…patterns of human development and life expectancy (for example, as understood through the human development index" (Subject Content, p.10)<br><br>"…governance of the global commons (selecting either Antarctica or the Earth's atmosphere or the oceans)…" (Subject Content, p.11)<br><br>"…unequal flows of people, money, ideas and technology within | |

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| | | | | country." (Scope of Study, p.8) | commons (for example, Antarctica, oceans, the atmosphere and climate change)…Human rights protection and the geopolitics of intervention…Sovereignty and territorial integrity" (Proposed Content, p.28)<br><br>"…one of the following topics through which to address the concepts of relationships and connections as applied to place: Demography, and cultural difference and diversity…Economic and social inequalities…Food production, circulation, and consumption" (Proposed Content, p.30)<br><br>"…one of the following topics through which to address the concepts of meaning and representation as applied to place: Place making and marketing… Representation of place through photography and film, music and art, literature and poetry, through cartography, census data, statistical representations, digital worlds and geo-spatial technologies such as geographical information systems…Lived experience of place in the past and present…" (Proposed Content, pp.31-32) | global systems can sometimes act to promote stability, growth and development but can also cause inequalities, conflicts and injustices for people and places" (Subject Content, p.11)<br><br>"…unequal power relations enable some states to drive global systems to their own advantage and to directly influence geopolitical events, while others are only able to respond or resist in a more constrained way" (Subject Content, p.11)<br><br>"how attempts at global governance (including the example of the United Nations in the post-1945 era) can work to promote growth and stability but may also exacerbate inequalities and injustices" (Subject Content, p.12) | |

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| | Physical Processes | | "…seasonal and daily weather patterns in the United Kingdom" (KS1, p.3)<br><br>"…location of hot and cold areas of the world in relation to the Equator and the North and South Poles" (KS1, p.3)<br><br>"beach, cliff, coast, forest, hill, mountain, sea, ocean, river, soil, valley, vegetation, season and weather" (KS1, p.3)<br><br>"…climate zones, biomes and vegetation belts, rivers, mountains, volcanoes and earthquakes…" (KS2, p.5)<br><br>"…geological timescales and plate tectonics; rocks, weathering and soils; weather and climate, including the change in climate from the Ice Age to the present; and glaciation, hydrology and coasts" (KS3, p.6) | "How geomorphic processes at different scales, operating in combination with geology, climate and human activity have influenced and continue to influence the landscapes of the UK" (Scope of Study, p.6)<br><br>"The causes, consequences of and responses to extreme weather conditions and natural weather hazards…" (Scope of Study, p.7) | "The content [for water and carbon cycles] should be approached through an understanding of a systems approach. Students must be familiar with the principal drivers of change for each cycle, with the major stores and the processes that drive flux between the stores, and with the time and space scales at which fluxes, stores and drivers vary" (Proposed Content, p.18)<br><br>"The distribution and size of major stores of water and carbon on land, in the oceans and the atmosphere, [and an understanding of factors driving change in the magnitude of these stores over time and in space]" (Proposed Content, p.19)<br><br>"An understanding of pathways and processes that control the cycling of water and carbon. These should include land-atmosphere-ocean pathways for the movement of water and carbon [and be considered at a range of time and space scales]" (Proposed Content, p.19)<br><br>"…students must understand the physical relationships between landform and process | "…the distribution and size of the most important stores of carbon on land, in the oceans and the atmosphere, [and the factors driving change in the size of these stores over time and in space]" (Subject Content, p.6)<br><br>"…processes [relating to the carbon cycle] must include (though need not be limited to) photosynthesis, respiration, decomposition, fossil fuel combustion, land use change, carbon sequestration in oceans and sediments, weathering" (Subject Content, p.7)<br><br>"…the distribution and size of the most important stores of water on land, in the ocean, atmosphere and cryosphere, [and the factors driving change in the size of these stores over time and in space]" (Subject Content, p.7)<br><br>"…processes [relating to the water cycle] must include (though need not be limited to) evaporation and condensation, the formation of clouds and the causes of precipitation, runoff generation, catchment | |

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| | | | | | and comprehend the concept that landscapes are shaped by processes that operate at a range of spatial and time scales" (Proposed Content, p.21)<br><br>"The [landscape] systems approach will educate students about a variety of geomorphological processes and how these processes shape landforms and hence landscapes. In so doing, it will introduce new concepts, including those of causality, feedbacks, thresholds, equilibrium, and sediment budgets within geomorphological systems. The topic must include the study of flows of energy and matter, and how these combine to create specific landforms within the chosen system" (Proposed Content, p.22) | hydrology, water extraction and groundwater, land use change, cryospheric processes" (Subject Content, p.7)<br><br>"…drylands in high latitude polar regions or mid and low latitude deserts or semi-arid environments" (Subject Content, p.8)<br><br>"…both high energy coasts (such as rocky and sandy coastlines) and low energy coasts (such as estuarine coastlines)" (Subject Content, p.8)<br><br>"glaciated and formerly glaciated landscapes must include landscapes shaped by valley glaciers and by ice sheets, bearing erosional and/or depositional imprints of the former passage of glacier ice in a range of features" (Subject Content, p.8) | |
| | Environmental Processes | | | "For two selected ecosystems, draw out the interdependence of climate, soil, water, plants, animals and humans; the processes and interactions that operate within them at different scales; and issues related to biodiversity and to their sustainable use | | "ensure that at least half of the 40% [non-core theme] material selected for a specification addresses people-environment questions and issues" (Subject Content, p.5) | |

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| | | | | and management" (Scope of Study, p.7)<br><br>"Detailed study of one of either food, energy or water, recognising the changing characteristics and distribution of demand and supply, past and present impacts of human intervention, and issues related to their sustainable use and management at a variety of scales." (Scope of Study, p.7) | | | |
| ***Disciplinary Identity*** | *Geography as a discipline* | *History*<br>*Purpose*<br>*Core values*<br>*Fundamental*<br>*Defining*<br>*Characteristic*<br>*Distinctive*<br>*Thinking geographically*<br>*Relevance*<br>*Innovation*<br>*Contemporary*<br>*Breadth*<br>*Depth* | | | "Students at A and AS level must have an understanding of geography as a discipline and as a distinctive body of knowledge" (Guiding Principles, p.7)<br><br>"Students must have an understanding of human and physical processes and must be able to answer 'why' and 'how' questions in both areas. This concern was expressed by the higher education community and echoed by the awarding organisations and in the teacher consultation. The panel considers an understanding of process in human and physical geography as fundamental" (Guiding Principles, p.7) | "Students should grow as independent thinkers and as informed and engaged citizens, who understand the role and importance of geography as one of the key disciplines relevant to understanding the world's changing peoples, places and environments" (Aims and objectives, p.1)<br><br>"…apply geographical knowledge, understanding, skills and approaches in a rigorous way to a range of geographical questions and issues, including those identified in fieldwork, recognising both the contributions and limitations of geography" (Aims and objectives, p.3) | "Geography occupies a distinctive place in the world of learning, offering an integrated study of the complex reciprocal relationships between societies and environments. Geographers study through the concepts of scale, place, space and time. They recognise the commonalities, differences and dynamics in populations and cultures, political systems, economies, landscapes and environments across the world, as well as the links between them" (Context, pp.3-4)<br><br>"BA and BSc degree courses (and also MA in Scotland) are prevalent, |

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| | | | | | "Geography is a broad subject and there is no need or possibility for A/AS level to cover all of geography, but it must deliver high-level understanding of a range of aspects of the discipline. The A level should focus on a limited number of topics in sufficient depth in order to equip students with core knowledge and concepts…" (Guiding Principles, p.8)<br><br>"The panel felt that the breadth of geography was such that preparation for cognate degrees was best dealt with by focusing on an attractive and diverse geography offering" (Purpose and aims of geography A level, p.11)<br><br>"The acquisition of a rigorous understanding of processes that shape human and physical geography and the concepts that are used to understand them at a range of time and space scales and in a range of locational contexts" (Purpose and aims of geography A level, p.11)<br><br>"Content that enables learners to think geographically, to be inspired by their | | alongside integrated master's programmes. This reflects geography's sustained engagement with the natural and social sciences, the arts and humanities. The subject's breadth means that many of its core constituents may be approached through several routes" (Context, p.4)<br><br>"Contemporary geography draws from knowledge traditions formed through colonial enlightenment science. Geographical concepts and techniques contributed to the overseas expansion of British and European empires, which was justified using narratives of white, able and heteronormative superiority. Colonial and imperial geographies, and their contemporary legacies of systemic disadvantage, for example, racism, classism, ablism, homophobia and patriarchy, must therefore be acknowledged and countered by fostering an inclusive learning community encompassing a range of participants, such as |

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| | | | | | geographical understanding of the world they live in…" (Purpose and aims of geography A level, p.12)<br><br>"The argument against excessive prescription is that teachers need to be able to teach to their expertise. Given the breadth of the discipline a degree of choice means that students are more likely to be taught by enthusiastic teachers with a high level of topic expertise" (Prescription of core content, p.13)<br><br>"…giving the awarding organisations the opportunity to use their expertise in order to develop exciting, innovative and challenging specifications. Given the breadth of geography as a discipline, and the varying circumstances of schools and learners, this is desirable" (Proposed content, p.15)<br><br>"The ability to conduct field investigations in order to test ideas, build evidence, reflect on concepts, and create new geographical knowledge is one of the defining characteristics of a geographer. This message came through as the strongest single response | | students, academics, technicians, professional staff, visitors and external partners" (Equity, equality, diversity and inclusion, pp.5-6)<br><br>"The following core values underpin geography's inclusive learning community: an ethics of care towards inhabitants and environments; embracing and valuing plurality of knowledges and experiences; respect for alternative perspectives and lifestyles; attentiveness to the opportunities and challenges raised by decolonial imperatives; and solidarity in recognising and addressing injustice. These values should be integrated throughout the curriculum and not be siloed within individual modules and/or sub-disciplines. This will enhance the contribution that studying geography can make to realising transformative justice across our human, biodiverse and geodiverse world" (Equity, equality, diversity and inclusion, p.6) |

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| | | | | | from higher education institutions and from teachers and the panel fully endorses this view. We note that a similar statement has been made in the current draft revision of the Quality Assurance Agency subject benchmark for geography in higher education" (Fieldwork and independent investigation, p.32)<br><br>"…the panel has chosen not to specify a core people-environment topic. As discussed above, this is a deliberate choice. The awarding organisations have an excellent track record in producing attractive and innovative material in this area. Prescribing material here would potentially limit the range of material offered. The panel regards choice in this area as positive since it allows schools and teachers to play to their strengths and provides a diversity of provision consistent with the breadth of the discipline" (Core content in relation to the draft criteria considered by the Smith Review, pp.43-44)<br><br>"Because of the way that parts of the A level geography curriculum have become increasingly | | "The core values underpinning geography's inclusive learning community aligns with, and encourages, curricula design principles that stimulate critical thinking informed by a variety of progressive theoretical perspectives. These include, but are not limited to, theoretical perspectives from critical theory, critical race theory, decoloniality, disability studies, feminist, queer, and science and technology studies. The application of critical theory is relevant to, and should be applied across, the geographical discipline" (Equity, equality, diversity and inclusion, p.6)<br><br>"Geography graduates are able to collect, analyse and manipulate a range of quantitative and qualitative data. Their approach to spatial analytics is distinctive, and highly valued in the private, public and third sectors, because of their ability to transcend scales and integrate knowledge and geocapabilities across multiple disciplines, not only in the natural and social |

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| | | | | | divergent from geography in higher education there is likely to be a need for investment in CPD and resources in order to support teachers in delivering elements of the new curriculum" (Continuing professional development (CPD), p.46) | | sciences, but also in the humanities and arts" (Entrepreneurship and enterprise education, p.8)<br><br>"The discipline is uniquely holistic and integrative in its reach, but with a number of overarching concepts that define its boundaries. These include, but are not limited to, space, place, time, landscape, environment and scale" (Design, p.9)<br><br>"Geographers can articulate the knowledge, understanding, skills and approaches that characterise the discipline as a whole" (Subject knowledge and understanding, p.14)<br><br>"Geographers have a critical understanding of the history of the subject, the social, cultural, economic and political context of past and present knowledge production; and the people and forms of knowledge excluded. Central to this is a critical awareness of the discipline's place within wider histories of colonialism and imperialism, meaning that geographers |

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| | | | | | | | possess a critical understanding of knowledge practices formed through colonial enlightenment science; the distinctive contributions the discipline made to this; related contemporary legacies of systemic disadvantage and injustice and the lived experience of this; and how the discipline can address these legacies" (Subject knowledge and understanding, p.16)<br><br>"Given the rich diversity of Geography degrees and the range of options in which students are able to specialise, it is unwise to be too rigid or prescriptive in setting out the skills that graduates are likely to possess" (Skills, attributes and geocapabilities, p.21)<br><br>"Geography enhances a range of intellectual skills and abilities that are acquired through use of its learning resources, frequent practise of its methods and immersion in appropriate research contexts. Some of these skills are subject-specific, but all are relevant and transferable to other |

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| | | | | | | | intellectual contexts. Geographers are adept at bringing together perspectives from multiple disciplines across STEM and SHAPE, thinking laterally across debates, synthesising materials, and holding ideas in creative tension" (Subject specific skills, p.22) |
| | *Learner attributes* | *Curiosity*<br>*Fascination*<br>*Inspiration*<br>*Enjoyment*<br>*Satisfaction*<br>*Sense of achievement*<br>*Informed*<br>*Engaged*<br>*Lifelong learning*<br>*Impact*<br>*Independence*<br>*Learner attributes* | "A high-quality geography education should inspire in pupils a curiosity and fascination about the world and its people that will remain with them for the rest of their lives" (Purpose of Study, p.1) | | "A and AS level content should enable learners to be inspired by their geographical understanding of the world they live in and to engage critically with real world issues and real world locations through the application of geographical knowledge, theory and concepts" (Executive Summary, p.1)<br><br>"Core content is prescribed and is an efficient way to introduce up to date concepts and themes into the A/AS level curriculum and to ensure a balance of human and physical geography" (Prescription of core content, p.13)<br><br>"What is important is that students show independence of thought in the contextualisation, analysis and reporting of their work so that they produce an independent investigation that | "AS and A level specifications in geography should encourage students to gain enjoyment, satisfaction and a sense of achievement as they develop their knowledge and understanding of the subject. The content should enable students to be inspired by their geographical understanding…" (Aims and objectives, p.1)<br><br>"Students should grow as independent thinkers and as informed and engaged citizens, who understand the role and importance of geography as one of the key disciplines relevant to understanding the world's changing peoples, places and environments" (Aims and objectives, p.1) | |

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| | | | | | demonstrates the required fieldwork attributes identified above" (Fieldwork and independent investigation, pp.36-37) | | |
| | *Learner diversity* | *Accessibility*<br>*Life experience*<br>*Circumstances*<br>*Learning contexts*<br>*Learner diversity*<br>*Access*<br>*Anticipatory practice*<br>*Appropriate*<br>*Equity*<br>*Inclusion*<br>*Exclusion*<br>*Equality*<br>*Protected characteristics*<br>*Self/other*<br>*Well-being*<br>*Risk*<br>*Safety*<br>*Flexibility*<br>*Rigidity* | | | "A/AS level content must be accessible to a diversity of learners" (Executive Summary, p.2)<br><br>"The new A/AS level content must be relevant and accessible to a diversity of learners with a range of backgrounds and life experience working in a variety of learning contexts " (Guiding Principles, p.9)<br><br>"…giving the awarding organisations the opportunity to use their expertise in order to develop exciting, innovative and challenging specifications. Given the breadth of geography as a discipline, and the varying circumstances of schools and learners, this is desirable" (Proposed content, p.15)<br><br>"The core content has been drafted with a view to making appropriate fieldwork contexts available for different groups and settings" (Fieldwork and independent investigation, p.34) | | "This Benchmark Statement for Geography expects the geography learning community to commit to equity, inclusive access, and practices that anticipate the diverse needs of their community members" (About this statement, p.1)<br><br>"a revised structure for the Statement which includes the introduction of cross-cutting themes of: equality, diversity and inclusion; [education for sustainable development; employability, entrepreneurship and enterprise education]" (About this statement, p.1)<br><br>"Geography is an established subject within the UK higher education system. It attracts students from a wide range of intellectual backgrounds with diverse interests and experiences" (Context, p.4) |

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| | | | | | | | "Geography, as an inclusive learning community, has a collective responsibility to embed equity, equality, diversity and inclusion within all institutions, processes, curricula, and pedagogies" (Equity, equality, diversity and inclusion, p.5)<br><br>"This responsibility to go beyond the minimum expectations of equality ensures an equitable community that recognises learners' difference in prior experience and opportunity and can help to remedy systemic disadvantages in the subject… All participants in the community will need to engage, reflect and change in order to uphold this responsibility and duty" (Equity, equality, diversity and inclusion, p.5)<br><br>"Contemporary geography draws from knowledge traditions formed through colonial enlightenment science. Geographical concepts and techniques contributed to the overseas expansion of British and European empires, which was justified using narratives |

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| | | | | | | | of white, able and heteronormative superiority. Colonial and imperial geographies, and their contemporary legacies of systemic disadvantage, for example, racism, classism, ablism, homophobia and patriarchy, must therefore be acknowledged and countered by fostering an inclusive learning community encompassing a range of participants, such as students, academics, technicians, professional staff, visitors and external partners" (Equity, equality, diversity and inclusion, pp.5-6)<br><br>"The following core values underpin geography's inclusive learning community: an ethics of care towards inhabitants and environments; embracing and valuing plurality of knowledges and experiences; respect for alternative perspectives and lifestyles; attentiveness to the opportunities and challenges raised by decolonial imperatives; and solidarity in recognising and addressing injustice. |

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| | | | | | | | These values should be integrated throughout the curriculum and not be siloed within individual modules and/or sub-disciplines. This will enhance the contribution that studying geography can make to realising transformative justice across our human, biodiverse and geodiverse world" (Equity, equality, diversity and inclusion, p.6)<br><br>"The core values underpinning geography's inclusive learning community aligns with, and encourages, curricula design principles that stimulate critical thinking informed by a variety of progressive theoretical perspectives. These include, but are not limited to, theoretical perspectives from critical theory, critical race theory, decoloniality, disability studies, feminist, queer, and science and technology studies. The application of critical theory is relevant to, and should be applied across, the geographical discipline" (Equity, equality, diversity and inclusion, p.6) |

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| | | | | | | | "The core values also promote anticipatory design and practices, which are considerate of the particularities associated with sites of learning, for example, online, face-to-face, in the field or in the laboratory, paying close attention to those that may have historically been less inclusive, such as fieldwork sites and laboratories" (Equity, equality, diversity and inclusion, p.6)<br><br>"Effective anticipatory design and practice in geography acknowledges the importance of providing a supportive cultural and institutional context for teaching, learning and research, within which participants are encouraged to embrace intellectual, methodological and practical challenges" (Equity, equality, diversity and inclusion, pp.6-7)<br><br>"Effective anticipatory design and practice also enhance the individual and collective capability to work with the discomfort associated with encountering alternative perspectives, learning |

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| | | | | | | | and materials being key" (Accessibility, p.9)<br><br>"Enabling all members of the learning community to 'see themselves' in the curricula and find solidarity with other members is recognised as a strategy for supporting students of diverse backgrounds and as a key approach to the equity agenda for the discipline. Distinct barriers to learning are acknowledged for first-generation learners, international students and students from diverse backgrounds" (Accessibility, p.10)<br><br>"Flexibility in content, delivery mode and timing is an inherent characteristic of an accessible and inclusive Geography course. This may require potentially competing objectives to be balanced, for example responding to the needs of the student cohort as well as ensuring core learning outcomes are achieved" (Flexibility, p.11)<br><br>"A flexible course is one that accommodates the varying needs of both large and small group teaching, and integrates |

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| | | | | | | | online and in-person teaching in a complementary way. It is also aware of the pedagogic implications of different delivery modes, which may allocate control to students over the pace and depth of their learning and engagement with content" (Flexibility, p.11)<br><br>"The provision of accessible, inclusive and flexible material requires additional resources to ensure high-quality content and delivery. The design should also reflect diversity in students' access to technology, ensuring that the flexibility of design does not lead to unintended consequences" (Flexibility, p.12)<br><br>"Institutions should ensure that equality of experience is given to all students in their ability to engage in partnerships, where appropriate" (Partnerships, p.12)<br><br>"Partners become part of the geography learning community and have the responsibility to attend to the same principles of equity, |

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| | | | | | | | equality, diversity and inclusion in their interactions. Partners offer important opportunities to enhance the learning community's engagement with equity agendas" (Partnerships, p.12)<br><br>"Fieldwork is an opportunity to reflect on sensibilities, such as the positionalities, responsibilities and relationalities of students and staff. Consequently, all fieldwork should be planned and conducted in a way that is ethical, responsible, careful and safe, for students, staff, visited communities and all other stakeholders. An ethics assessment and risk assessment should be undertaken prior to all taught fieldwork" (Fieldwork, p.20)<br><br>"Fieldwork should be planned and conducted in such a way as to be inclusive and accessible, considering the well-being of students and staff, including their mental and physical health, and all other protected characteristics. Fieldwork opportunities should be fair and |

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| | | | | | | | providers, to the extent possible, should consider the resourcing needed to overcome costs and other barriers that might impact a student's ability to participate fully. An inclusivity impact assessment should be undertaken prior to all taught fieldwork" (Fieldwork, p.20)<br><br>"Given the rich diversity of Geography degrees and the range of options in which students are able to specialise, it is unwise to be too rigid or prescriptive in setting out the skills that graduates are likely to possess" (Skills, attributes and geocapabilities, p.21)<br><br>"Students are encouraged to demonstrate their full range of abilities, with providers offering a mix of assessment methods that are accessible to students from varying educational backgrounds and in different learning situations, in some cases offering a choice of assessment formats and authentic public-facing outputs" (Teaching and learning, p.27) |

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| | *Subject community* | *External perspective*<br>*Monitoring*<br>*Review*<br>*Quality assurance*<br>*CPD*<br>*Training*<br>*Subject associations*<br>*Capacity*<br>*Subject community*<br>*Curriculum resources*<br>*Specialism*<br>*Expertise*<br>*Partnership*<br>*Funding*<br>*Choice*<br>*Prescription*<br>*Shared understanding* | | | "Funding should be made available for the development of appropriate training and resources for teachers in order to facilitate teaching of the new core content" (Executive Summary, p.2)<br><br>"The panel had access to continuing advice about the 'teachability' of content proposals through the inclusion of a practising teacher on the panel and through input from the Royal Geographical Society and the Geographical Association. In addition to this the panel initiated three specific events in order to engage with the wider community of geography A level teachers" (Methods and meetings, p.4)<br><br>"Students must have an understanding of human and physical processes and must be able to answer 'why' and 'how' questions in both areas. This concern was expressed by the higher education community and echoed by the awarding organisations and in the teacher consultation. The panel considers an understanding of process in human and physical | | "The depth to which individual specialisms are studied varies according to the expertise of specific institutions" (Context, p.5)<br><br>"Geography, as an inclusive learning community, has a collective responsibility to embed equity, equality, diversity and inclusion within all institutions, processes, curricula, and pedagogies" (Equity, equality, diversity and inclusion, p.5)<br><br>"This responsibility to go beyond the minimum expectations of equality ensures an equitable community that recognises learners' difference in prior experience and opportunity and can help to remedy systemic disadvantages in the subject… All participants in the community will need to engage, reflect and change in order to uphold this responsibility and duty" (Equity, equality, diversity and inclusion, p.5)<br><br>"Contemporary geography draws from knowledge traditions |

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| | | | | | geography as fundamental" (Guiding Principles, p.7)<br><br>"Teachers were concerned that tight prescription on the use of geographical information systems as part of the skills package may be difficult for some schools to deliver within their available resources" (Practical Considerations, p.10)<br><br>"The argument against excessive prescription is that teachers need to be able to teach to their expertise. Given the breadth of the discipline a degree of choice means that students are more likely to be taught by enthusiastic teachers with a high level of topic expertise" (Prescription of core content, p.13)<br><br>"The ability to conduct field investigations in order to test ideas, build evidence, reflect on concepts, and create new geographical knowledge is one of the defining characteristics of a geographer. This message came through as the strongest single response from higher education institutions and from teachers and the panel fully endorses this view. We note that a similar | | formed through colonial enlightenment science. Geographical concepts and techniques contributed to the overseas expansion of British and European empires, which was justified using narratives of white, able and heteronormative superiority. Colonial and imperial geographies, and their contemporary legacies of systemic disadvantage, for example, racism, classism, ablism, homophobia and patriarchy, must therefore be acknowledged and countered by fostering an inclusive learning community encompassing a range of participants, such as students, academics, technicians, professional staff, visitors and external partners" (Equity, equality, diversity and inclusion, pp.5-6)<br><br>"The following core values underpin geography's inclusive learning community: an ethics of care towards inhabitants and environments; embracing and valuing plurality of knowledges and experiences; |

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| | | | | | statement has been made in the current draft revision of the Quality Assurance Agency subject benchmark for geography in higher education" (Fieldwork and independent investigation, p.32)<br><br>"Geographical skills must be understood in the context of geographical knowledge covered in both the core and non-core content. The consensus among the panel and in the teacher consultations was strongly that skills teaching should be embedded and not a stand-alone component of specifications" (Geographical skills, p.41)<br><br>"…the panel has chosen not to specify a core people-environment topic. As discussed above, this is a deliberate choice. The awarding organisations have an excellent track record in producing attractive and innovative material in this area. Prescribing material here would potentially limit the range of material offered. The panel regards choice in this area as positive since it allows schools and teachers to play to their strengths and provides a diversity of provision | | respect for alternative perspectives and lifestyles; attentiveness to the opportunities and challenges raised by decolonial imperatives; and solidarity in recognising and addressing injustice. These values should be integrated throughout the curriculum and not be siloed within individual modules and/or sub-disciplines. This will enhance the contribution that studying geography can make to realising transformative justice across our human, biodiverse and geodiverse world" (Equity, equality, diversity and inclusion, p.6)<br><br>"The core values underpinning geography's inclusive learning community aligns with, and encourages, curricula design principles that stimulate critical thinking informed by a variety of progressive theoretical perspectives. These include, but are not limited to, theoretical perspectives from critical theory, critical race theory, decoloniality, disability studies, feminist, queer, |

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| | | | | | consistent with the breadth of the discipline" (Core content in relation to the draft criteria considered by the Smith Review, pp.43-44)<br><br>"Because of the way that parts of the A level geography curriculum have become increasingly divergent from geography in higher education there is likely to be a need for investment in CPD and resources in order to support teachers in delivering elements of the new curriculum" (Continuing professional development (CPD), p.46)<br><br>"This is will have resource implications but could be delivered successfully by subject associations. The DfE funded 'Action Plan for Geography' programme, which is delivered jointly by the Geographical Association and the Royal Geographical Society, was cited as an example of best practice. The panel believes that investment in appropriate CPD and accompanying resources will be essential for the effective delivery of the new qualifications" (Continuing professional development (CPD), p.47) | | and science and technology studies. The application of critical theory is relevant to, and should be applied across, the geographical discipline" (Equity, equality, diversity and inclusion, p.6)<br><br>"Effective anticipatory design and practice also enhance the individual and collective capability to work with the discomfort associated with encountering alternative perspectives, learning new knowledge and gaining new skills. This requires geography's inclusive learning community to develop and promote techniques to care for the self and others, as part of a sustained consideration for emotional, mental and physical well-being" (Equity, equality, diversity and inclusion, p.7)<br><br>"Pedagogic methods for teaching geography will generally reflect the needs of the student body, with an inclusive curriculum that prioritises the accessibility, equity, appropriateness and resourcing of learning and teaching resources |

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| | | | | | | | and materials being key" (Accessibility, p.9)<br><br>"The provision of accessible, inclusive and flexible material requires additional resources to ensure high-quality content and delivery. The design should also reflect diversity in students' access to technology, ensuring that the flexibility of design does not lead to unintended consequences" (Flexibility, p.12)<br><br>"Institutions should ensure that equality of experience is given to all students in their ability to engage in partnerships, where appropriate" (Partnerships, p.12)<br><br>"Partners become part of the geography learning community and have the responsibility to attend to the same principles of equity, equality, diversity and inclusion in their interactions. Partners offer important opportunities to enhance the learning community's engagement with equity agendas" (Partnerships, p.12) |

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| | | | | | | | "A major feature of academic quality assurance and enhancement at a higher education institution is having in place monitoring and regular review processes for the courses it delivers" (Monitoring and review, p.13)<br><br>"Monitoring and evaluation is a periodic assessment of a course, conducted internally or by external independent evaluators…Higher education providers will use external reviewers as part of periodic review to gain an external perspective on any proposed changes and ensure threshold standards are achieved and content is appropriate for the subject" (Monitoring and review, p.13)<br><br>"Fieldwork is an opportunity to reflect on sensibilities, such as the positionalities, responsibilities and relationalities of students and staff. Consequently, all fieldwork should be planned and conducted in a way that is ethical, responsible, careful and safe, for students, staff, visited communities and |

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| | | | | | | | all other stakeholders. An ethics assessment and risk assessment should be undertaken prior to all taught fieldwork" (Fieldwork, p.20)<br><br>"Staff take on significant responsibilities in delivering taught fieldwork. Appropriate resourcing by the provider should ensure that staff are fully trained and supported to deliver high-quality field learning. Employers must also recognise that staff have differing capacities to lead and/or participate in geography fieldwork" (Fieldwork, p.21)<br><br>"Geography graduates are a crucial part of the multidisciplinary approach needed to tackle the big issues faced by the economy and society, leading ambitious environmental policies, supporting inclusive and sustainable communities and economies, and strengthening relationships and partnerships across the globe" (Subject specific skills, p.23) |

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| | | | | | | | "Students are encouraged to demonstrate their full range of abilities, with providers offering a mix of assessment methods that are accessible to students from varying educational backgrounds and in different learning situations, in some cases offering a choice of assessment formats and authentic public-facing outputs" (Teaching and learning, p.27) |
| | *Power* | *Representation*<br>*Decision making*<br>*Decision makers*<br>*Control*<br>*Significance*<br>*De/Colonialism*<br>*Imperialism*<br>*Empire*<br>*Anti-racism*<br>*Knowledge production*<br>*Plurality*<br>*Positionality*<br>*Relationality*<br>*Respect*<br>*Discomfort*<br>*In/Justice*<br>*Disadvantage*<br>*Responsibility*<br>*Ethics*<br>*Critical thinking*<br>*Theoretical perspectives*<br>*Alternative perspectives* | "develop contextual knowledge of the location of globally significant places" (Aims, p.1)<br><br>"…location and characteristics of a range of the world's most significant human and physical features…" (KS2, p.4) | "Awarding organisations are free to decide the overall balance and representation of approaches such as place-based, thematic, people-environment and issues-based geography…" (Subject Content, p.3)<br><br>"…students must also study the UK as a country and draw across physical and human characteristics to summarise significant geographical features and issues" (Scope of Study, p.6) | "The provision of 40 per cent non-core content will allow the awarding organisations to develop their own individual existing strengths in the new specifications and to develop distinctive offerings whilst ensuring a common core of knowledge" (Prescription of core content, p.13)<br><br>"…giving the awarding organisations the opportunity to use their expertise in order to develop exciting, innovative and challenging specifications. Given the breadth of geography as a discipline, and the varying circumstances of schools and learners, this is desirable" (Proposed content, p.15) | | "Geography, as an inclusive learning community, has a collective responsibility to embed equity, equality, diversity and inclusion within all institutions, processes, curricula, and pedagogies" (Equity, equality, diversity and inclusion, p.5)<br><br>"This responsibility to go beyond the minimum expectations of equality ensures an equitable community that recognises learners' difference in prior experience and opportunity and can help to remedy systemic disadvantages in the subject… All participants in the community will need to engage, reflect |

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| | | | | | "Meteorology is not a major component of most current higher education courses in geography. Consequently, whilst the preservation of good non-core content in this area is desirable, the panel felt that a more integrative topic was appropriate for inclusion in the core" (Core content in relation to the draft criteria considered by the Smith Review, p.42)<br><br>"…the panel has chosen not to specify a core people-environment topic. As discussed above, this is a deliberate choice. The awarding organisations have an excellent track record in producing attractive and innovative material in this area. Prescribing material here would potentially limit the range of material offered. The panel regards choice in this area as positive since it allows schools and teachers to play to their strengths and provides a diversity of provision consistent with the breadth of the discipline" (Core content in relation to the draft criteria considered by the Smith Review, pp.43-44) | | and change in order to uphold this responsibility and duty" (Equity, equality, diversity and inclusion, p.5)<br><br>"Contemporary geography draws from knowledge traditions formed through colonial enlightenment science. Geographical concepts and techniques contributed to the overseas expansion of British and European empires, which was justified using narratives of white, able and heteronormative superiority. Colonial and imperial geographies, and their contemporary legacies of systemic disadvantage, for example, racism, classism, ablism, homophobia and patriarchy, must therefore be acknowledged and countered by fostering an inclusive learning community encompassing a range of participants, such as students, academics, technicians, professional staff, visitors and external partners" (Equity, equality, diversity and inclusion, pp.5-6) |

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| | | | | | | | "The following core values underpin geography's inclusive learning community: an ethics of care towards inhabitants and environments; embracing and valuing plurality of knowledges and experiences; respect for alternative perspectives and lifestyles; attentiveness to the opportunities and challenges raised by decolonial imperatives; and solidarity in recognising and addressing injustice. These values should be integrated throughout the curriculum and not be siloed within individual modules and/or sub-disciplines. This will enhance the contribution that studying geography can make to realising transformative justice across our human, biodiverse and geodiverse world" (Equity, equality, diversity and inclusion, p.6)<br><br>"The core values underpinning geography's inclusive learning community aligns with, and encourages, curricula design principles that stimulate critical thinking informed by a |

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| | | | | | | | variety of progressive theoretical perspectives. These include, but are not limited to, theoretical perspectives from critical theory, critical race theory, decoloniality, disability studies, feminist, queer, and science and technology studies. The application of critical theory is relevant to, and should be applied across, the geographical discipline" (Equity, equality, diversity and inclusion, p.6)<br><br>"Effective anticipatory design and practice also enhance the individual and collective capability to work with the discomfort associated with encountering alternative perspectives, learning new knowledge and gaining new skills. This requires geography's inclusive learning community to develop and promote techniques to care for the self and others, as part of a sustained consideration for emotional, mental and physical well-being" (Equity, equality, diversity and inclusion, p.7) |

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| | | | | | | | "A flexible course is one that accommodates the varying needs of both large and small group teaching, and integrates online and in-person teaching in a complementary way. It is also aware of the pedagogic implications of different delivery modes, which may allocate control to students over the pace and depth of their learning and engagement with content" (Flexibility, p.11)<br><br>"Geographers have a critical understanding of the history of the subject, the social, cultural, economic and political context of past and present knowledge production; and the people and forms of knowledge excluded. Central to this is a critical awareness of the discipline's place within wider histories of colonialism and imperialism, meaning that geographers possess a critical understanding of knowledge practices formed through colonial enlightenment science; the distinctive contributions the discipline made to this; related contemporary |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | | | | legacies of systemic disadvantage and injustice and the lived experience of this; and how the discipline can address these legacies" (Subject knowledge and understanding, p.16)<br><br>"Decolonial approaches and practice provide a way to support this learning and reflection and foster anti-racist praxis within the learning community when integrated across the entire curricula" (Subject knowledge and understanding, pp.16-17)<br><br>"Fieldwork is an opportunity to reflect on sensibilities, such as the positionalities, responsibilities and relationalities of students and staff. Consequently, all fieldwork should be planned and conducted in a way that is ethical, responsible, careful and safe, for students, staff, visited communities and all other stakeholders. An ethics assessment and risk assessment should be undertaken prior to all taught fieldwork" (Fieldwork, p.20) |
| | *Interdisciplinarity* | *Integrated*<br>*Holistic* | | | | | "BA and BSc degree courses (and also MA in |

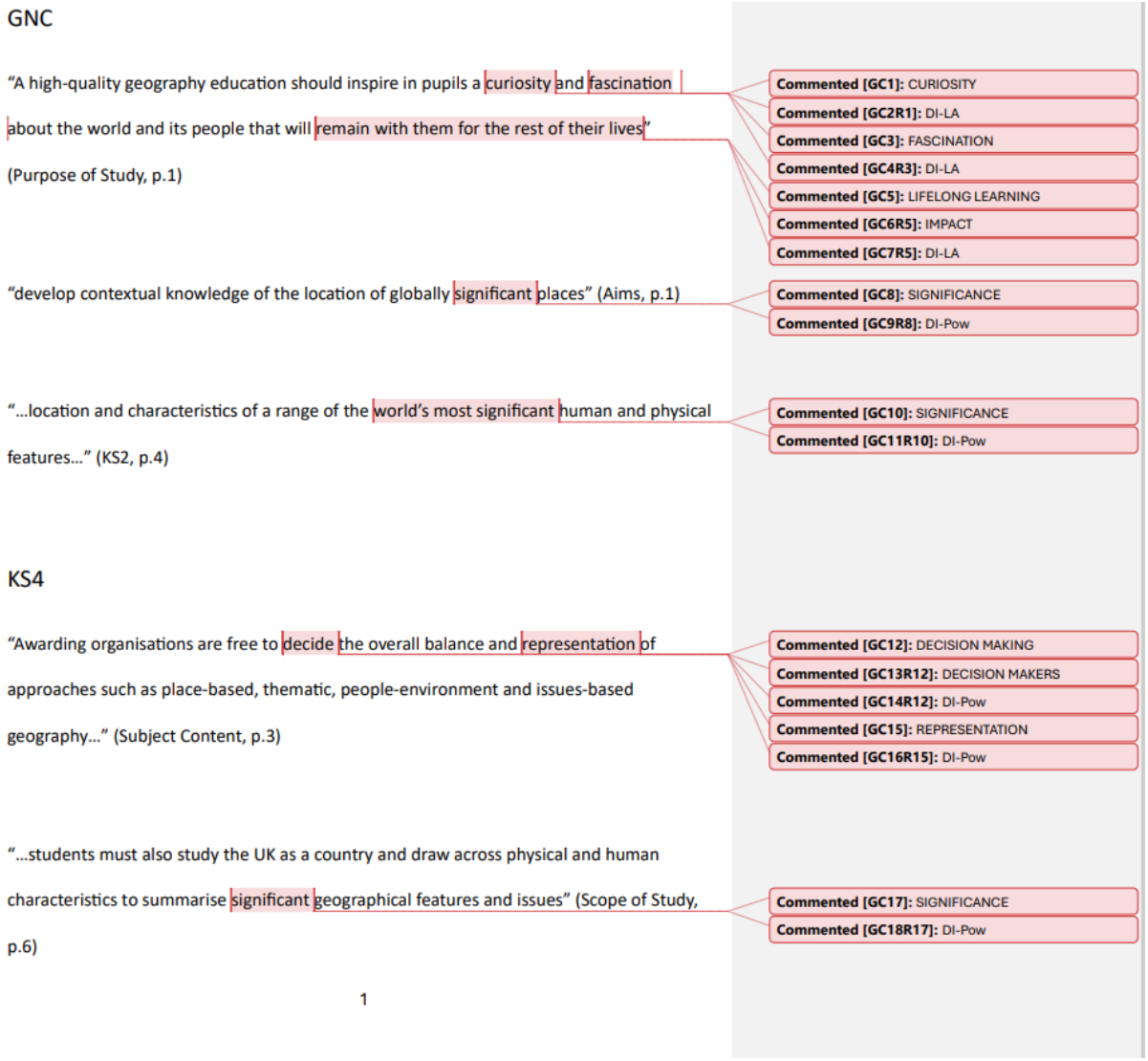
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | *STEM*<br>*SHAPE*<br>*Cross-disciplinarity*<br>*Inter-disciplinarity*<br>*Multi-disciplinarity*<br>*Cognate disciplines* | | | | | Scotland) are prevalent, alongside integrated master's programmes. This reflects geography's sustained engagement with the natural and social sciences, the arts and humanities. The subject's breadth means that many of its core constituents may be approached through several routes" (Context, p.4)<br><br>"Geography courses encourage holistic thinking across social and natural sciences, arts and humanities" (Context, p.4)<br><br>"Geography is both a STEM (Science, Technology, Engineering, Mathematics) and a SHAPE (Social Sciences, Humanities and Arts) subject" (Context, p.4)<br><br>"Geography graduates are able to collect, analyse and manipulate a range of quantitative and qualitative data. Their approach to spatial analytics is distinctive, and highly valued in the private, public and third sectors, because of their ability to transcend scales and integrate knowledge and geocapabilities |

| | | | | | | | |
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| | | | | | | | across multiple disciplines, not only in the natural and social sciences, but also in the humanities and arts" (Entrepreneurship and enterprise education, p.8)<br><br>"There are often overlaps with cognate disciplines" (Design, p.9)<br><br>"The discipline is uniquely holistic and integrative in its reach, but with a number of overarching concepts that define its boundaries. These include, but are not limited to, space, place, time, landscape, environment and scale" (Design, p.9)<br><br>"Partnership activities can be at a variety of scales and sectors, for example cross-disciplinary, cross-institutional, non-governmental organisations, industry, research, private and public. The activities may range from short-term activities to a long-term relationship and should be designed to be student centred and to support the understanding of the subject beyond the academic experience" (Partnerships, p.12) |

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| | | | | | | | "Other degree courses containing geography address these areas [of knowledge and understanding as set out in the SBS] proportionally according to the subject balance within, and goals of, such courses" (Subject knowledge and understanding, p.14)<br><br>"Geography enhances a range of intellectual skills and abilities that are acquired through use of its learning resources, frequent practise of its methods and immersion in appropriate research contexts. Some of these skills are subject-specific, but all are relevant and transferable to other intellectual contexts. Geographers are adept at bringing together perspectives from multiple disciplines across STEM and SHAPE, thinking laterally across debates, synthesising materials, and holding ideas in creative tension" (Subject specific skills, p.22)<br><br>"Geography graduates are a crucial part of the multidisciplinary approach needed to tackle the big issues |

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| | | | | | | | faced by the economy and society, leading ambitious environmental policies, supporting inclusive and sustainable communities and economies, and strengthening relationships and partnerships across the globe" (Subject specific skills, p.23)<br><br>"On joint and combined honours courses, students still conduct independent research work, although this may be in an interdisciplinary context or outside geography" (Teaching and learning, p.27) |

# Appendix 11: Summary of Words and Phrases Requiring Additional Codes.



ALCAB

"A and AS level content should enable learners to be inspired by their geographical understanding of the world they live in and to engage critically with real world issues and real world locations through the application of geographical knowledge, theory and concepts" (Executive Summary, p.1)

**Commented [GC19]:** INSPIRATION
**Commented [GC20R19]:** DI-LA

"A/AS level content must be accessible to a diversity of learners" (Executive Summary, p.2)

**Commented [GC21]:** [LEARNER DIVERSITY]
**Commented [GC22R21]:** DI-LD

"Funding should be made available for the development of appropriate training and resources for teachers in order to facilitate teaching of the new core content" (Executive Summary, p.2)

**Commented [GC23]:** FUNDING
**Commented [GC24R23]:** DI-Comm
**Commented [GC25]:** TRAINING
**Commented [GC26R25]:** CPD
**Commented [GC27R25]:** DI-Comm

"The panel had access to continuing advice about the 'teachability' of content proposals through the inclusion of a practising teacher on the panel and through input from the Royal Geographical Society and the Geographical Association. In addition to this the panel initiated three specific events in order to engage with the wider community of geography A level teachers" (Methods and meetings, p.4)

**Commented [GC28]:** SUBJECT ASSOCIATIONS
**Commented [GC29R28]:** DI-Comm
**Commented [GC30]:** SUBJECT COMMUNITY
**Commented [GC31R30]:** DI-Comm

"Students at A and AS level must have an understanding of geography as a discipline and as a distinctive body of knowledge" (Guiding Principles, p.7)

**Commented [GC32]:** GEOGRAPHY AS A DISCIPLINE
**Commented [GC33R32]:** DI-Geo
**Commented [GC34]:** DISTINCTIVE
**Commented [GC35R34]:** DI-Geo

"Students must have an understanding of human and physical processes and must be able to answer 'why' and 'how' questions in both areas. This concern was expressed by the higher education community and echoed by the awarding organisations and in the teacher consultation. The panel considers an understanding of process in human and physical geography as fundamental" (Guiding Principles, p.7)

Commented [GC36]: SUBJECT COMMUNITY
Commented [GC37R36]: DI-Comm
Commented [GC38]: FUNDAMENTAL
Commented [GC39R38]: DI-Geo

"Geography is a broad subject and there is no need or possibility for A/AS level to cover all of geography, but it must deliver high-level understanding of a range of aspects of the discipline. The A level should focus on a limited number of topics in sufficient depth in order to equip students with core knowledge and concepts..." (Guiding Principles, p.8)

Commented [GC40]: BREADTH
Commented [GC41R40]: DI-Geo
Commented [GC42]: DEPTH
Commented [GC43R42]: DI-Geo

"The new A/AS level content must be relevant and accessible to a diversity of learners with a range of backgrounds and life experience working in a variety of learning contexts" (Guiding Principles, p.9)

Commented [GC44]: RELEVANCE
Commented [GC45R44]: DI-Geo
Commented [GC46]: ACCESSIBILITY
Commented [GC47R46]: DI-LD
Commented [GC48]: [LEARNER] DIVERSITY
Commented [GC49R48]: DI-LD
Commented [GC50]: LIFE EXPERIENCES
Commented [GC51R50]: DI-LD
Commented [GC52]: LEARNING CONTEXTS
Commented [GC53R52]: DI-LD

"Teachers were concerned that tight prescription on the use of geographical information systems as part of the skills package may be difficult for some schools to deliver within their available resources" (Practical Considerations, p.10)

Commented [GC54]: [CURRICULUM] RESOURCES
Commented [GC55R54]: DI-Comm

"The panel felt that the breadth of geography was such that preparation for cognate degrees was best dealt with by focusing on an attractive and diverse geography offering" (Purpose and aims of geography A level, p.11)

Commented [GC56]: BREADTH
Commented [GC57R56]: DI-Geo
Commented [GC58]: COGNATES
Commented [GC59R58]: DI-Int
Commented [GC60]: CHOICE
Commented [GC61R60]: DI-Comm

"The acquisition of a rigorous understanding of processes that shape human and physical geography and the concepts that are used to understand them at a range of time and space scales and in a range of locational contexts" (Purpose and aims of geography A level, p.11)

Commented [GC62]: PURPOSE
Commented [GC63R62]: DI-Geo

"Content that enables learners to think geographically, to be inspired by their geographical understanding of the world they live in…" (Purpose and aims of geography A level, p.12)

Commented [GC64]: THINKING GEOGRAPHICALLY
Commented [GC65R64]: DI-Geo
Commented [GC66]: INSPIRATION
Commented [GC67R66]: DI-LA

"Core content is prescribed and is an efficient way to introduce up to date concepts and themes into the A/AS level curriculum and to ensure a balance of human and physical geography" (Prescription of core content, p.13)

Commented [GC68]: CONTEMPORARY
Commented [GC69R68]: DI-Geo

"The argument against excessive prescription is that teachers need to be able to teach to their expertise. Given the breadth of the discipline a degree of choice means that students are more likely to be taught by enthusiastic teachers with a high level of topic expertise" (Prescription of core content, p.13)

Commented [GC70]: EXPERTISE
Commented [GC71R70]: DI-Comm
Commented [GC72]: BREADTH
Commented [GC73R72]: DI-Geo
Commented [GC74]: CHOICE
Commented [GC75R74]: DI-Comm
Commented [GC76]: EXPERTISE
Commented [GC77R76]: DI-Comm

"The provision of 40 per cent non-core content will allow the awarding organisations to develop their own individual existing strengths in the new specifications and to develop distinctive offerings whilst ensuring a common core of knowledge" (Prescription of core content, p.13)

Commented [GC78]: DECISION MAKERS
Commented [GC79R78]: DI-Pow

"...giving the awarding organisations the opportunity to use their expertise in order to develop exciting, innovative and challenging specifications. Given the breadth of geography as a discipline, and the varying circumstances of schools and learners, this is desirable" (Proposed content, p.15)

Commented [GC80]: DECISION MAKERS
Commented [GC81R80]: DI-Pow
Commented [GC82]: INNOVATION
Commented [GC83R82]: DI-Geo
Commented [GC84]: BREADTH
Commented [GC85R84]: DI-Geo
Commented [GC86]: CIRCUMSTANCES
Commented [GC87R86]: DI-LD

"The ability to conduct field investigations in order to test ideas, build evidence, reflect on concepts, and create new geographical knowledge is one of the defining characteristics of a geographer. This message came through as the strongest single response from higher education institutions and from teachers and the panel fully endorses this view. We note that a similar statement has been made in the current draft revision of the Quality Assurance Agency subject benchmark for geography in higher education" (Fieldwork and independent investigation, p.32)

Commented [GC88]: DEFINING
Commented [GC89R88]: CHARACTERISTIC
Commented [GC90R88]: DI-Geo
Commented [GC91]: SUBJECT COMMUNITY
Commented [GC92R91]: DI-Comm

"The core content has been drafted with a view to making appropriate fieldwork contexts available for different groups and settings" (Fieldwork and independent investigation, p.34)

Commented [GC93]: APPROPRIATE
Commented [GC94R93]: DI-LD

"What is important is that students show independence of thought in the contextualisation, analysis and reporting of their work so that they produce an independent investigation that demonstrates the required fieldwork attributes identified above" (Fieldwork and independent investigation, pp.36-37)

Commented [GC95]: INDEPENDENCE
Commented [GC96R95]: DI-LA
Commented [GC97]: ATTRIBUTES
Commented [GC98R97]: DI-LA

"Geographical skills must be understood in the context of geographical knowledge covered in both the core and non-core content. The consensus among the panel and in the teacher consultations was strongly that skills teaching should be embedded and not a stand-alone component of specifications" (Geographical skills, p.41)

Commented [GC99]: SUBJECT COMMUNITY
Commented [GC100R99]: DI-Comm

"Meteorology is not a major component of most current higher education courses in geography. Consequently, whilst the preservation of good non-core content in this area is desirable, the panel felt that a more integrative topic was appropriate for inclusion in the core" (Core content in relation to the draft criteria considered by the Smith Review, p.42)

Commented [GC101]: DECISION MAKERS
Commented [GC102R101]: DI-Pow

"...the panel has chosen not to specify a core people-environment topic. As discussed above, this is a deliberate choice. The awarding organisations have an excellent track record in producing attractive and innovative material in this area. Prescribing material here would potentially limit the range of material offered. The panel regards choice in this area as positive since it allows schools and teachers to play to their strengths and provides a diversity of provision consistent with the breadth of the discipline" (Core content in relation to the draft criteria considered by the Smith Review, pp.43-44)

Commented [GC103]: DECISION MAKERS
Commented [GC104R103]: DI-Pow
Commented [GC105]: PRESCRIPTION
Commented [GC106R105]: [LACK OF]
Commented [GC107R105]: DI-Comm
Commented [GC108]: DECISION MAKERS
Commented [GC109R108]: DI-Pow
Commented [GC110]: BREADTH
Commented [GC111R110]: DI-Geo

"Because of the way that parts of the A level geography curriculum have become increasingly divergent from geography in higher education there is likely to be a need for investment in CPD and resources in order to support teachers in delivering elements of the new curriculum" (Continuing professional development (CPD), p.46)

"This is will have resource implications but could be delivered successfully by subject associations. The DfE funded 'Action Plan for Geography' programme, which is delivered jointly by the Geographical Association and the Royal Geographical Society, was cited as an example of best practice. The panel believes that investment in appropriate CPD and accompanying resources will be essential for the effective delivery of the new qualifications" (Continuing professional development (CPD), p.47)

## KS5

"AS and A level specifications in geography should encourage students to gain enjoyment, satisfaction and a sense of achievement as they develop their knowledge and understanding of the subject . The content should enable students to be inspired by their geographical understanding..." (Aims and objectives, p.1)

"Students should grow as independent thinkers and as informed and engaged citizens, who understand the role and importance of geography as one of the key disciplines relevant to

**Commented [GC112]:** DISCIPLINARY IDENTITY
**Commented [GC113R112]:** DI-Geo
**Commented [GC114]:** CPD
**Commented [GC115R114]:** DI-Comm
**Commented [GC116]:** CURRICULUM RESOURCES
**Commented [GC117R116]:** DI-Comm
**Commented [GC118]:** Physical processes related to carbon cycling, since this is not covered in detail in existing specifications; Techniques, particularly approaches to understanding geographical information and geo-located data; The teaching of themes relating to meaning and representation, particularly in the context of the changing places unit; Consideration of the ethical dimensions of fieldwork (pp.46-47)
**Commented [GC119R118]:** DI-Comm
**Commented [GC120]:** CURRICULUM RESOURCES
**Commented [GC121R120]:** DI-Comm
**Commented [GC122]:** SUBJECT ASSOCIATIONS
**Commented [GC123R122]:** DI-Comm
**Commented [GC124]:** SUBJECT ASSOCIATIONS
**Commented [GC125R124]:** DI-Comm
**Commented [GC126]:** CPD
**Commented [GC127R126]:** DI-Comm
**Commented [GC128]:** CURRICULUM RESOURCES
**Commented [GC129R128]:** DI-Comm
**Commented [GC130]:** ENJOYMENT
**Commented [GC131R130]:** DI-LA
**Commented [GC132]:** SATISFACTION
**Commented [GC133R132]:** DI-LA
**Commented [GC134]:** SENSE OF ACHIEVEMENT
**Commented [GC135R134]:** DI-LA
**Commented [GC136]:** INSPIRATION
**Commented [GC137R136]:** DI-LA
**Commented [GC138]:** INDEPENDENCE
**Commented [GC139R138]:** DI-LA
**Commented [GC140]:** INFORMED
**Commented [GC141R140]:** DI-LA
**Commented [GC142]:** ENGAGEMENT
**Commented [GC143R142]:** DI-LA

understanding the world's changing peoples, places and environments" (Aims and objectives, p.1)

Commented [GC144]: PURPOSE
Commented [GC145R144]: DI-Geo

"...apply geographical knowledge, understanding, skills and approaches in a rigorous way to a range of geographical questions and issues, including those identified in fieldwork, recognising both the contributions and limitations of geography" (Aims and objectives, p.3)

Commented [GC146]: DISCIPLINARY IDENTITY
Commented [GC147R146]: DI-Geo

## QAA SBS

"This Benchmark Statement for Geography expects the geography learning community to commit to equity, inclusive access, and practices that anticipate the diverse needs of their community members" (About this statement, p.1)

Commented [GC148]: EQUITY
Commented [GC149R148]: DI-LD
Commented [GC150]: INCLUSION
Commented [GC151R150]: EXCLUSION
Commented [GC152R150]: DI-LD (but also DI-Pow?)
Commented [GC153]: ANTICIPATORY PRACTICE
Commented [GC154R153]: DI-LD
Commented [GC155]: [LEARNER] DIVERSITY
Commented [GC156R155]: DI-LD

"a revised structure for the Statement which includes the introduction of cross-cutting themes of: equality, diversity and inclusion; [education for sustainable development; employability, entrepreneurship and enterprise education]" (About this statement, p.1)

Commented [GC157]: SUBJECT COMMUNITY
Commented [GC158R157]: DI-Comm
Commented [GC159]: EQUALITY
Commented [GC160R159]: DI-LD
Commented [GC161]: [LEARNER] DIVERSITY
Commented [GC162R161]: DI-LD
Commented [GC163]: INCLUSION
Commented [GC164R163]: EXCLUSION
Commented [GC165R163]: DI-LD (but also DI-Pow?)

"Geography occupies a distinctive place in the world of learning, offering an integrated study of the complex reciprocal relationships between societies and environments. Geographers study through the concepts of scale, place, space and time. They recognise the commonalities, differences and dynamics in populations and cultures, political systems, economies, landscapes and environments across the world, as well as the links between them" (Context, pp.3-4)

Commented [GC166]: DISTINCTIVE
Commented [GC167R166]: DI-Geo
Commented [GC168]: DISCIPLINARY IDENTITY
Commented [GC169R168]: DI-Geo

"Geography is an established subject within the UK higher education system. It attracts students from a wide range of intellectual backgrounds with diverse interests and experiences" (Context, p.4)

**Commented [GC170]:** [LEARNER] DIVERSITY
**Commented [GC171R170]:** DI-LD

"BA and BSc degree courses (and also MA in Scotland) are prevalent, alongside integrated master's programmes. This reflects geography's sustained engagement with the natural and social sciences, the arts and humanities. The subject's breadth means that many of its core constituents may be approached through several routes" (Context, p.4)

**Commented [GC172]:** INTEGRATED
**Commented [GC173R172]:** DI-Int
**Commented [GC174]:** CROSS-DISCIPLINARITY
**Commented [GC175R174]:** DI-Int
**Commented [GC176]:** BREADTH
**Commented [GC177R176]:** DI-Geo

"Geography courses encourage holistic thinking across social and natural sciences, arts and humanities" (Context, p.4)

**Commented [GC178]:** HOLISTIC
**Commented [GC179R178]:** DI-Int
**Commented [GC180]:** CROSS-DISCIPLINARITY
**Commented [GC181R180]:** DI-Int

"Geography is both a STEM (Science, Technology, Engineering, Mathematics) and a SHAPE (Social Sciences, Humanities and Arts) subject" (Context, p.4)

**Commented [GC182]:** STEM
**Commented [GC183R182]:** DI-Int
**Commented [GC184]:** SHAPE
**Commented [GC185R184]:** DI-Int

"The depth to which individual specialisms are studied varies according to the expertise of specific institutions" (Context, p.5)

**Commented [GC186]:** SPECIALISM
**Commented [GC187R186]:** DI-Comm
**Commented [GC188]:** EXPERTISE
**Commented [GC189R188]:** DI-Comm


"Geography, as an inclusive learning community, has a collective responsibility to embed equity, equality, diversity and inclusion within all institutions, processes, curricula, and pedagogies" (Equity, equality, diversity and inclusion, p.5)
"This responsibility to go beyond the minimum expectations of equality ensures an equitable community that recognises learners' difference in prior experience and opportunity and can help to remedy systemic disadvantages in the subject... All participants in the community will need to engage, reflect and change in order to uphold this responsibility and duty" (Equity, equality, diversity and inclusion, p.5)
"Contemporary geography draws from knowledge traditions formed through colonial enlightenment science. Geographical concepts and techniques contributed to the overseas expansion of British and European empires, which was justified using narratives of white, able and heteronormative superiority. Colonial and imperial geographies, and their contemporary legacies of systemic disadvantage, for example, racism, classism, ablism, homophobia and patriarchy, must therefore be acknowledged and countered by fostering an inclusive learning community encompassing a range of participants, such as students, academics, technicians, professional staff, visitors and external partners" (Equity, equality, diversity and inclusion, pp.5-6)
"The following core values underpin geography's inclusive learning community: an ethics of care towards inhabitants and environments; embracing and valuing plurality of knowledges
10
Commented [GC190]: INCLUSION
Commented [GC191R190]: DI-LD
Commented [GC192]: SUBJECT COMMUNITY
Commented [GC193R192]: DI-Comm
Commented [GC194]: RESPONSIBILITY
Commented [GC195R194]: DI-Pow
Commented [GC196R194]: But also in this context,
Commented [GC197]: EQUITY
Commented [GC198R197]: DI-LD
Commented [GC199]: EQUALITY
Commented [GC200R199]: DI-LD
Commented [GC201]: DIVERSITY
Commented [GC202R201]: DI-LD
Commented [GC203]: INCLUSION
Commented [GC204R203]: DI-LD
Commented [GC205]: EQUALITY
Commented [GC206R205]: DI-LD
Commented [GC207]: SUBJECT COMMUNITY
Commented [GC208R207]: EQUITY
Commented [GC209R207]: DI-Comm, DI-LD, DI-Pow
Commented [GC210]: [LEARNER] DIVERSITY
Commented [GC211R210]: DI-LD
Commented [GC212]: LIFE EXPERIENCES
Commented [GC213R212]: DI-LD
Commented [GC214]: For example: through widening
Commented [GC215R214]: DI-LD
Commented [GC216]: SUBJECT COMMUNITY
Commented [GC217R216]: DI-Comm
Commented [GC218]: RESPONSIBILITY
Commented [GC219R218]: DI-Pow
Commented [GC220R218]: But also DI-Comm
Commented [GC221]: CONTEMPORARY
Commented [GC222R221]: DI-Geo
Commented [GC223]: DE/COLONIALISM
Commented [GC224R223]: DI-Pow
Commented [GC225]: KNOWLEDGE PRODUCTION
Commented [GC226R225]: DI-Pow
Commented [GC227]: EMPIRE
Commented [GC228R227]: DI-Pow
Commented [GC229]: DE/COLONIALISM
Commented [GC230R229]: DI-Pow
Commented [GC231]: IMPERIALISM
Commented [GC232R231]: DI-Pow
Commented [GC233]: DISADVANTAGE
Commented [GC234R233]: DI-Pow
Commented [GC235]: INCLUSION
Commented [GC236R235]: DI-LD (and DI-Pow)
Commented [GC237]: SUBJECT COMMUNITY

and experiences; respect for alternative perspectives and lifestyles; attentiveness to the opportunities and challenges raised by decolonial imperatives; and solidarity in recognising and addressing injustice. These values should be integrated throughout the curriculum and not be siloed within individual modules and/or sub-disciplines. This will enhance the contribution that studying geography can make to realising transformative justice across our human, biodiverse and geodiverse world" (Equity, equality, diversity and inclusion, p.6)

**Commented [GC251]:** RESPECT
**Commented [GC252R251]:** DI-Pow
**Commented [GC253]:** DIVERSITY
**Commented [GC254R253]:** DI-LD
**Commented [GC255]:** DE/COLONIALISM
**Commented [GC256R255]:** DI-Pow
**Commented [GC257]:** IN/JUSTICE
**Commented [GC258R257]:** DI-Pow
**Commented [GC259]:** CORE VALUES
**Commented [GC260R259]:** DI-Geo
**Commented [GC261]:** IN/JUSTICE
**Commented [GC262R261]:** DI-Pow

"The core values underpinning geography's inclusive learning community aligns with, and encourages, curricula design principles that stimulate critical thinking informed by a variety of progressive theoretical perspectives. These include, but are not limited to, theoretical perspectives from critical theory, critical race theory, decoloniality, disability studies, feminist, queer, and science and technology studies. The application of critical theory is relevant to, and should be applied across, the geographical discipline" (Equity, equality, diversity and inclusion, p.6)

**Commented [GC263]:** CORE VALUES
**Commented [GC264R263]:** DI-Geo
**Commented [GC265]:** INCLUSION
**Commented [GC266R265]:** DI-LD
**Commented [GC267]:** SUBJECT COMMUNITY
**Commented [GC268R267]:** DI-Comm
**Commented [GC269]:** CRITICAL THINKING
**Commented [GC270R269]:** DI-Pow (and also DI-Geo?)
**Commented [GC271]:** THEORETICAL PERSPECTIVES
**Commented [GC272R271]:** DI-Pow (and also DI-Geo?)
**Commented [GC273]:** THEORETICAL PERSPECTIVES
**Commented [GC274R273]:** DI-Pow (and also DI-Geo?)
**Commented [GC275]:** CRITICAL THEORY
**Commented [GC276R275]:** DI-Pow (and also DI-Geo)?

"The core values also promote anticipatory design and practices, which are considerate of the particularities associated with sites of learning, for example, online, face-to-face, in the field or in the laboratory, paying close attention to those that may have historically been less inclusive, such as fieldwork sites and laboratories" (Equity, equality, diversity and inclusion, p.6)

**Commented [GC277]:** CORE VALUES
**Commented [GC278R277]:** DI-Geo
**Commented [GC279]:** ANTICIPATORY PRACTICE
**Commented [GC280R279]:** DI-LD

**Commented [GC281]:** INCLUSION
**Commented [GC282R281]:** EXCLUSION
**Commented [GC283R281]:** DI-LD / DI-Pow
**Commented [GC284]:** LEARNING CONTEXTS
**Commented [GC285R284]:** DI-LD
**Commented [GC286]:** HISTORY
**Commented [GC287R286]:** DI-Geo

providing a supportive cultural and institutional context for teaching, learning and research, within which participants are encouraged to embrace intellectual, methodological and practical challenges" (Equity, equality, diversity and inclusion, pp.6-7)

**Commented [GC288]:** ANTICIPATORY PRACTICE
**Commented [GC289R288]:** DI-LD

"Effective anticipatory design and practice also enhance the individual and collective capability to work with the discomfort associated with encountering alternative perspectives, learning new knowledge and gaining new skills. This requires geography's inclusive learning community to develop and promote techniques to care for the self and others, as part of a sustained consideration for emotional, mental and physical well-being" (Equity, equality, diversity and inclusion, p.7)

**Commented [GC290]:** DISCOMFORT
**Commented [GC291R290]:** DI-Pow
**Commented [GC292]:** ALTERNATIVE PERSPECTIVES
**Commented [GC293R292]:** DI-Pow/DI-Geo
**Commented [GC294]:** ANTICIPATORY PRACTICE
**Commented [GC295R294]:** DI-LD
**Commented [GC296]:** INCLUSION
**Commented [GC297R296]:** DI-LD
**Commented [GC298]:** SUBJECT COMMUNITY
**Commented [GC299R298]:** DI-Comm
**Commented [GC300]:** SELF AND OTHERS
**Commented [GC301R300]:** RESPONSIBILITY
**Commented [GC302R300]:** DI-LD (Self and others) DI-Pow (Responsibility)

"Geography graduates are able to collect, analyse and manipulate a range of quantitative and qualitative data. Their approach to spatial analytics is distinctive, and highly valued in the private, public and third sectors, because of their ability to transcend scales and integrate knowledge and geocapabilities across multiple disciplines, not only in the natural and social sciences, but also in the humanities and arts" (Entrepreneurship and enterprise education, p.8)

**Commented [GC303]:** WELL-BEING
**Commented [GC304R303]:** DI-LD
**Commented [GC305]:** DISTINCTIVE
**Commented [GC306R305]:** DI-Geo
**Commented [GC307]:** DISCIPLINARY IDENTITY
**Commented [GC308R307]:** DI-Geo
**Commented [GC309]:** CROSS-DISCIPLINARITY
**Commented [GC310R309]:** MULTI-DISCIPLINARITY
**Commented [GC311R309]:** DI-Int
**Commented [GC312]:** CROSS-DISCIPLINARITY
**Commented [GC313R312]:** DI-Int

"There are often overlaps with cognate disciplines" (Design, p.9)

**Commented [GC314]:** COGNATES
**Commented [GC315R314]:** DI-Int

"The discipline is uniquely holistic and integrative in its reach, but with a number of overarching concepts that define its boundaries. These include, but are not limited to, space, place, time, landscape, environment and scale" (Design, p.9)

Commented [GC316]: HOLISTIC
Commented [GC317R316]: DI-Int
Commented [GC318]: DISCIPLINARY IDENTITY
Commented [GC319R318]: DI-Geo

"Inclusive and equitable design is considered across all elements of geographical teaching, learning and assessment, and delivered through every interaction within the learning community. This includes, but is not limited to, classroom-based teaching, independent student work, field work, laboratory work, computer work and assignments" (Accessibility, p.9)

Commented [GC320]: INCLUSION
Commented [GC321R320]: DI-LD
Commented [GC322]: EQUITY
Commented [GC323R322]: DI-LD
Commented [GC324]: LEARNING CONTEXTS
Commented [GC325R324]: DI-LD

"Pedagogic methods for teaching geography will generally reflect the needs of the student body, with an inclusive curriculum that prioritises the accessibility, equity, appropriateness and resourcing of learning and teaching resources and materials being key" (Accessibility, p.9)

Commented [GC326]: [LEARNER] DIVERSITY
Commented [GC327R326]: DI-LD
Commented [GC328]: ACCESSIBILITY
Commented [GC329R328]: DI-LD
Commented [GC330]: EQUITY
Commented [GC331R330]: DI-LD
Commented [GC332]: CURRICULUM RESOURCES
Commented [GC333R332]: DI-Comm

"Enabling all members of the learning community to 'see themselves' in the curricula and find solidarity with other members is recognised as a strategy for supporting students of diverse backgrounds and as a key approach to the equity agenda for the discipline. Distinct barriers to learning are acknowledged for first-generation learners, international students and students from diverse backgrounds" (Accessibility, p.10)

Commented [GC334]: [LEARNER] DIVERSITY
Commented [GC335R334]: DI-LD
Commented [GC336]: EQUITY
Commented [GC337R336]: DI-LD
Commented [GC338]: [LEARNER] DIVERSITY
Commented [GC339R338]: DI-LD


"Flexibility in content, delivery mode and timing is an inherent characteristic of an accessible and inclusive Geography course. This may require potentially competing objectives to be balanced, for example responding to the needs of the student cohort as well as ensuring core learning outcomes are achieved" (Flexibility, p.11)
"A flexible course is one that accommodates the varying needs of both large and small group teaching, and integrates online and in-person teaching in a complementary way. It is also aware of the pedagogic implications of different delivery modes, which may allocate control to students over the pace and depth of their learning and engagement with content" (Flexibility, p.11)
"The provision of accessible, inclusive and flexible material requires additional resources to ensure high-quality content and delivery. The design should also reflect diversity in students' access to technology, ensuring that the flexibility of design does not lead to unintended consequences" (Flexibility, p.12)
"Institutions should ensure that equality of experience is given to all students in their ability to engage in partnerships, where appropriate" (Partnerships, p.12)
"Partners become part of the geography learning community and have the responsibility to attend to the same principles of equity, equality, diversity and inclusion in their interactions.
Commented [GC340]: FLEXIBILITY
Commented [GC341R340]: RIGIDITY
Commented [GC342R340]: DI-LD
Commented [GC343]: ACCESSIBILITY
Commented [GC344R343]: DI-LD
Commented [GC345]: INCLUSION
Commented [GC346R345]: DI-LD
Commented [GC347]: [LEARNER] DIVERSITY
Commented [GC348R347]: DI-LD
Commented [GC349]: FLEXIBILITY
Commented [GC350R349]: DI-LD
Commented [GC351]: CONTROL
Commented [GC352R351]: DI-Pow
Commented [GC353]: LEARNING CONTEXTS
Commented [GC354R353]: DI-LD
Commented [GC355]: ACCESSIBILITY
Commented [GC356R355]: DI-LD
Commented [GC357]: INCLUSION
Commented [GC358R357]: DI-LD
Commented [GC359]: FLEXIBILITY
Commented [GC360R359]: DI-LD
Commented [GC361]: CURRICULUM RESOURCES
Commented [GC362R361]: DI-Comm
Commented [GC363]: ACCESSIBILITY
Commented [GC364R363]: DI-LD
Commented [GC365]: FLEXIBILITY
Commented [GC366R365]: DI-LD
Commented [GC367]: PARTNERSHIP
Commented [GC368R367]: DI-Comm
Commented [GC369]: EQUALITY
Commented [GC370R369]: DI-LD
Commented [GC371]: SUBJECT COMMUNITY
Commented [GC372R371]: DI-Comm
Commented [GC373]: RESPONSIBILITY
Commented [GC374R373]: DI-Pow? Or DI-Comm?
Commented [GC375]: EQUITY
Commented [GC376R375]: DI-LD
Commented [GC377]: EQUALITY
Commented [GC378]: DIVERSITY
Commented [GC379]: INCLUSION
14

Partners offer important opportunities to enhance the learning community's engagement with equity agendas" (Partnerships, p.12)

Commented [GC380]: SUBJECT COMMUNITY
Commented [GC381R380]: DI-Comm
Commented [GC382]: EQUITY
Commented [GC383R382]: DI-LD

"Partnership activities can be at a variety of scales and sectors, for example cross-disciplinary, cross-institutional, non-governmental organisations, industry, research, private and public. The activities may range from short-term activities to a long-term relationship and should be designed to be student centred and to support the understanding of the subject beyond the academic experience" (Partnerships, p.12)

Commented [GC384]: CROSS-DISCIPLINARITY
Commented [GC385R384]: DI-Int

"A major feature of academic quality assurance and enhancement at a higher education institution is having in place monitoring and regular review processes for the courses it delivers" (Monitoring and review, p.13)

Commented [GC386]: QUALITY ASSURANCE
Commented [GC387R386]: DI-Comm
Commented [GC388]: MONITORING
Commented [GC389R388]: DI-Comm
Commented [GC390]: REVIEW
Commented [GC391R390]: DI-Comm

"Monitoring and evaluation is a periodic assessment of a course, conducted internally or by external independent evaluators...Higher education providers will use external reviewers as part of periodic review to gain an external perspective on any proposed changes and ensure threshold standards are achieved and content is appropriate for the subject" (Monitoring and review, p.13)

Commented [GC392]: MONITORING
Commented [GC393R392]: DI-Comm
Commented [GC394]: EXTERNAL PERSPECTIVE
Commented [GC395R394]: DI-Comm

"Other degree courses containing geography address these areas [of knowledge and understanding as set out in the SBS] proportionally according to the subject balance within, and goals of, such courses" (Subject knowledge and understanding, p.14)

Commented [GC396]: COGNATES
Commented [GC397R396]: DI-Int


"Geographers can articulate the knowledge, understanding, skills and approaches that characterise the discipline as a whole" (Subject knowledge and understanding, p.14)
"Geographers have a critical understanding of the history of the subject, the social, cultural, economic and political context of past and present knowledge production; and the people and forms of knowledge excluded. Central to this is a critical awareness of the discipline's place within wider histories of colonialism and imperialism, meaning that geographers possess a critical understanding of knowledge practices formed through colonial enlightenment science; the distinctive contributions the discipline made to this; related contemporary legacies of systemic disadvantage and injustice and the lived experience of this; and how the discipline can address these legacies" (Subject knowledge and understanding, p.16)
"Decolonial approaches and practice provide a way to support this learning and reflection and foster anti-racist praxis within the learning community when integrated across the entire curricula" (Subject knowledge and understanding, pp.16-17)
"Fieldwork is an opportunity to reflect on sensibilities, such as the positionalities, responsibilities and relationalities of students and staff. Consequently, all fieldwork should be planned and conducted in a way that is ethical, responsible, careful and safe, for
16
Commented [GC398]: DISCIPLINARY IDENTITY
Commented [GC399R398]: DI-Geo
Commented [GC400]: HISTORY
Commented [GC401R400]: DI-Geo
Commented [GC402]: GEOGRAPHY AS A DISCIPLINE
Commented [GC403R402]: DI-Geo
Commented [GC404]: KNOWLEDGE PRODUCTION
Commented [GC405R404]: DI-Pow
Commented [GC406]: GEOGRAPHY AS A DISCIPLINE
Commented [GC407R406]: DI-Geo
Commented [GC408]: DE/COLONIALISM
Commented [GC409R408]: DI-Pow
Commented [GC410]: IMPERIALISM
Commented [GC411R410]: DI-Pow
Commented [GC412]: CRITICAL THINKING
Commented [GC413R412]: DI-Pow
Commented [GC414]: KNOWLEDGE PRODUCTION
Commented [GC415R414]: DI-Pow
Commented [GC416]: DE/COLONIALISM
Commented [GC417R416]: DI-Pow
Commented [GC418]: GEOGRAPHY AS A DISCIPLINE
Commented [GC419R418]: DI-Geo
Commented [GC420]: DISADVANTAGE
Commented [GC421R420]: DI-Pow
Commented [GC422]: IN/JUSTICE
Commented [GC423R422]: DI-Pow
Commented [GC424]: GEOGRAPHY AS A DISCIPLINE
Commented [GC425R424]: DI-Geo
Commented [GC426]: ANTI-RACISM
Commented [GC427R426]: DI-Pow
Commented [GC428]: DE/COLONIALISM
Commented [GC429R428]: DI-Pow
Commented [GC430]: POSITIONALITY
Commented [GC431R430]: DI-Pow
Commented [GC432]: RESPONSIBILITY
Commented [GC433R432]: DI-Pow
Commented [GC434]: RELATIONALITY
Commented [GC435R434]: DI-Pow
Commented [GC436]: ETHICS
Commented [GC437R436]: DI-Pow
Commented [GC438]: RESPONSIBILITY
Commented [GC439R438]: DI-Pow
Commented [GC440]: SAFETY
Commented [GC441R440]: DI-LD

students, staff, visited communities and all other stakeholders. An ethics assessment and risk assessment should be undertaken prior to all taught fieldwork" (Fieldwork, p.20)

"Fieldwork should be planned and conducted in such a way as to be inclusive and accessible, considering the well-being of students and staff, including their mental and physical health, and all other protected characteristics. Fieldwork opportunities should be fair and providers, to the extent possible, should consider the resourcing needed to overcome costs and other barriers that might impact a student's ability to participate fully. An inclusivity impact assessment should be undertaken prior to all taught fieldwork" (Fieldwork, p.20)

"Staff take on significant responsibilities in delivering taught fieldwork. Appropriate resourcing by the provider should ensure that staff are fully trained and supported to deliver high-quality field learning. Employers must also recognise that staff have differing capacities to lead and/or participate in geography fieldwork" (Fieldwork, p.21)

"Given the rich diversity of Geography degrees and the range of options in which students are able to specialise, it is unwise to be too rigid or prescriptive in setting out the skills that graduates are likely to possess" (Skills, attributes and geocapabilities, p.21)

"Geography enhances a range of intellectual skills and abilities that are acquired through use of its learning resources, frequent practise of its methods and immersion in appropriate research contexts. Some of these skills are subject-specific, but all are relevant and

17

**Commented [GC442]:** SUBJECT COMMUNITY
**Commented [GC443R442]:** DI-Comm
**Commented [GC444]:** ETHICS
**Commented [GC445R444]:** DI-Pow
**Commented [GC446]:** RISK
**Commented [GC447R446]:** DI-LD
**Commented [GC448]:** INCLUSION
**Commented [GC449R448]:** DI-LD
**Commented [GC450]:** ACCESSIBILITY
**Commented [GC451R450]:** DI-LD
**Commented [GC452]:** WELL-BEING
**Commented [GC453R452]:** DI-LD
**Commented [GC454]:** PROTECTED CHARACTERISTICS
**Commented [GC455R454]:** DI-LD
**Commented [GC456]:** CURRICULUM RESOURCES
**Commented [GC457R456]:** FUNDING
**Commented [GC458R456]:** Both DI-Comm
**Commented [GC459]:** [LEARNER] DIVERSITY
**Commented [GC460R459]:** DI-LD
**Commented [GC461]:** INCLUSION
**Commented [GC462R461]:** DI-LD
**Commented [GC463]:** RESPONSIBILITY
**Commented [GC464R463]:** DI-Pow
**Commented [GC465R463]:** But also, in this context, DI-Comm?
**Commented [GC466]:** TRAINING
**Commented [GC467R466]:** DI-Comm
**Commented [GC468]:** CAPACITY
**Commented [GC469R468]:** DI-Comm
**Commented [GC470]:** DIVERSITY
**Commented [GC471R470]:** DI-LD
**Commented [GC472]:** SPECIALISM
**Commented [GC473R472]:** DI-Comm
**Commented [GC474]:** RIGIDITY
**Commented [GC475R474]:** DI-LD
**Commented [GC476]:** PRESCRIPTION
**Commented [GC477R476]:** DI-Comm

transferable to other intellectual contexts. Geographers are adept at bringing together perspectives from multiple disciplines across STEM and SHAPE, thinking laterally across debates, synthesising materials, and holding ideas in creative tension" (Subject specific skills, p.22)

Commented [GC478]: DISCIPLINARY IDENTITY
Commented [GC479R478]: DI-Geo
Commented [GC480]: MULTI-DISCIPLINARITY
Commented [GC481R480]: STEM
Commented [GC482R480]: SHAPE
Commented [GC483R480]: All DI-Int

"Geography graduates are a crucial part of the multidisciplinary approach needed to tackle the big issues faced by the economy and society, leading ambitious environmental policies, supporting inclusive and sustainable communities and economies, and strengthening relationships and partnerships across the globe" (Subject specific skills, p.23)

Commented [GC484]: INCLUSION
Commented [GC485R484]: DI-LD
Commented [GC486]: PARNERSHIP
Commented [GC487R486]: DI-Comm
Commented [GC488]: MULTI-DISCIPLINARITY
Commented [GC489R488]: DI-Int

"On joint and combined honours courses, students still conduct independent research work, although this may be in an interdisciplinary context or outside geography" (Teaching and learning, p.27)

Commented [GC490]: INTER-DISCIPLINARITY
Commented [GC491R490]: DI-Int

"Students are encouraged to demonstrate their full range of abilities, with providers offering a mix of assessment methods that are accessible to students from varying educational backgrounds and in different learning situations, in some cases offering a choice of assessment formats and authentic public-facing outputs" (Teaching and learning, p.27)

Commented [GC492]: LIFE EXPERIENCES
Commented [GC493R492]: [LEARNER] DIVERSITY
Commented [GC494R492]: DI-LD
Commented [GC495]: LEARNING CONTEXTS
Commented [GC496R495]: DI-LD
Commented [GC497]: CHOICE
Commented [GC498R497]: DI-Comm

| | |
|---|---|
| Access | DI-LD |
| Accessibility | DI-LD |
| Alternative perspectives | DI-Pow |
| Anticipatory practice | DI-LD |
| Anti-racism | DI-Pow |
| Appropriate | DI-LD |
| Breadth | DI-Geo |
| Capacity | DI-Comm |
| Characteristic | DI-Geo |
| Choice | DI-Comm |
| Circumstances | DI-LD |
| Cognate disciplines | DI-Int |
| Contemporary | DI-Geo |
| Control | DI-Pow |
| Core values | DI-Geo |
| CPD | DI-Comm |
| Critical thinking | DI-Pow |
| Cross-disciplinarity | DI-Int |
| Curiosity | DI-LA |
| Curriculum resources | DI-Comm |
| De/Colonialism | DI-Pow |
| Decision makers | DI-Pow |
| Decision making | DI-Pow |
| Defining | DI-Geo |
| Depth | DI-Geo |
| Disadvantage | DI-Pow |
| Disciplinary identity | DI |
| Discomfort | DI-Pow |
| Distinctive | DI-Geo |
| Empire | DI-Pow |
| Engaged | DI-LA |
| Enjoyment | DI-LA |
| Equality | DI-LD |
| Equity | DI-LD |
| Ethics | DI-Pow |
| Exclusion | DI-LD |
| Expertise | DI-Comm |
| External perspective | DI-Comm |
| Fascination | DI-LA |
| Flexibilty | DI-LD |
| Fundamental | DI-Geo |

| | |
|---|---|
| Funding | DI-Comm |
| Geography as a discipline | DI-Geo |
| History | DI-Geo |
| Holistic | DI-Int |
| Impact | DI-LA |
| Imperialism | DI-Pow |
| In/Justice | DI-Pow |
| Inclusion | DI-LD |
| Independence | DI-LA |
| Informed | DI-LA |
| Innovation | DI-Geo |
| Inspiration | DI-LA |
| Integrated | DI-Int |
| Inter-disciplinarity | DI-Int |
| Knowledge production | DI-Pow |
| Learner attributes | DI-LA |
| Learner diversity | DI-LD |
| Learning contexts | DI-LD |
| Life experiences | DI-LD |
| Lifelong learning | DI-LA |
| Monitoring | DI-Comm |
| Multi-disciplinarity | DI-Int |
| Partnership | DI-Comm |
| Plurality | DI-Pow |
| Positionality | DI-Pow |
| Prescription | DI-Comm |
| Protected characteristics | DI-LD |
| Purpose | DI-Geo |
| Quality assurance | DI-Comm |
| Relationality | DI-Pow |
| Relevance | DI-Geo |
| Representation | DI-Pow |
| Respect | DI-Pow |
| Responsibility | DI-Pow |
| Review | DI-Comm |
| Rigidity | DI-LD |
| Risk | DI-LD |
| Safety | DI-LD |
| Satisfaction | DI-LA |
| Self/other | DI-LD |
| Sense of achievement | DI-LA |

| | |
|---|---|
| SHAPE | DI-Int |
| Shared understanding | DI-Comm |
| Significance | DI-Pow |
| Specialism | DI-Comm |
| STEM | DI-Int |
| Subject associations | DI-Comm |
| Subject community | DI-Comm |
| Theoretical perpsectives | DI-Pow |
| Thinking geographically | DI-Geo |
| Training | DI-Comm |
| Well-being | DI-LD |

# Appendix 12: Additional Thematic Codes Generated Iteratively from Document Analysis.

| Code | | Key Terms / Associated Concepts |
|---|---|---|
| Disciplinary Identity: Geography as a discipline | DI-Geo | History<br>Purpose<br>Core values<br>Fundamental<br>Defining<br>Characteristic<br>Distinctive<br>Thinking geographically<br>Relevance<br>Innovation<br>Contemporary<br>Breadth<br>Depth |
| Disciplinary Identity: Learner Attributes | DI-LA | Curiosity<br>Fascination<br>Inspiration<br>Enjoyment<br>Satisfaction<br>Sense of achievement<br>Informed<br>Engaged<br>Lifelong learning<br>Impact<br>Independence<br>Learner attributes |
| Disciplinary Identity: Learner Diversity | DI-LD | Accessibility<br>Life experience<br>Circumstances<br>Learning contexts<br>Learner diversity<br>Access<br>Anticipatory practice<br>Appropriate<br>Equity<br>Inclusion<br>Exclusion<br>Equality<br>Protected characteristics<br>Self/other<br>Well-being<br>Risk<br>Safety<br>Flexibility<br>Rigidity |

| | | |
|---|---|---|
| Disciplinary Identity: Subject Community | DI-Comm | External perspective<br>Monitoring<br>Review<br>Quality assurance<br>CPD<br>Training<br>Subject associations<br>Capacity<br>Subject community<br>Curriculum resources<br>Specialism<br>Expertise<br>Partnership<br>Funding<br>Choice<br>Prescription<br>Shared understanding |
| Disciplinary Identity: Power | DI-Pow | Representation<br>Decision making<br>Decision makers<br>Control<br>Significance<br>De/Colonialism<br>Imperialism<br>Empire<br>Anti-racism<br>Knowledge production<br>Plurality<br>Positionality<br>Relationality<br>Respect<br>Discomfort<br>In/Justice<br>Disadvantage<br>Responsibility<br>Ethics<br>Critical thinking<br>Theoretical perspectives<br>Alternative perspectives |
| Disciplinary Identity: Interdisciplinarity | DI-Int | Integrated<br>Holistic<br>STEM<br>SHAPE<br>Cross-disciplinarity<br>Inter-disciplinarity<br>Multi-disciplinarity<br>Cognate disciplines |

# Appendix 13: Questionnaire Data.

Jisc Online surveys

## Connecting Geography

Showing 66 of 66 responses

Showing **all** responses

Showing **all** questions

Response rate: 66%

**1** I confirm that I understand the participant information for this study.




**2** I have had the opportunity to ask questions if necessary and, if so, have had these answered satisfactorily.




**3** I understand that my participation is voluntary and that, should I choose to give my name as part of this survey, I am free to withdraw at any time up to 31st January 2023 without giving any reason. If I withdraw my data will be removed from the study and will be destroyed.




**4** I understand that if I choose to keep my survey responses anonymous, I cannot withdraw my data once I have submitted my survey.




**5** I understand that my personal data will be processed for the purposes detailed in the participant information sheet, in accordance with the Data Protection Essentials statement provided.

1 / 32



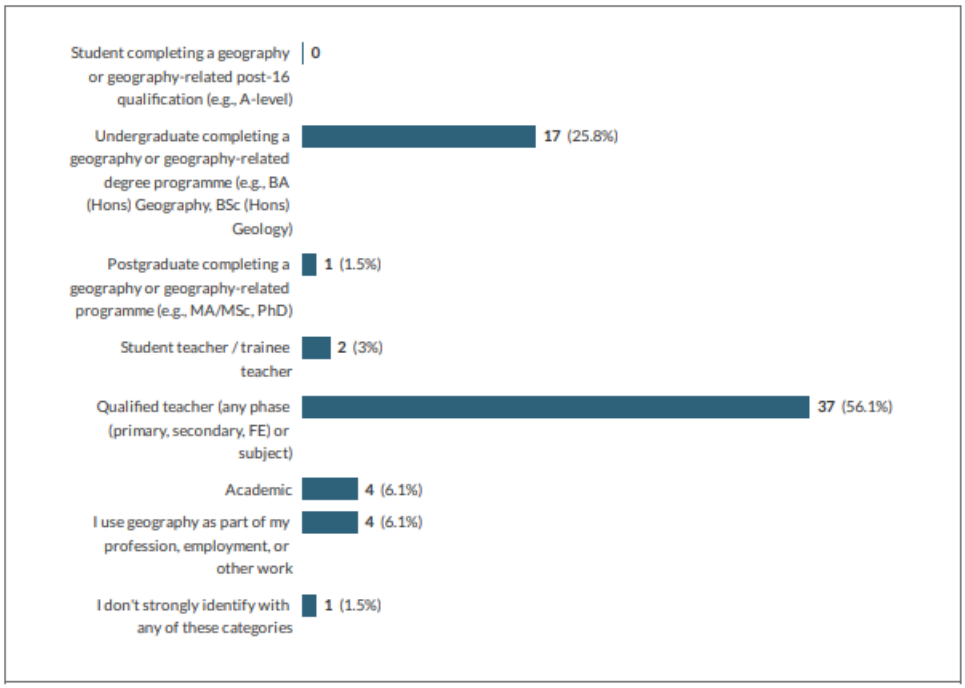

6 I am aged 18 years or older



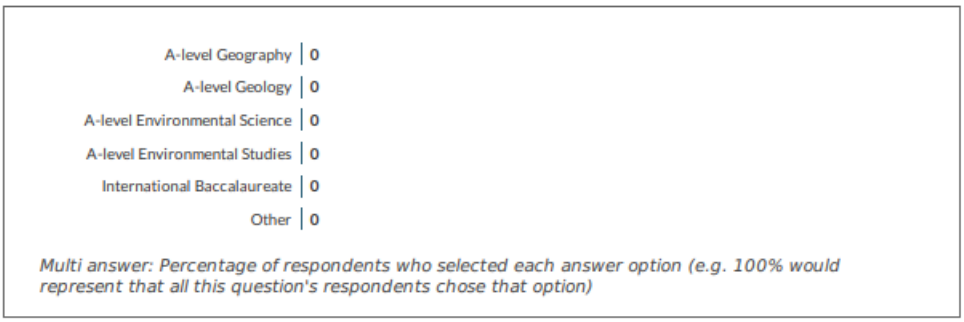

7 I agree to take part in this study.




8 With which of the following do you most strongly identify? (Choose one.)



9 I am studying...

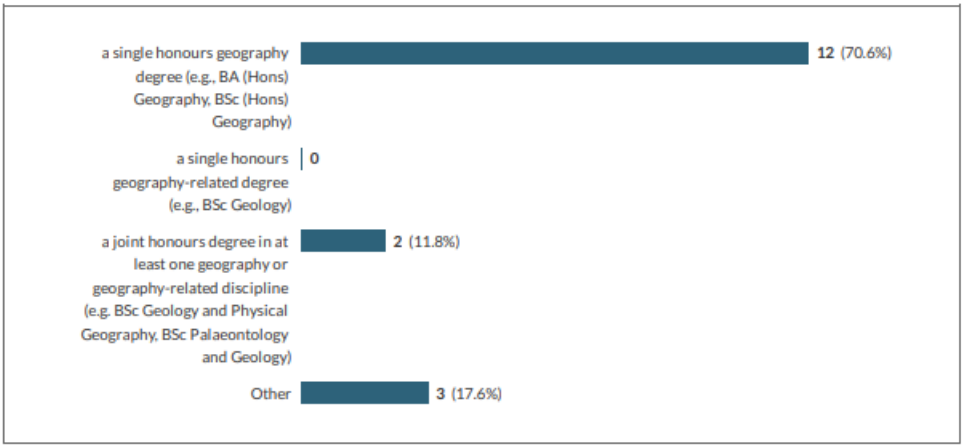



*Multi answer: Percentage of respondents who selected each answer option (e.g. 100% would represent that all this question's respondents chose that option)*

9.a If you selected Other, please specify:

*No responses*

10 I am studying...



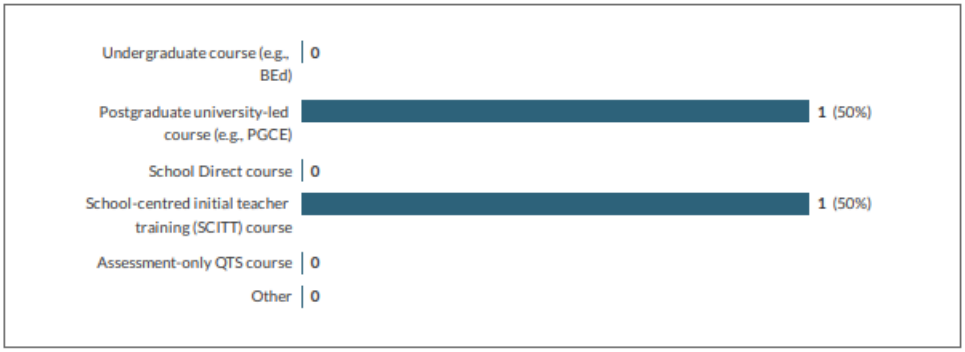

10.a If you selected Other, please specify:

| Showing all 3 responses | |
|---|---|
| Msci Geography | 937688-937670-102820796 |
| Integrated Masters in Geography | 937688-937670-102884034 |
| Integrated MSc Environmental Science | 937688-937670-102885769 |

11 Please give as much information about your postgraduate studies as you wish. For example, you might give the full name of the programme (e.g., MSc Hydrogeology), or a brief description of your studies (e.g., completing a PhD in Human Geography, focusing on...)

| Showing 1 response | |
|---|---|
| MSc River Environments and their management | 937688-937670-103025300 |

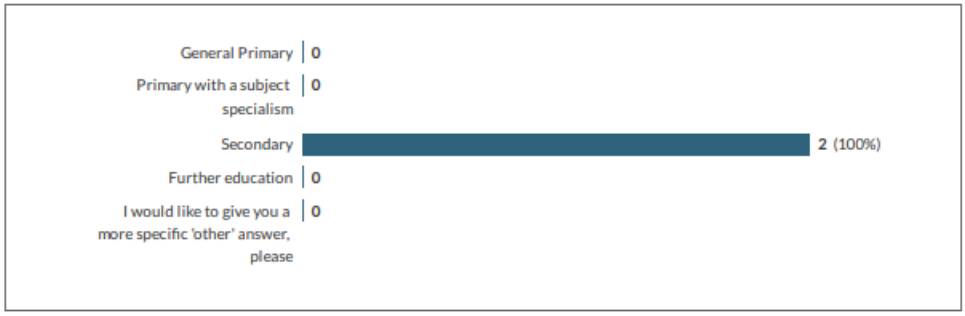
12 Which of the following best describes your route into teaching?




12.a If you selected Other, please specify:

*No responses*

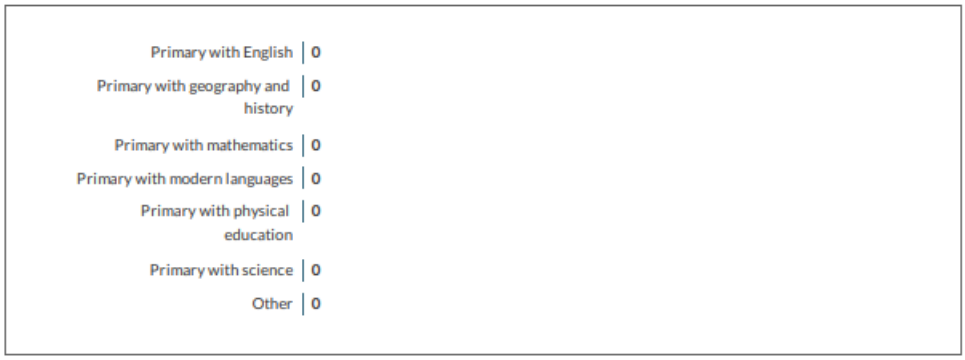
12.b What is your phase and/or subject specialism?




12.b.i If you selected Other, please specify:

*No responses*

12.b.ii What is your subject specialism?



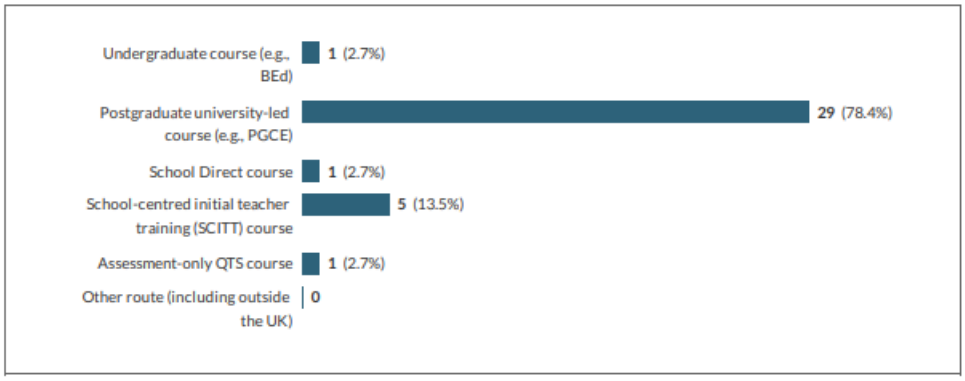

2.b.ii.a If you selected Other, please specify:

*No responses*

12.b.iii What is your subject specialism?

| Showing all 2 responses | |
|---|---|
| Geography | 937688-937670-102828505 |
| Geography | 937688-937670-103286042 |

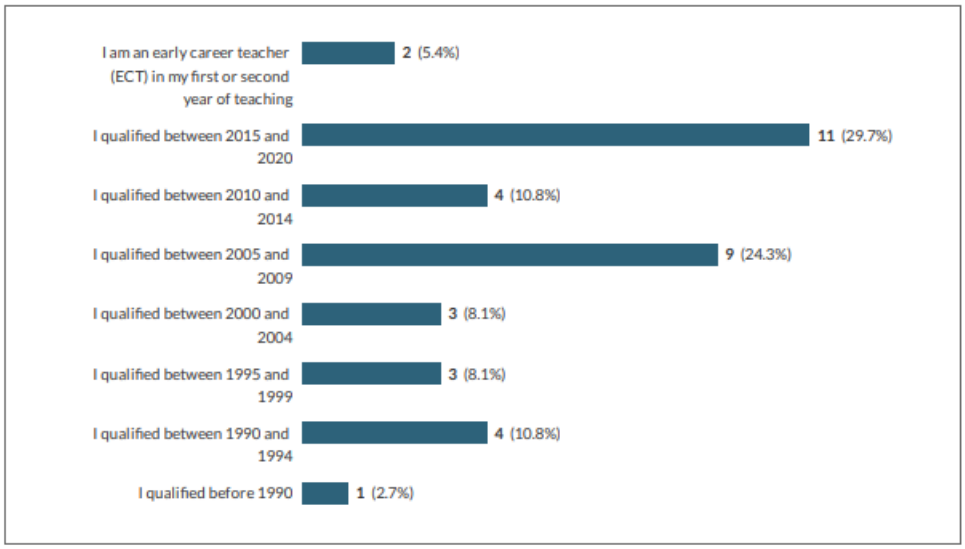
13 Which of the following best describes your route into teaching?



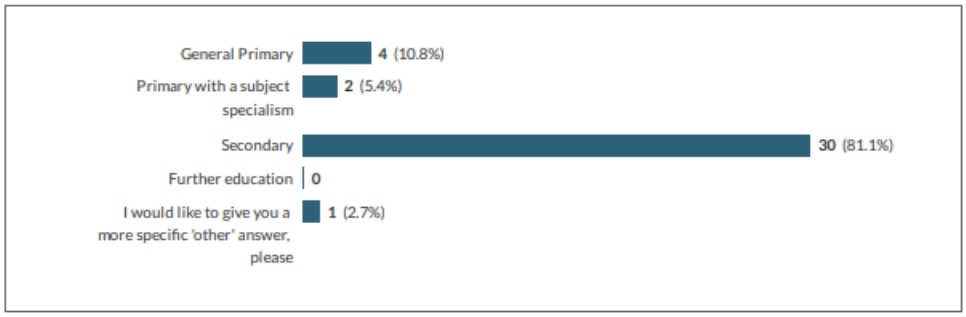

13.a If you selected Other, please specify:

*No responses*

14 When did you become a qualified teacher? (For the purposes of this question, please base your response on when you were first awarded qualified teacher status, regardless of any subsequent induction periods served as a newly qualified teacher or early career teacher.)



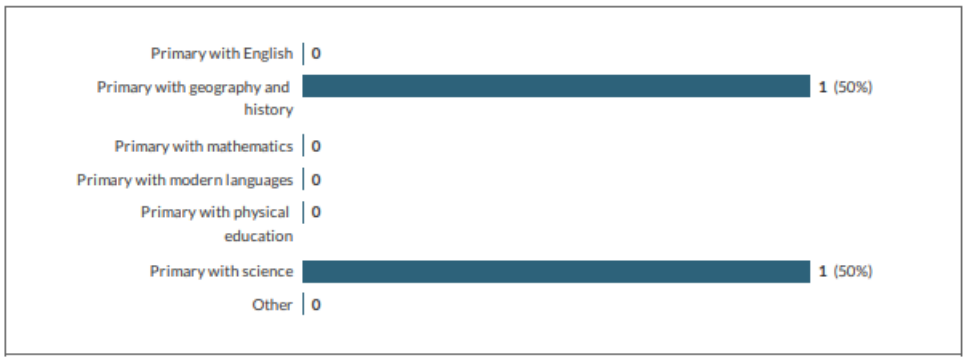
15 What is your phase and/or subject specialism?




15.a If you selected Other, please specify:

| Showing 1 response | |
|---|---|
| Early Years | 937688-937670-102819382 |

15.b What is your subject specialism?



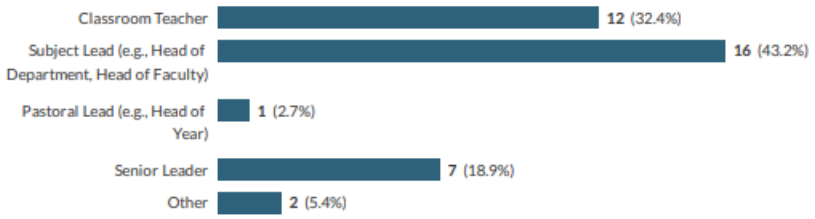

15.b.i If you selected Other, please specify:

*No responses*

15.c What is your subject specialism?

| Showing first 5 of 30 responses | |
|---|---|
| Geography | 937688-937670-102794476 |
| Geography | 937688-937670-102796593 |
| Geogrpahy | 937688-937670-102798770 |
| Geography | 937688-937670-102805340 |
| Geography | 937688-937670-102805955 |

16 Which of these best describes your current teaching role?




*Multi answer: Percentage of respondents who selected each answer option (e.g. 100% would represent that all this question's respondents chose that option)*

16.a If you selected Other, please specify:

| Showing all 2 responses | |
|---|---|
| Teacher trainer | 937688-937670-103221927 |
| Geography adviser | 937688-937670-103771239 |

17 Please give as much information about your academic identity as you wish. For example, you might provide a job title (e.g., Lecturer in Human Geography), the academic field in which you principally work (e.g. urban planning, ecology, geology) and/or or a brief description of your academic work (e.g., research fellow, focusing on...)

| Showing all 4 responses | |
|---|---|
| PGT programme lead | 937688-937670-102858876 |
| I am a lecturer who has worked across geography and education departments, working in teacher education and exploring the relationships between geography and education.<br><br>I am interested in children's geographies, geographies of education, geography education and children's rights | 937688-937670-103178290 |
| Professor | 937688-937670-103220094 |
| senior lecturer in Education - route leader to train secondary geography teachers. | 937688-937670-103766750 |

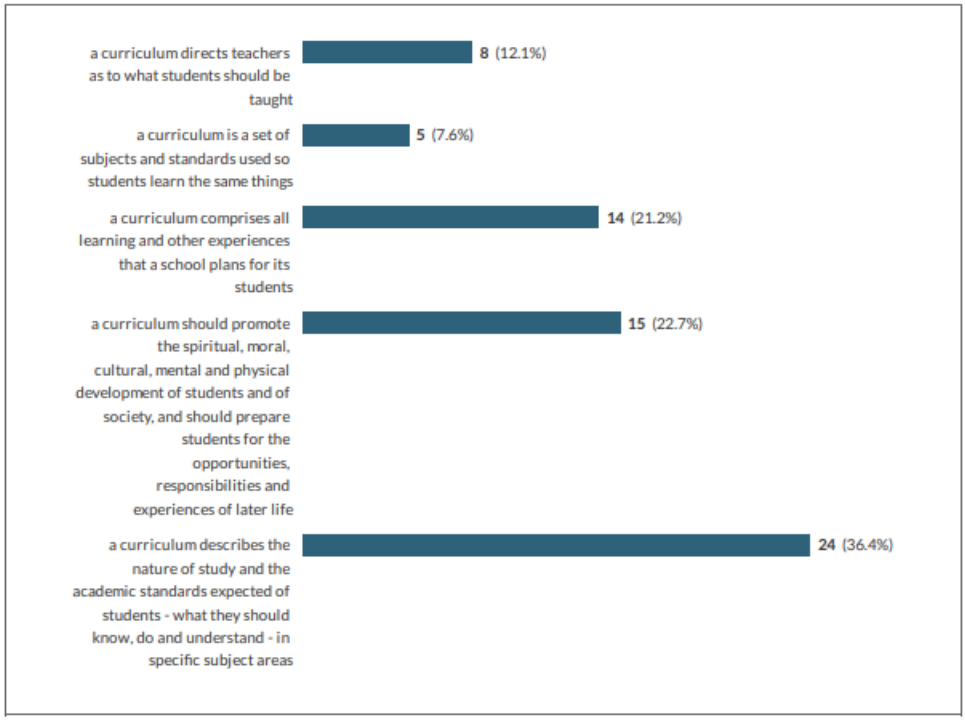
18 You have stated that you use geography as part of your profession, employment, or other work. Please give as much information about your professional identity as you wish. For example, you might provide a job title (e.g., Transport Planner), the industry or sector in which you principally work (e.g. civil service, retail, charity) and/or or a brief description of the ways in which you use geography in your work.

| Showing all 4 responses | |
|---|---|
| Geography Teacher of Key Stage three and four. | 937688-937670-102794354 |
| Geography teacher. Non-specialist teaching KS3 and previously KS4. | 937688-937670-102809558 |
| Teaching Assistant | 937688-937670-102810753 |
| Teacher of geog | 937688-937670-102904270 |

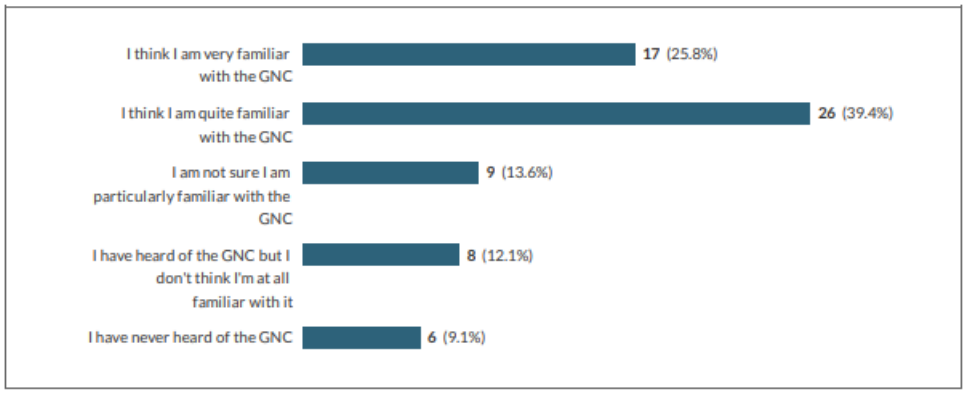
19 You have indicated that you don't identify with any of the categories provided in the previous question. Would you like to tell me a little more about what you feel is your identity?

| Showing 1 response | |
|---|---|
| Completed postgraduate (PhD) qualification, then completed 15 years as a secondary Geography teacher. I now work in Geography teacher education, but not at a university. | 937688-937670-103190689 |

20 There are many and varied definitions of 'curriculum'. Which one of the following definitions best aligns with your view of what a curriculum is?

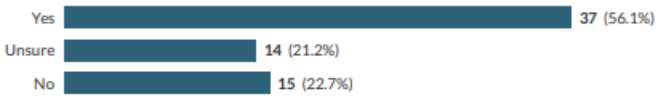



21 To what extent are you familiar with the Geography National Curriculum (GNC) for England?



22 To the best of your understanding, which of the following are features of the current Geography National Curriculum (GNC) for England? Regardless of your familiarity with the GNC, please still attempt this question, based on what you assume children and young people in England might learn about geography in school.

22.1 Develop 'geographical imaginations' of places



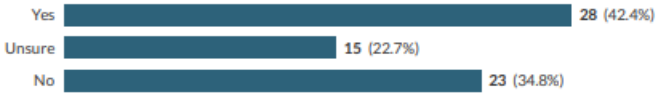

*Multi answer: Percentage of respondents who selected each answer option (e.g. 100% would represent that all this question's respondents chose that option)*

22.2 Use geographical approaches and concepts, such as models and theories




*Multi answer: Percentage of respondents who selected each answer option (e.g. 100% would represent that all this question's respondents chose that option)*

22.3 Interpret synoptic charts and images of cloud patterns obtained from weather satellites




*Multi answer: Percentage of respondents who selected each answer option (e.g. 100% would represent that all this question's respondents chose that option)*

22.4 Develop contextual knowledge of the location of globally significant places




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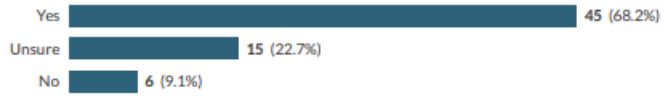
*Multi answer: Percentage of respondents who selected each answer option (e.g. 100% would represent that all this question's respondents chose that option)*

22.5 Compare differences in economic development and welfare in different parts of the world.



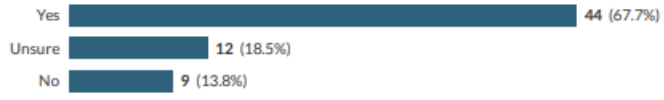

*Multi answer: Percentage of respondents who selected each answer option (e.g. 100% would represent that all this question's respondents chose that option)*

22.6 Construct maps and plans at a variety of scales, using graphical techniques to present evidence.



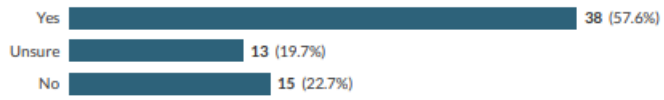

*Multi answer: Percentage of respondents who selected each answer option (e.g. 100% would represent that all this question's respondents chose that option)*

22.7 Develop appropriate skills, attributes and values to examine how the world is, and how to shape a better, more socially just and sustainable world.




*Multi answer: Percentage of respondents who selected each answer option (e.g. 100% would represent that all this question's respondents chose that option)*

22.8 Learn about geological timescales




12 / 32

*Multi answer: Percentage of respondents who selected each answer option (e.g. 100% would represent that all this question's respondents chose that option)*

22.9 Develop skills in the presentation, interpretation, analysis and consideration of quantitative data



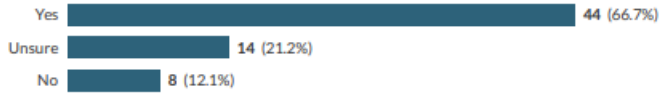

*Multi answer: Percentage of respondents who selected each answer option (e.g. 100% would represent that all this question's respondents chose that option)*

22.10 Investigate environmental issues, such as global warming, in which people's current needs have to be balanced against the needs of future generations



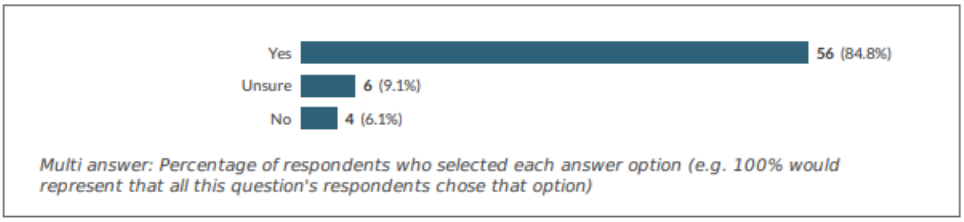

*Multi answer: Percentage of respondents who selected each answer option (e.g. 100% would represent that all this question's respondents chose that option)*

22.11 Learn about the change in climate from the Ice Age to the present



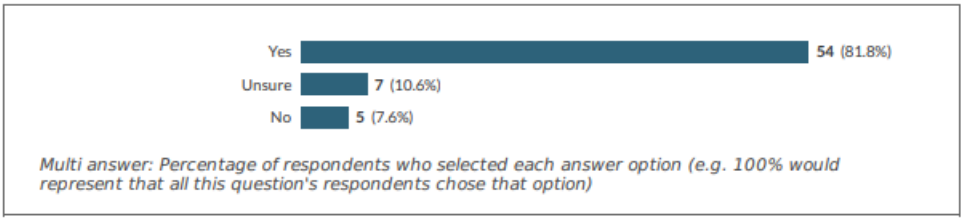

*Multi answer: Percentage of respondents who selected each answer option (e.g. 100% would represent that all this question's respondents chose that option)*

22.12 Demonstrate an awareness of places, including and beyond the individual's own immediate everyday experience



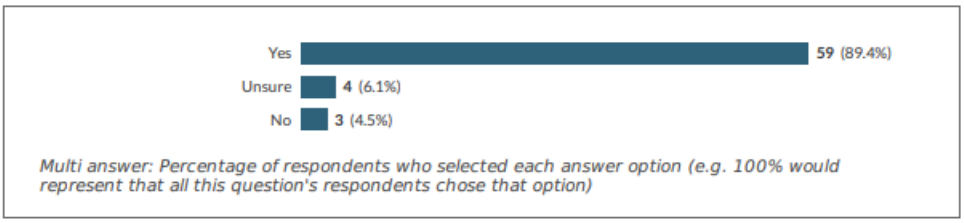

*Multi answer: Percentage of respondents who selected each answer option (e.g. 100% would represent that all this question's respondents chose that option)*

22.13 Develop knowledge of globes, maps and atlases



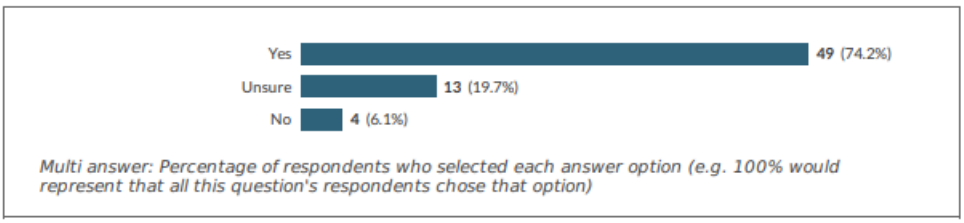

*Multi answer: Percentage of respondents who selected each answer option (e.g. 100% would represent that all this question's respondents chose that option)*

22.14 Develop an understanding of the world as a global community and the issues and challenges of global interdependence and responsibility




*Multi answer: Percentage of respondents who selected each answer option (e.g. 100% would represent that all this question's respondents chose that option)*

22.15 Use Geographical Information Systems (GIS)



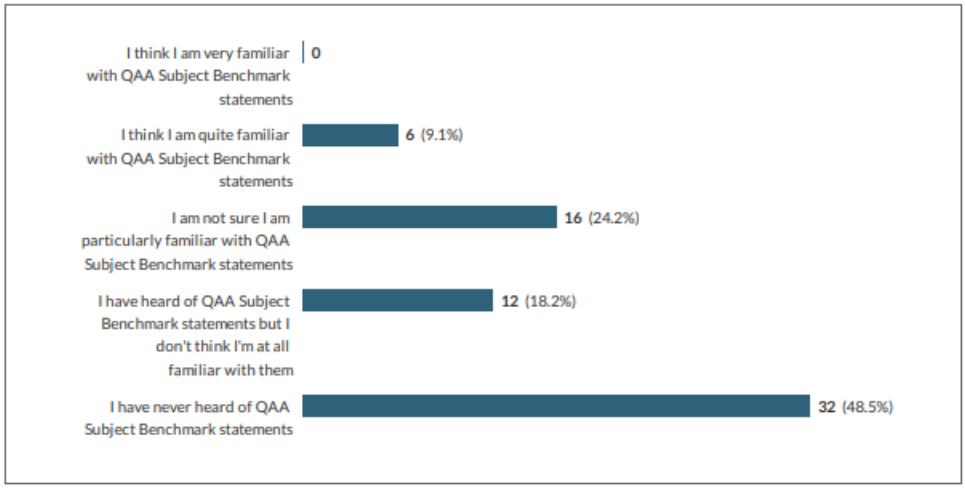

*Multi answer: Percentage of respondents who selected each answer option (e.g. 100% would represent that all this question's respondents chose that option)*

23 Complete the following sentence in whatever way you wish: The school geography curriculum

should...

| Showing first 5 of 59 responses | |
|---|---|
| Develop students' discplinary and substantive knowledge and inspire interest in the world around them and a love of learning about their place in that world | 937688-937670-102794476 |
| Engage and inspire pupils to apply their knowledge and apply it to geographical setting. | 937688-937670-102794354 |
| Give pupils powerful and useful knowledge that they can use to make evidence based decisions in their future. | 937688-937670-102796593 |
| Be interesting, current and have a special consideration for equality, diversity and inclusion, to create globalised citizens, who are empathetic. | 937688-937670-102798770 |
| encourage children to be interested and eager to learn about Geography | 937688-937670-102800334 |

24 To what extent are you familiar with QAA Subject Benchmark statements?



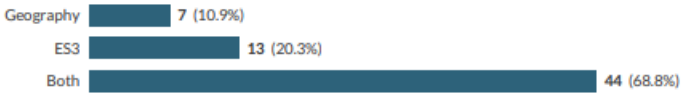

25 To the best of your understanding, to which discipline does each of these features/characteristics relate? (note: ES3 is Earth Sciences, Environmental Sciences, Environmental Studies) Regardless of your familiarity with academic geography/ES3, please still attempt this question, based on what you assume students might learn about geography/ES3 at university.

25.1 Develop an awareness of the social, cultural and political context in which knowledge is produced




*Multi answer: Percentage of respondents who selected each answer option (e.g. 100% would represent that all this question's respondents chose that option)*

25.2 Have knowledge of the structure, composition and materials of the solid Earth




*Multi answer: Percentage of respondents who selected each answer option (e.g. 100% would represent that all this question's respondents chose that option)*

25.3 Use qualitative and quantitative data, have an understanding of using data sets and an appreciation of how to assess data quality and uncertainty




*Multi answer: Percentage of respondents who selected each answer option (e.g. 100% would represent that all this question's respondents chose that option)*

25.4 Plan, design and execute a piece of rigorous research or enquiry, both independently and in groups, including the production of a final report




*Multi answer: Percentage of respondents who selected each answer option (e.g. 100% would represent that all this question's respondents chose that option)*

25.5 Have knowledge and understanding of subject-specific theories, paradigms, concepts and principles



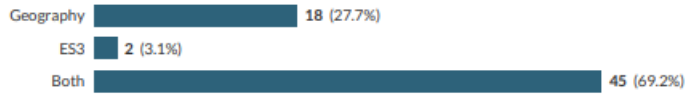

*Multi answer: Percentage of respondents who selected each answer option (e.g. 100% would represent that all this question's respondents chose that option)*

25.6 Develop a reasoned argument




*Multi answer: Percentage of respondents who selected each answer option (e.g. 100% would represent that all this question's respondents chose that option)*

25.7 Understand how human and physical processes interact to influence and change landscapes, environments and the climate; and how human activity relies on the effective functioning of natural systems



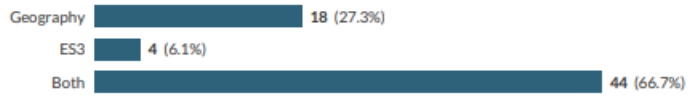

*Multi answer: Percentage of respondents who selected each answer option (e.g. 100% would represent that all this question's respondents chose that option)*

25.8 Analyse and problem-solve through quantitative and qualitative methods



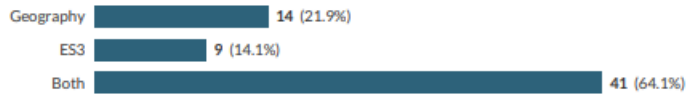

*Multi answer: Percentage of respondents who selected each answer option (e.g. 100% would represent that all this question's respondents chose that option)*

25.9 Understand how geographical processes interact to create distinctive human and physical landscapes that change over time



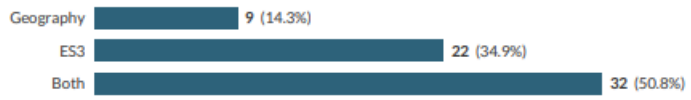

*Multi answer: Percentage of respondents who selected each answer option (e.g. 100% would represent that all this question's respondents chose that option)*

25.10 Enact diverse and alternative approaches to sustainable development




*Multi answer: Percentage of respondents who selected each answer option (e.g. 100% would represent that all this question's respondents chose that option)*

25.11 Understand geological timescales




*Multi answer: Percentage of respondents who selected each answer option (e.g. 100% would represent that all this question's respondents chose that option)*

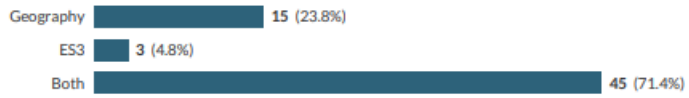
25.12 Effectively articulate and synthesise an argument




*Multi answer: Percentage of respondents who selected each answer option (e.g. 100% would represent that all this question's respondents chose that option)*

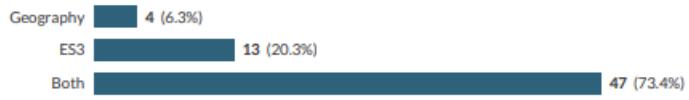
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25.13 Enrich locational knowledge and spatial and environmental understanding




*Multi answer: Percentage of respondents who selected each answer option (e.g. 100% would represent that all this question's respondents chose that option)*

25.14 Appreciate the need to act and work in an ethical and sustainable manner and in compliance with relevant legislation




*Multi answer: Percentage of respondents who selected each answer option (e.g. 100% would represent that all this question's respondents chose that option)*

25.15 Use geospatial technologies such as digital cartography, GIS and remote sensing




*Multi answer: Percentage of respondents who selected each answer option (e.g. 100% would represent that all this question's respondents chose that option)*

26 If you have obtained, or are currently completing, a degree (undergraduate or postgraduate) in geography or a geography related discipline, what aspect of academic geography do you find most inspirational?

| Showing all 47 responses | |
|---|---|
| Physical geography | 937688-937670-102794354 |
| Hazard management | 937688-937670-102796593 |
| Fieldwork/research | 937688-937670-102798770 |

| | |
|---|---|
| Sustainability | 937688-937670-102805340 |
| How it can be used to create policies to help the real world, eg climate change | 937688-937670-102807276 |
| Working with human geography concepts about people's attachment to place | 937688-937670-102808358 |
| Urban geography | 937688-937670-102810735 |
| N/A | 937688-937670-102819266 |
| Solutions to climate change | 937688-937670-102819358 |
| n/a | 937688-937670-102819382 |
| Human and developmental Geography | 937688-937670-102820581 |
| Module in 3rd year of undergraduate study, titled Nature-Society relations. Conceptually stimulating looking at the paradigm shift of the 20th century as being the first Ecological century. | 937688-937670-102822522 |
| Social geographies | 937688-937670-102823454 |
| Urban planning and design | 937688-937670-102823973 |
| Children's geographies and urban geographies | 937688-937670-102829387 |
| the coverage it provides | 937688-937670-102831736 |
| The inter-relationships between the natural world and the human world and the effect that geopolitics has on this relationship. | 937688-937670-102831810 |
| The breadth of the subject which allows a great understanding of the world around you and the way in which systems work from physical systems to political systems. | 937688-937670-102820796 |
| Political and Social Geographies | 937688-937670-102839512 |
| na | 937688-937670-102858876 |
| How the earth has changed physically over time and how this is being influenced more now by humans | 937688-937670-102860419 |
| Human | 937688-937670-102866555 |
| Independent study- dissertation applying theory and analysing data to draw my own conclusions | 937688-937670-102874240 |
| Fieldwork | 937688-937670-102874866 |
| Cultural geographies of development/decolonial development geographies on the human side and river restoration on the physical side | 937688-937670-102884034 |
| Looking at the past to improve the present | 937688-937670-102885769 |
| Quaternary Science | 937688-937670-102996432 |
| the relationship between the aesthetic landscape and human creative representations, based on the psychological response to dramatic landscapes | 937688-937670-102992873 |
| GIS | 937688-937670-103021663 |

| | |
|---|---|
| Environmental and Societal Challenges | 937688-937670-103025300 |
| looking at globally relevant concepts and knowing that people halfway across the world are learning similar stuff that resonates with their everyday | 937688-937670-103104656 |
| Natural hazards | 937688-937670-103168048 |
| a | 937688-937670-103168060 |
| Application to the real world through research | 937688-937670-103175699 |
| Climatology. | 937688-937670-103176081 |
| urban geography and children's geographies | 937688-937670-103178290 |
| The combination of discipline synopticity, and the ability to specialise deeply. Geography brings these things together, and makes them a stronger whole than the sum of the parts - and that's what's so exciting! | 937688-937670-103190689 |
| Space and Place | 937688-937670-103216992 |
| Geopolitical geography - factors that lead to the growth and decline of superpowers | 937688-937670-103219556 |
| Carceral geography | 937688-937670-103220094 |
| Very difficult question! Most things! I'm particularly drawn to tectonics, ecosystems and development. | 937688-937670-103221927 |
| Most prominently areas around sustainability and developing circular economies within cities to reduce waste and promote recycling. For my dissertation also I have been learning about the importance of emotional geographies and the role this plays in many aspects of children's and young people's lives. | 937688-937670-103249496 |
| analysing the place of geography in moulding student's personalities and beliefs about the world around them. | 937688-937670-103286042 |
| Human Geography topics in particular childhood geographies and space and place as it helps us to understand many themes within the human population and how we interact with both other people and places. | 937688-937670-103685964 |
| the ethical, moral aspects of making decisions | 937688-937670-103771239 |
| Sustainability | 937688-937670-103803084 |
| Place based identities and concepts around community | 937688-937670-104098916 |

27 Are there any notable 'geographers' (including those working in a geography related field) of whom you believe children and young people should be aware? Please list their name(s) here.

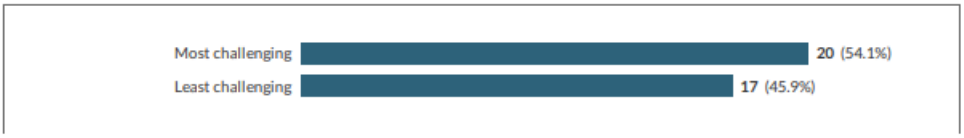
| **Showing all 34 responses** | |
|---|---|
| Simon Reeve | 937688-937670-102796593 |
| David Attenborough<br>Ian Stewart | 937688-937670-102798770 |

| | |
|---|---|
| Tim Marshall | |
| David Attenborough<br>Simon Reeve | 937688-937670-102805340 |
| Doreen Massey, Heather Viles | 937688-937670-102807276 |
| Not sure | 937688-937670-102819266 |
| n/a | 937688-937670-102819382 |
| Dominique Moran | 937688-937670-102820581 |
| von Humboldt, Ritter, Mackinder. Foundations of geography as a subject.<br>Mercator and Peters for map projections.<br>Contemporary writer- Danny Dorling | 937688-937670-102822522 |
| David Attenborough<br>Tim Marshall<br>Charles Darwin | 937688-937670-102823454 |
| Hans Rosling - statistician (deceased but inspiring videos and positive outcomes for the world)<br>David Attenborough's views positively on what humans need to do. | 937688-937670-102823973 |
| no | 937688-937670-102831736 |
| Prof Danny Dorling<br>Author -Tim Marshall, Joseph Stiglitz, Jared Diamond | 937688-937670-102831810 |
| David Attenborough<br>Tim Marshall<br>Simon Reeves | 937688-937670-102839512 |
| Carl Ritter | 937688-937670-102858876 |
| Doreen Massey<br>Ye Fu Tuan<br>Krebbs | 937688-937670-102860419 |
| David Attenborough<br>Harry Hess<br>Darwin | 937688-937670-102874240 |
| Hans Rosling; Tim Marshall | 937688-937670-102992873 |
| Rachel Carson<br>Theodore Roosevelt | 937688-937670-103025300 |
| Jack Dangermond, Dawn Wright, too many to mention | 937688-937670-103168060 |
| Eleanor Rawlings<br>The RGS geography superheros | 937688-937670-103175699 |
| Ben Fogle, Sir Michael Palin | 937688-937670-103176081 |
| Peter Kraftl<br>Johanna Waters<br>Doreen Massey<br>David Harvey<br>Catherine Walker<br>Ash Amin | 937688-937670-103178290 |

| | |
|---|---|
| Peter Hopkins<br>David Lambert<br>Noel Castree<br>Margaret Roberts<br>etc. etc. | |
| Prof Chris Jackson<br>Prof Iain Stewart<br>Prof Katherine Hayhoe<br>The Roslings! | 937688-937670-103190689 |
| David Attenborough, Hans Rosling, Darshini David, Greta Thunberg | 937688-937670-103203715 |
| Sir David Attenborough | 937688-937670-103216992 |
| Margaret Roberts | 937688-937670-103219556 |
| Sir David Attenborough. | 937688-937670-103221927 |
| Andy Hargreaves - He focuses on the emotional geographies of teachers and their interactions with students and relationships with colleagues | 937688-937670-103249496 |
| Greta Thumberg | 937688-937670-103286042 |
| Peter Knight<br>Richard Waller<br>David Attenborough<br>Doreen Massey<br>Carl Ritter<br>Yi-Fu Tuan<br>Hans Rosling<br>David Harvey | 937688-937670-103685964 |
| Mary Anning<br>David Attenborough | 937688-937670-103771239 |
| Danny Dorling | 937688-937670-103803084 |
| James Lovelock | 937688-937670-103967800 |
| Edward Said,<br>Massey, | 937688-937670-104098916 |

28 Previous research has identified some of the challenges of progressing from school geography to academic geography. Based on your opinion, please choose the two most challenging and two least challenging factors.

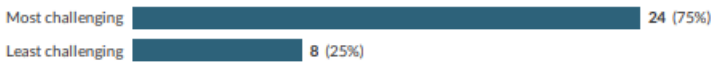
28.1 Students aren't aware of what they will learn about in academic geography; geography becomes much broader at university and many of the topics aren't those that students were aware of when at school, or would associate with geography




23 / 32

*Multi answer: Percentage of respondents who selected each answer option (e.g. 100% would represent that all this question's respondents chose that option)*

28.2 Students aren't as aware of geography related disciplines (e.g., Earth Sciences, geology, urban planning, ecology) that they might choose to study at university, so they might not make informed choices




*Multi answer: Percentage of respondents who selected each answer option (e.g. 100% would represent that all this question's respondents chose that option)*

28.3 Post-16 geography doesn't equip students with the technical skills (e.g., GIS, confidence with a range of technologies) needed to successfully progress to studying geography at university




*Multi answer: Percentage of respondents who selected each answer option (e.g. 100% would represent that all this question's respondents chose that option)*

28.4 The post-16 geography curriculum lacks the equality, diversity, inclusion and representation to encourage and enable all students to access geography at university




*Multi answer: Percentage of respondents who selected each answer option (e.g. 100% would represent that all this question's respondents chose that option)*

28.5 Students don't choose the most appropriate facilitating subjects needed to successfully progress to studying geography at university




*Multi answer: Percentage of respondents who selected each answer option (e.g. 100% would*

*represent that all this question's respondents chose that option)*

28.6 Not all post-16 students are taught in school by geography specialist teachers; without these specialist teachers, students may not attain the grade required to meet the entry requirements for academic geography




*Multi answer: Percentage of respondents who selected each answer option (e.g. 100% would represent that all this question's respondents chose that option)*

28.7 Post-16 geography doesn't equip students with the wider academic skills needed to successfully progress to studying geography at university




*Multi answer: Percentage of respondents who selected each answer option (e.g. 100% would represent that all this question's respondents chose that option)*

28.8 Post-16 geography doesn't equip students with the subject knowledge needed to successfully progress to studying geography at university




*Multi answer: Percentage of respondents who selected each answer option (e.g. 100% would represent that all this question's respondents chose that option)*

28.9 Students don't fully understand what geography's academic identity is, or recognise the 'geographers' who are currently shaping the discipline through active research




*Multi answer: Percentage of respondents who selected each answer option (e.g. 100% would represent that all this question's respondents chose that option)*

28.10 Not all post-16 students are taught in school by geography specialist teachers; without these specialist teachers, students may not be well informed by the opportunities presented by academic geography




*Multi answer: Percentage of respondents who selected each answer option (e.g. 100% would represent that all this question's respondents chose that option)*

28.11 Other challenge(s) not specified




*Multi answer: Percentage of respondents who selected each answer option (e.g. 100% would represent that all this question's respondents chose that option)*

29 If you selected 'other challenge(s) not specified' in the previous question, would you like to elaborate further here?

| Showing first 5 of 6 responses | |
|---|---|
| N/A | 937688-937670-102819266 |
| very posh white subject | 937688-937670-102820868 |
| Geogrpahy is seen in many cultures as not being academic and leading to traditional careers, hence the lack of diversity uptake. Need more career links from KS1-KS5 | 937688-937670-102823973 |
| other subjects misinforming students about what geography has to offer and parents/ guardians who are ill informed for example you hsve to do 2 sciences and maths if you want to do medicine | 937688-937670-103168060 |
| I think we need to define specialist teachers here. Someone might have a UG degree and PGCE in geography, but be disengaged and/or disempowered in their roles. | 937688-937670-103178290 |

30 If you have obtained, or are currently completing, a degree in geography or a geography related discipline, what aspect(s) of academic geography did you feel least prepared for when you began your degree?

| Showing first 5 of 44 responses | |
|---|---|
| Carrying out a robust investigation in order to complete a dissertation | 937688-937670-102794476 |
| GIS | 937688-937670-102796593 |
| Oceanography | 937688-937670-102798770 |
| Meteorology | 937688-937670-102805340 |
| Using statistical and GIS skills | 937688-937670-102807276 |

**31** Previous research has identified some of the benefits that might arise from more closely connecting school geography to academic geography. Based on your opinion, please choose the two benefits you would prioritise.

**31.1** A more closely connected curriculum enables school geographers to being to develop the range of personal attributes, geocapabilities and skills with applied, real-world relevance that will equip them for, and serve them beyond, higher education




*Multi answer: Percentage of respondents who selected each answer option (e.g. 100% would represent that all this question's respondents chose that option)*

**31.2** Geographers are highly employable and receive competitive graduate salaries, so more closely connecting school geography to academic geography prepares young people to become financially independent and employable



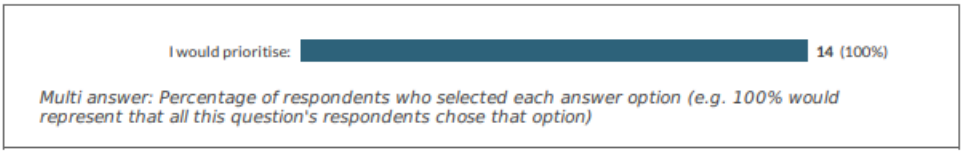

*Multi answer: Percentage of respondents who selected each answer option (e.g. 100% would represent that all this question's respondents chose that option)*

**31.3** Geographers can apply their skills to make a positive difference in the world, and a more closely connected curriculum enables school geographers to identify, inform and tackle the global issues being addressed in the academic discipline



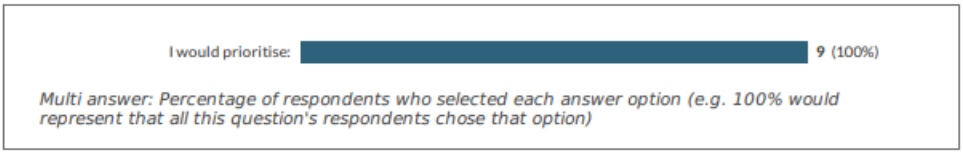

*Multi answer: Percentage of respondents who selected each answer option (e.g. 100% would represent that all this question's respondents chose that option)*

31.4 A more closely connected curriculum enables school geographers to better grasp what geography they might learn at university, so enabling them to make more informed choices about their university applications



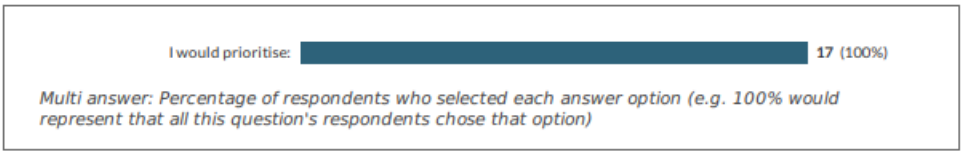

*Multi answer: Percentage of respondents who selected each answer option (e.g. 100% would represent that all this question's respondents chose that option)*

31.5 A more closely connected curriculum enables the discipline to address issues of equality, diversity, inclusion and representation and to become a more inclusive learning community in both secondary and higher education settings



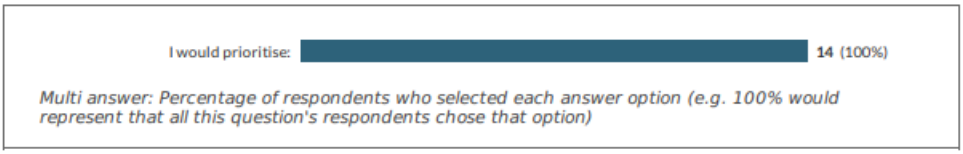

*Multi answer: Percentage of respondents who selected each answer option (e.g. 100% would represent that all this question's respondents chose that option)*

31.6 A more closely connected curriculum empowers subject specialist geography teachers to continue developing their subject knowledge and to keep abreast of contemporary developments and debates in the discipline




*Multi answer: Percentage of respondents who selected each answer option (e.g. 100% would represent that all this question's respondents chose that option)*

31.7 A more closely connected curriculum enables geographers in secondary and higher education settings to develop a shared understanding of subject specific pedagogical approaches, facilitating the transition from school to university for students



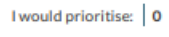

*Multi answer: Percentage of respondents who selected each answer option (e.g. 100% would represent that all this question's respondents chose that option)*

31.8 A more closely connected curriculum helps to safeguard student recruitment for undergraduate geography courses




*Multi answer: Percentage of respondents who selected each answer option (e.g. 100% would represent that all this question's respondents chose that option)*

31.9 Other benefit(s) not specified




*Multi answer: Percentage of respondents who selected each answer option (e.g. 100% would represent that all this question's respondents chose that option)*

32 If you selected 'other benefit(s) not specified' in the previous question, would you like to elaborate further here?

| Showing all 2 responses | |
|---|---|
| N/A | 937688-937670-102819266 |
| GeoCapabilities is a bit of a loaded term so I avoided that! | 937688-937670-103178290 |

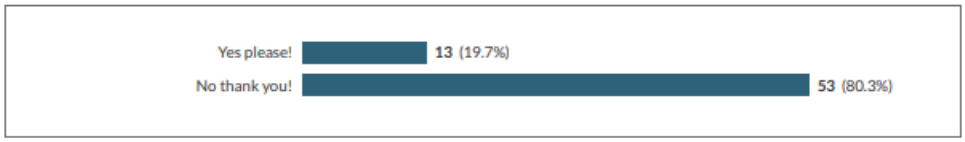
33 To the extent that you are able to comment, what aspects of academic geography do you feel are 'missing' from school geography and from which, were they included, young people could benefit learning about?

| Showing all 31 responses | |
|---|---|
| The complexities of resource management and the economic impacts of such | 937688-937670-102796593 |
| Spatial awareness, GIS knowledge and understanding (not just for students but staff too) | 937688-937670-102798770 |
| Abstract theories about human geography, eg feminism, poststructuralism, etc, and stats skills | 937688-937670-102807276 |
| GIS, graphical interpretation (only really done through independent revision at the moment - not taught but it should be), geographical context for theories (e.g. taught through case studies) | 937688-937670-102808358 |
| Not much! | 937688-937670-102809558 |
| N/A | 937688-937670-102819266 |
| Social geography, e.g. nudge theory. Carceral geography - how construction of buildings/prisons and the justice system impacts rehabilitation | 937688-937670-102820581 |
| Geography as a discipline. Notable geographers through time, developing the subject and moving it forward | 937688-937670-102822522 |

| | |
|---|---|
| the subject and moving it forward. | |
| The sub-disciplines within human and physical geography aren't mentioned | 937688-937670-102823454 |
| Links to careers throughout all key stages | 937688-937670-102823973 |
| GIS and other geographical technologies.<br>A greater understanding of the fact that there often multiple theories and points of view about aspects of human geography.<br>A greater quantity and variety of real-life fieldwork that gives young geographers a better understanding of what geography careers entail. | 937688-937670-102839512 |
| Cultural geography in particular but the majority of human geography courses are not covered in enough detail at school level and therefore people don't even realise they are classed as geography | 937688-937670-102860419 |
| I feel that most of what I learnt at GCSE and at A-level (although to a lesser extent) was on relevant topics but the information was outdated so the curriculum should be more regularly overhauled | 937688-937670-102884034 |
| None. I am a physical geography specialist and think my current A Level specification would prepare students well. We cannot cover every aspect of academic geography (e.g. glaciation) due to time constraints. The topics we cover lay the foundations for further study. If you were to increase the content to be covered at A Level you would lose the depth and therefore the academic rigor. | 937688-937670-102996432 |
| I believe that the current curriculum could include more focus on changing cultures and the presence of the virtual space | 937688-937670-102992873 |
| GIS | 937688-937670-103021663 |
| Physical geography other than natural disasters<br>Climatology<br>Societal challenges rather than population focused human geography | 937688-937670-103025300 |
| The context of knowledge production - I only ever touched on the idea of certain concepts being western-centric, and this was never prioritised at any stage of my school learning | 937688-937670-103104656 |
| uni are only bothered about their research profile and not teaching so students are always at a disadvantage | 937688-937670-103168060 |
| The format and depth seen at an undergraduate level. Students often struggle to make the jump from GCSE and during longer lecture style lessons often lose focus and need constant support. This is impossible at university and would result in then falling behind. A closer link between academic providers would allow students to see their end goal and prioritise skills needed to reach it. Most students I teach have never stepped foot in a university and are often overwhelmed by the thought. | 937688-937670-103176081 |
| I think space is undertheorisesd in school geography. I rarely see lessons on rural geography and think urban geography is taught poorly. Students often would like more independent inquiries and I think there should be more of a focus on the relationships between humans and more-than-humans | 937688-937670-103178290 |
| For most, the resource provision is very different - access to labs, computer rooms etc. to do work in some of those spaces is most critical in terms of provision | 937688-937670-103190689 |

| | |
|---|---|
| terms of provision.<br><br>But in reality, I think the biggest difference is the ratio of taught course to study time - and there's already a lot of content packed in to GCSE and A Level, and students/teachers simply don't have the time to think and do the deeper/wider explorations in any detail. That would make the biggest difference! | |
| Too far out of contemporary academic education to feel confident in commenting | 937688-937670-103216992 |
| School geography could include more of the latest geographical research and teach students to engage with it | 937688-937670-103221927 |
| There should be more discussion on the geographies of children and young people as this is an area that they can emotionally relate to at that point in their life time. They can also gain more knowledge surrounding the concepts of space and place as a result | 937688-937670-103249496 |
| Geographies of gender | 937688-937670-103286042 |
| More glacial research, greater depth of human geography | 937688-937670-103685964 |
| The ability to conduct individual research on topics. | 937688-937670-103771239 |
| More contemporary issues and concepts | 937688-937670-103803084 |
| A greater emphasis on synopticity and the skills required to practise it. | 937688-937670-103967800 |
| I feel very able to comment as a curriculum leader/lead practitioner of Geography in a secondary school setting. I feel young people can learn more about the breadth of knowledge in Geography and be given time to explore aspects of Geography outside of the requirement for examination. I feel this would only be possible if prescribed examined content were reduced as it is there is too much and I feel it discourages and overwhelms students in A Level study. | 937688-937670-104098916 |

34 Thank you for your survey responses. You also have an option to participate in a focus group. Based on your location, availability, and preference, the focus group may take place in person or remotely using a platform such as Zoom or Teams. The focus group is likely to last around one hour and will provide an opportunity to elaborate on some of your survey responses. The focus group will be audio recorded and then transcribed. Would you like to be contacted with further details about participating in a focus group?




34.a Please provide your full name, and a contact email address that you would be happy for me to use to contact you with further details about the focus group.

# Appendix 14: Summary of Questionnaire Data Coded by GACF.

| **Broad Code (GA, 2022a)** ***Additional codes***[22] | **Sub Code** ***Additional codes*** | **Key Term(s) and Associated Concepts** ***Additional terms and concepts*** | **References** |
|---|---|---|---|
| **Disciplinary Knowledge**: Key Concepts | | *Reference to the key concepts of disciplinary knowledge in general terms*<br><br>*Reference to the key concepts of disciplinary knowledge in integrative terms* | "…cover a range of both techniques and context of the concepts students learn" (S-10, q.23)<br><br>"…Develop students' discplinary [*sic*] and substantive knowledge and inspire interest in the world around them and a love of learning about their place in that world" (T-01, q.23) |
| | Space | Location<br>Distribution<br>Pattern<br>Interaction[23]<br>Interdependence<br>Globalisation<br>*Development*<br>Distance<br>Spatial process<br>Spatial dynamics<br>Spatial narratives<br>Spatial possibilities<br>Spatial justice<br>*Spatial variation*<br>Flows<br>*Global systems*<br>*International trade*<br>*Global governance*<br>*Geopolitics* | "…Ensure that students leave KS3 with the ability to understand development, cultures and differences in wealth across the globe along with understanding the physical processes involved the natural world. It is imperative that students become global citizen [*sic*]." (T-18, q.23)<br><br>"…Be balanced to provide students with a understanding of the world around them which encourages curiosity and breaks down stereotypes. It should examine both place and procedural knowledge to empower students in an increasingly globalised society." (T-66, q.23) |
| | Place | Character<br>Identity<br>Home<br>Community<br>Landscape[24] | "…make the colonial legacy and racism apparent in geography more clear and make it clear that people experience geography and places differently" (S-38, q.23) |

[22] Additional codes generated by the researcher through the document analysis, to supplement the framework established through the use of the GA (2022) *A Framework for the School Geography Curriculum*, are shown in italics.

[23] Distinct from 'interconnection' as an organising concept within disciplinary knowledge (DK-OC-IntC).

[24] Distinct from landscape as a broader context within which key and organising concepts can be applied and exemplified.

| | | | |
|---|---|---|---|
| | | Sense of place<br>Diversity<br>Nation<br>Assemblage<br>Meanings<br>Place narratives<br>Culture<br>Cultural diversity<br>Migration | "…Ensure that students leave KS3 with the ability to understand development, cultures and differences in wealth across the globe along with understanding the physical processes involved the natural world. It is imperative that students become global citizen [*sic*]." (T-18, q.23)<br><br>"…Be contemporary. Emphasise a diverse range of locational and place knowledge, human and physical processes, and subject-specific skills. It should develop awe and wonder, and develop the student's sense of place in thre [*sic*] world." (T-36, q.23) |
| | Earth Systems | Physical Processes<br>Physical Cycles<br>Dynamic Changes<br>-Biological<br>-Chemical<br>-Physical<br>Land use change<br>Land use management<br>Landform processes | "…expand knowledge and awareness beyond personal experiences, highlight the importance and function of earth processes, teach the needed skills for aspiring students and the state of the world and what is being done to improve quality of life for all." (S-45, q.23)<br><br>"…Ensure that students leave KS3 with the ability to understand development, cultures and differences in wealth across the globe along with understanding the physical processes involved the natural world. It is imperative that students become global citizen [*sic*]." (T-18, q.23) |
| | Environment | Interactions between physical and human geography<br>Ecosystems<br>Biodiversity<br>Environmental change<br>Environmental impact<br>Resources<br>Sustainability<br>Environmental stewardship<br>Environmental citizenship<br>*Climate change/climate crisis* | "…foster students [sic] imagination and a desire to learn and understand more of the world around us and humans [sic] place within this system of connected processes." (T-28, q.23)<br><br>"…include much more about the nature of, reasons for, and outcomes of climate change." (T-63, q.23)<br><br>"…Promote compassion and sustainability without enforcing stereotypes" (T-64, q.23) |
| **Disciplinary Knowledge**: Organising Concepts | | *Reference to the organising concepts of disciplinary knowledge in general terms* | |
| | Time | Past<br>Present<br>Future<br>Stability<br>Dynamism<br>Continuity[25]<br>Change<br>*Geological timescale(s)* | "…teach students about the past present and future world we live in, in a social and environmental context." (S-39, q.23) |

[25] Distinct from the broad term of 'continuity' as the subject of the research questions.

| | | | |
|---|---|---|---|
| | | *Epoch(s)*<br>*Era(s)*<br>*Period(s)* | |
| | Scale | Size of investigation<br>Local<br>Regional<br>National<br>International<br>Global<br>*Planetary*<br>Spatial relations<br>Multi-scalar connections | "…be inclusive and global" (A-31, q.23)<br><br>"…be based on our local immediate environment and as the child grown [*sic*] extend outwards beginning with England and moving further afield as the child grows. It should be based on lots of fieldwork where children get to link previous learning to build new learning on. It is based on learning new vocabulary and using these words in the correct context." (T-16, q.23)<br><br>"…develop a range geographical skills for all learners including the ability to think geographically and cover a broad base of geographical knowledge including local, national and global places." (T-19, q.23)<br><br>"…prepare students to be creative in solving current local, national and global issues" (T-25, q.23)<br><br>"…promote curiosity about the world and equip the children with the skills and knowledge to learn about the local area, wider community, country and the world." (T-41, q.23)<br><br>"…promote and support the development of Geographical thinking about a range of places, scales and issues, to best equip young people with the knowledge, skills and understanding they need to engage with, shape, and explore their world." (TE-52, q.23) |
| | Diversity | Range of characteristics<br>Similarity<br>Difference<br>Comparison<br>Contrast<br>Cultures<br>Identities[26]<br>*Inequality*<br>*Representation*[27] | "…make the colonial legacy and racism apparent in geography more clear and make it clear that people experience geography and places differently" (S-38, q.23)<br><br>"…Inspire students to learn more about the world they live in, develop a passion for places of geographical significance, appreciate their own environment and how it compares to the rest of the world." (T-11, q.23)<br><br>"…Ensure that students leave KS3 with the ability to understand development, cultures and differences in wealth across the globe along with understanding the physical processes involved the natural world. It is imperative that students become global citizen [*sic*]." (T-18, q.23)<br><br>"…Be contemporary. Emphasise a diverse range of locational and place knowledge, human and physical processes, and subject-specific skills. It should develop awe and wonder, and develop the student's sense of place in thre [*sic*] world." (T-36, q.23)<br><br>"…Promote compassion and sustainability without enforcing stereotypes" (T-64, q.23)<br><br>"…Be balanced to provide students with a understanding of the world around them which encourages curiosity and breaks down stereotypes. It should examine both place and procedural knowledge to empower students in an increasingly globalised society." (T-66, q.23) |

[26] Framed, for example, by feminist geographies, decolonising geographies, young people's geographies.
[27] Distinct from 'representation' as power as an aspect of disciplinary identity (DI-Pow).

| | | | |
|---|---|---|---|
| | Interconnection | People<br>Places<br>Environments<br>Spaces<br>Integration/Integrative | "…teach students about the past present and future world we live in, in a social and environmental context." (S-39, q.23)<br><br>"…Develop a coherent understanding of the world in which we live. It should develop an interconencted [*sic*] understanding of the world around us and support students to see how the elements of geography and connected, similar and different and be able to understand why." (TE-62, q.23)<br><br>"…Inspire students to learn more about the world they live in, develop a passion for places of geographical significance, appreciate their own environment and how it compares to the rest of the world." (T-11, q.23)<br><br>"…foster students [*sic*] imagination and a desire to learn and understand more of the world around us and humans [*sic*] place within this system of connected processes." (T-28, q.23)<br><br>"…allow children to become curious about themselves, aspire to improve their community and strive to make a difference in the world. It gives pupils an understanding of who they are, where they are, and how they can impact the wider world. Through an understanding of the physical and human features of the world and how they coexist, children can make positive changes that will affect our future planet sustainably." (T-33, q.23)<br><br>"…promote and support the development of Geographical thinking about a range of places, scales and issues, to best equip young people with the knowledge, skills and understanding they need to engage with, shape, and explore their world." (TE-52, q.23) |
| | Interpretation[28] | Changing narratives<br>Different values<br>Range of viewpoints<br>Range of interpretations<br>Contrasting imaginations<br>*Geographical similarities and differences* | |
| **Disciplinary Knowledge**: Practice/Geographical Skills[29] | | *Reference to geographical skills in general terms (including geographical literacy)*<br><br>*Reference to geographical skills in integrative terms* | "…cover a range of both techniques and context of the concepts students learn" (S-10, q.23)<br><br>"…expand knowledge and awareness beyond personal experiences, highlight the importance and function of earth processes, teach the needed skills for aspiring students and the state of the world and what is being done to improve quality of life for all." (S-45, q.23)<br><br>"…have a stronger focus on IT skills and have an incorporated unit for geographical skills that must be taught, rather than incorporating it into the scheme wherever possible as this can get lost in the students [*sic*] learning" (S-59, q.23)<br><br>"…Be practical and interesting" (T-07, q.23) |

[28] Distinct from aspects of interpretation related to geographical skills (DK-GeoSk) or application (DK-A) as aspects of disciplinary knowledge.
[29] GA (2022) draws on [the unpublished work' of] Roberts (2021) in outlining the nature of geographical practice.

| | | | |
|---|---|---|---|
| | | | "…be engaging, enlightening and inspiring. It should aim to spark curiosity in learners and help develop skills that are transferable as well as fostering a love of learning for the future. It should be relevant and relatable. Ideally it should develop life skills as well as subject related skills to create well rounded individuals." (T-08, q.23)<br><br>"…be based on our local immediate environment and as the child grown [*sic*] extend outwards beginning with England and moving further afield as the child grows. It should be based on lots of fieldwork where children get to link previous learning to build new learning on. It is based on learning new vocabulary and using these words in the correct context." (T-16, q.23)<br><br>"…develop a range geographical skills for all learners including the ability to think geographically and cover a broad base of geographical knowledge including local, national and global places." (T-19, q.23)<br><br>"…Be contemporary. Emphasise a diverse range of locational and place knowledge, human and physical processes, and subject-specific skills. It should develop awe and wonder, and develop the student's sense of place in thre [*sic*] world." (T-36, q.23)<br><br>"…promote curiosity about the world and equip the children with the skills and knowledge to learn about the local area, wider community, country and the world." (T-41, q.23)<br><br>"…have a focus on allowing students to explore the world around them and begin to unpick the themes of human and physical geography within a particular place. It should not focus on their being distinctions in human and physical geography and instead promote the connections. It should encourage students to gain a variety of skills from map work, graph work to analysis and interpretation." (T-61, q.23)<br><br>"…Be balanced to provide students with a understanding of the world around them which encourages curiosity and breaks down stereotypes. It should examine both place and procedural knowledge to empower students in an increasingly globalised society." (T-66, q.23)<br><br>"…provide students with a balance of breath and depth of core geographical content and disciplinary skills. It should help children make sense of the physical and human world and how to protect people and the planet." (TE-58, q.23) |
| | Observing[30] | Identifying geographical questions<br>-What?<br>-Where?<br>-When?<br>-Why?<br>-Who?<br>-How?<br>-What might?<br>-What ought? | |

[30] Through fieldwork, reading, media images, discussion, etc.

| | | | |
|---|---|---|---|
| | | Observing<br>Perceiving<br>Identifying [questions[31]] | |
| | Describing | Identifying [sources of geographical information[32]]<br>Gathering sources of geographical information<br>*Collecting sources of geographical information*<br>Using sources of geographical information<br>Defining<br>Extracting<br>Describing<br>Classifying<br>Categorising<br>Evaluating the credibility and reliability of sources of geographical information[33]<br>Bias<br>Accuracy<br>*Geographical reasoning*<br>*Inference* | |
| | Explaining | Analysing<br>Explaining<br>Making connections[34]<br>Statistical techniques<br>Analysing quantitative and qualitative[35] data<br>Comparing<br>Contrasting<br>Interpreting<br>Identifying relationships<br>Identifying impacts | |

[31] Distinct from 'identifying sources of information, related to 'describing' (DK-GeoSk-Desc).

[32] Distinct from 'identifying geographical questions', related to 'observing' (DK-GeoSk-Obs).

[33] Distinct from 'evaluating *critically* the credibility and reliability of sources of geographical information, related to 'evaluating' (DK-GeoSk-Eval).

[34] To everyday knowledge, to what is known geographically, to theories and models.

[35] GA (2022) makes a distinction between 'analysing quantitative data' and 'comparing, contrasting, and interpreting qualitative material' (emphasis added). In coding, the researcher makes no distinction between the handling of quantitative and qualitative data, and rejects the distinction between 'quantitative *data*' and 'qualitative *material*' rather than *data*; the QAA (2022) SBS for Geography implies that quantitative and qualitative research methods, and therefore the data generated by these research methods, are of equal standing in the academic discipline of geography. In addition, ALCAB (2014) often recommend that both quantitative and qualitative methods are drawn on across the areas of core (and non-core) content.

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| | | Identifying trends<br>Analysing values<br>Clarifying values | |
| | Presenting | Reaching conclusions<br>Relating conclusions to presented findings<br>Summarising<br>*Communicating findings*<br>Drawing together<br>*Synthesising*<br>*Synopticity*<br>Presenting<br>Giving reasoned explanations/interpretations<br>*Geographical reasoning*<br>*Inference*<br>Relating findings to geographical knowledge<br>Relating findings to theories<br>Weighing up alternatives[36]<br>Generalisations | |
| | Evaluating | Reflecting on what has been learned<br>Evaluating critically the credibility and reliability of sources of geographical information[37]<br>Responding<br>Reflecting on further avenues of enquiry<br>Clarifying one's own values, moral stance, and ethical stance<br>*Positionality*<br>Recognising possible courses of action for oneself<br>Recognising possible courses of action for others<br>*Making evidence-based decisions* | "…Give pupils powerful and useful knowledge that they can use to make evidence based decisions in their future." (T-03, q.23)<br><br>"…allow children to become curious about themselves, aspire to improve their community and strive to make a difference in the world. It gives pupils an understanding of who they are, where they are, and how they can impact the wider world. Through an understanding of the physical and human features of the world and how they coexist, children can make positive changes that will affect our future planet sustainably." (T-33, q.23) |
| | Fieldwork | Memorable experiences<br>Inspiration<br>Practical work<br>Practical group work | "…be based on our local immediate environment and as the child grown [*sic*] extend outwards beginning with England and moving further afield as the child grows. It should be based on lots of fieldwork where children get to link previous learning to build new learning on. It is based on learning new vocabulary and using these words in the correct context." (T-16, q.23) |

[36] Distinct from, but related to, 'designing alternative models' in 'learning how to apply' (DK-A)

[37] Distinct from 'evaluating the credibility and reliability of sources of geographical information, related to 'describing' (DK-GeoSk-Desc).

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| | | Leadership skills<br>Increased confidence<br>Ability to deal with risk<br>Ability to deal with uncertainty<br>Acquisition of knowledge through direct observation<br>Framing enquiry<br>Fieldwork methods<br>Fieldwork tools<br>Fieldwork approaches<br>*Accessibility*<br>*Inclusion (and exclusion)*<br>*Belonging*<br>*Othering*<br>*Learning outside the classroom*<br>*Outdoor education* | "…Get them [*learners?*] learning outside again" (T-40, q.23) |

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| **Disciplinary Knowledge**: Application | Learning how to apply, learning about, learning to | How geographers apply knowledge<br>Making use of geography<br>*Careers*<br>*Employability*<br>*Entrepreneurship*<br>Real world challenges and issues<br>Living peacefully with others<br>Living productively with others<br>Ensuring our future on the planet<br>*Education for sustainable development (ESD)*<br>Designing alternative models[38]<br>*Predicting*<br>*Thinking creatively*<br>*Problem-solving*<br>*Knowledge production*<br>*Geographical Information Systems (GIS)*<br>*Geographical Information Science (GSci)*<br>*Learners as global citizens*<br>*'The world around them'* | "…Help students understand how geography can be applied to the real world" (S-09, q.23)<br><br>"…encompass the current issues the world is facing and the possible solutions" (S-20, q.23)<br><br>"…Give young people an overview of the issues that shape their lives and the lives of others across the world, and give them to tools to be critical and look for solutions. (S-29, q.23)<br><br>"…Include more about the geographies of the world that young people may need in the future if they are to finish studying geography at year8/9 level." (S-32, q.23)<br><br>"…expand knowledge and awareness beyond personal experiences, highlight the importance and function of earth processes, teach the needed skills for aspiring students and the state of the world and what is being done to improve quality of life for all." (S-45, q.23)<br><br>"…develop students [*sic*] knowledges and skills so that they can be informed and empowered in making decisions today and in their futures. It should engage with disciplinary debates and shifts in geography, but also meaningfully engage with different knowledges and the world as experienced" (TE-51, q.23)<br><br>"…Engage and inspire pupils to apply their knowledge and apply it to geographical setting." (T-02, q.23)<br><br>"…Be interesting, current and have a special consideration for equality, diversity and inclusion, to create globalised citizens, who are empathetic." (T-04, q.23)<br><br>"…Inspire pupils to be global citizens" (T-06, q.23)<br><br>"…be engaging, enlightening and inspiring. It should aim to spark curiosity in learners and help develop skills that are transferable as well as fostering a love of learning for the future. It should be relevant and relatable. Ideally it should develop life skills as well as subject related skills to create well rounded individuals." (T-08, q.23)<br><br>"…Inspire students to learn more about the world they live in, develop a passion for places of geographical significance, appreciate their own environment and how it compares to the rest of the world." (T-11, q.23)<br><br>"…Enable students to become informed global citizens" (T-13, q.23)<br><br>"…Ensure that students leave KS3 with the ability to understand development, cultures and differences in wealth across the globe along with understanding the physical processes involved the natural world. It is imperative that students become global citizen [*sic*]". (T-18, q.23)<br><br>"…prepare students to be creative in solving current local, national and global issues" (T-25, q.23)<br><br>"…allow children to become curious about themselves, aspire to improve their community and strive to make a difference in the world. It gives pupils an understanding of who they are, where they are, and how they can impact the wider world. Through an understanding of the physical and human features of the world and how they coexist, children can make positive changes that will affect our future planet sustainably." (T-33, q.23) |

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| | | | "…enable all students to learn about geography with awe and wonder whilst supporting students for the world of work and later life." (T-35, q.23)<br><br>"…Be contemporary. Emphasise a diverse range of locational and place knowledge, human and physical processes, and subject-specific skills. It should develop awe and wonder, and develop the student's sense of place in thre [*sic*] world." (T-36, q.23)<br><br>"…put more of an emphasis on GIS" (T-37, q.23)<br><br>"…teach students about the most pressing issues in the world today and suggest solutions." (T-42, q.23)<br><br>"…Encourage young people to learn about the world around them and to be inquisitive global citizens." (T-44, q.23)<br><br>"…promote and support the development of Geographical thinking about a range of places, scales and issues, to best equip young people with the knowledge, skills and understanding they need to engage with, shape, and explore their world." (TE-52, q.23)<br><br>"…empower and inspire all students to become enquiring global citizens" (T-57, q.23)<br><br>"…prepare students for the outside world, and bridge the gap between school learning and the wider world practice." (T-60, q.23)<br><br>"…Be balanced to provide students with a understanding of the world around them which encourages curiosity and breaks down stereotypes. It should examine both place and procedural knowledge to empower students in an increasingly globalised society." (T-66, q.23)<br><br>"…provide students with a balance of breath and depth of core geographical content and disciplinary skills. It should help children make sense of the physical and human world and how to protect people and the planet." (TE-58, q.23) |

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| **Progression** | Conceptual understanding | The inherent structure of the subject<br>Hierarchy of concepts/ideas<br>Hierarchy of skills<br>'Terraces not ladders'<br>Exploring horizontally (breadth and range) and then vertically (a 'step up')<br>*Identifying misconceptions*<br>*Addressing misconceptions* | "…be based on our local immediate environment and as the child grown [*sic*] extend outwards beginning with England and moving further afield as the child grows. It should be based on lots of fieldwork where children get to link previous learning to build new learning on. It is based on learning new vocabulary and using these words in the correct context." (T-16, q.23) |
| | Curriculum experiences | Experiences planned by the teacher[39]<br>Teaching and learning experiences<br>*Pedagogy*<br>*Curriculum planning*<br>*Lesson planning*<br>*Teacher/educator identity* | "…be taught in every school especially in pimary [sic] were it isnt [sic]" (T-48, q.23)<br><br>"…Creatively interpret the national curriculum or examination specification and turn it into a coherent, challenging and engaging sequence of teaching and learning" (T-49, q.23) |
| | Outcome | Key features of learner performance<br>Threshold levels of performance | "…Ensure that students leave KS3 with the ability to understand development, cultures and differences in wealth across the globe along with understanding the physical processes involved the natural world. It is imperative that students become global citizen [*sic*]". (T-18, q.23) |
| | *Transition* | *Preparation for subsequent stage of education*<br>*Elements of 'overlap'*<br>*Spiral curriculum* | "…Ensure that students leave KS3 with the ability to understand development, cultures and differences in wealth across the globe along with understanding the physical processes involved the natural world. It is imperative that students become global citizen [*sic*]". (T-18, q.23)<br><br>"…Include more about the geographies of the world that young people may need in the future if they are to finish studying geography at year8/9 level." (S-32, q.23)<br><br>"…be taught in every school especially in pimary [sic] were it isnt [sic]" (T-48, q.23) |
| **Substantive Knowledge** | | *Reference to substantive knowledge in general terms* | "…Develop students' discplinary [*sic*] and substantive knowledge and inspire interest in the world around them and a love of learning about their place in that world" (T-01, q.23)<br><br>"…Be contemporary. Emphasise a diverse range of locational and place knowledge, human and physical processes, and subject-specific skills. It should develop awe and wonder, and develop the student's sense of place in thre [*sic*] world. (T-36, q.23) |
| | Locational knowledge | Geographical features<br>Rivers | "…Inspire wonder about places, give an overview of locations around the world" (T-53, q.23) |

[39] In the context of school geography, the 'teacher' is an easily identifiable source of curriculum experiences. In higher education, the 'teacher' with responsibility for developing curriculum experiences may include heads of academic departments, programme leaders, module leaders, lecturers, and postgraduate teaching assistants (PGTAs).

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| | | Seas/Oceans<br>Mountains<br>Cities<br>Positioning systems[40] | |
| | Place knowledge | The connection of location and physical and/or human processes with personal experience[41]<br>Named case studies (on any scale)<br>Country studies<br>Continent studies | "…include a range of geography topics which have a focus on contemporary case studies from around the world" (S-23, q.23)<br><br>"…develop a range geographical skills for all learners including the ability to think geographically and cover a broad base of geographical knowledge including local, national and global places." (T-19, q.23)<br><br>"…Inspire wonder about places, give an overview of locations around the world" (T-53, q.23)<br><br>"…Be balanced to provide students with a understanding of the world around them which encourages curiosity and breaks down stereotypes. It should examine both place and procedural knowledge to empower students in an increasingly globalised society." (T-66, q.23) |
| | Human processes | | |
| | Physical Processes | | |
| | Environmental Processes | | |
| ***Disciplinary Identity*** | *Geography as a discipline* | *History*<br>*Purpose*<br>*Core values*<br>*Fundamental*<br>*Defining*<br>*Characteristic*<br>*Distinctive*<br>*Thinking geographically*<br>*Relevance*<br>*Innovation*<br>*Contemporary*<br>*Breadth*<br>*Depth* | "…provide a broad understanding of each area of geography to provide a basic understanding of earth [*sic*]" (S-27, q.23)<br><br>"…cover all aspects of geography and give young people a broad overview of the subject so that they already possess a basic understanding of any subject area they want to further explore." (S-30, q.23)<br><br>"…make them [*learners?*] more aware of the world around them." (T-14, q.23)<br><br>"…allows [*sic*] students to make sense of the world around them." (T-15, q.23)<br><br>"…develop a range geographical skills for all learners including the ability to think geographically and cover a broad base of geographical knowledge including local, national and global places." (T-19, q.23) |

[40] As suggested by Ofsted (2021).
[41] As suggested by Ofsted (2021).

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| | | *Physical/Human*<br>*'Popular geography'* | "…Be contemporary. Emphasise a diverse range of locational and place knowledge, human and physical processes, and subject-specific skills. It should develop awe and wonder, and develop the student's sense of place in thre [*sic*] world." (T-36, q.23)<br><br>"…ensure that all students have an understanding of the key concepts of time, scale, place, space, processes and consequence, in both human and physical regards; in conjunction with an understanding of their own individual role in these as well as their role in larger scaled processes." (T-43, q.23)<br><br>"…Encourage young people to learn about the world around them and to be inquisitive global citizens." (T-44, q.23)<br><br>"…Prepare students to understand the world and society around them." (T-47, q.23)<br><br>"…Inspire students to want to learn more about the world around them" (T-54, q.23)<br><br>"…Provide a basis for mental model formation of geography in the minds of students i.e what makes places unique" (T-55, q.23)<br><br>"…have a focus on allowing students to explore the world around them and begin to unpick the themes of human and physical geography within a particular place. It should not focus on their being distinctions in human and physical geography and instead promote the connections. It should encourage students to gain a variety of skills from map work, graph work to analysis and interpretation." (T-61, q.23)<br><br>"…Inspire and equip students to be useful geographers." (T-65, q.23)<br><br>"…provide students with a balance of breath and depth of core geographical content and disciplinary skills. It should help children make sense of the physical and human world and how to protect people and the planet." (TE-58, q.23)<br><br>"…develop students [*sic*] knowledges and skills so that they can be informed and empowered in making decisions today and in their futures. It should engage with disciplinary debates and shifts in geography, but also meaningfully engage with different knowledges and the world as experienced" (TE-51, q.23) |
| | *Learner attributes* | *Curiosity*<br>*Fascination*<br>*Inspiration*<br>*Enjoyment*<br>*Satisfaction*<br>*Sense of achievement*<br>*Informed*<br>*Engaged*<br>*Lifelong learning*<br>*Impact*<br>*Independence*<br>*Learner attributes* | "…be exciting and encourage students to develop a passion for understanding the world around us" (S-26, q.23)<br><br>"…Develop students' discplinary [*sic*] and substantive knowledge and inspire interest in the world around them and a love of learning about their place in that world" (T-01, q.23)<br><br>"…Engage and inspire pupils to apply their knowledge and apply it to geographical setting." (T-02, q.23)<br><br>"…Be interesting, current and have a special consideration for equality, diversity and inclusion, to create globalised citizens, who are empathetic." (T-04, q.23)<br><br>"…encourage children to be interested and eager to learn about Geography" (T-05, q.23) |

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| | | | "…Be practical and interesting" (T-07, q.23)<br><br>"…be engaging, enlightening and inspiring. It should aim to spark curiosity in learners and help develop skills that are transferable as well as fostering a love of learning for the future. It should be relevant and relatable. Ideally it should develop life skills as well as subject related skills to create well rounded individuals." (T-08, q.23)<br><br>"…Inspire students to learn more about the world they live in, develop a passion for places of geographical significance, appreciate their own environment and how it compares to the rest of the world." (T-11, q.23)<br><br>"…foster students [*sic*] imagination and a desire to learn and understand more of the world around us and humans [*sic*] place within this system of connected processes." (T-28, q.23)<br><br>"…allow children to become curious about themselves, aspire to improve their community and strive to make a difference in the world. It gives pupils an understanding of who they are, where they are, and how they can impact the wider world. Through an understanding of the physical and human features of the world and how they coexist, children can make positive changes that will affect our future planet sustainably." (T-33, q.23)<br><br>"…enable all students to learn about geography with awe and wonder whilst supporting students for the world of work and later life." (T-35, q.23)<br><br>"…Be contemporary. Emphasise a diverse range of locational and place knowledge, human and physical processes, and subject-specific skills. It should develop awe and wonder, and develop the student's sense of place in thre [*sic*] world." (T-36, q.23)<br><br>"…promote curiosity about the world and equip the children with the skills and knowledge to learn about the local area, wider community, country and the world." (T-41, q.23)<br><br>"…Encourage young people to learn about the world around them and to be inquisitive global citizens." (T-44, q.23)<br><br>"…Inspire wonder about places, give an overview of locations around the world" (T-53, q.23)<br><br>"…Inspire students to want to learn more about the world around them" (T-54, q.23)<br><br>"…Promote compassion and sustainability without enforcing stereotypes" (T-64, q.23)<br><br>"…Inspire and equip students to be useful geographers." (T-65, q.23)<br><br>"…Be balanced to provide students with a understanding of the world around them which encourages curiosity and breaks down stereotypes. It should examine both place and procedural knowledge to empower students in an increasingly globalised society." (T-66, q.23) |

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| | *Learner diversity* | *Accessibility*<br>*Life experience*<br>*Circumstances*<br>*Learning contexts*<br>*Learner diversity*<br>*Access*<br>*Anticipatory practice*<br>*Appropriate*<br>*Equity*<br>*Inclusion*<br>*Exclusion*<br>*Equality*<br>*Protected characteristics*<br>*Self/other*<br>*Well-being*<br>*Risk*<br>*Safety*<br>*Flexibility*<br>*Rigidity* | "…develop students [*sic*] knowledges and skills so that they can be informed and empowered in making decisions today and in their futures. It should engage with disciplinary debates and shifts in geography, but also meaningfully engage with different knowledges and the world as experienced" (TE-51, q.23)<br><br>"…be inclusive and global" (A-31, q.23)<br><br>"…Be interesting, current and have a special consideration for equality, diversity and inclusion, to create globalised citizens, who are empathetic." (T-04, q.23)<br><br>"…enable all students to learn about geography with awe and wonder whilst supporting students for the world of work and later life." (T-35, q.23)<br><br>"…empower and inspire all students to become enquiring global citizens" (T-57, q.23) |
| | *Subject community* | *External perspective*<br>*Monitoring*<br>*Review*<br>*Quality assurance*<br>*CPD*<br>*Training*<br>*Subject associations*<br>*Capacity*<br>*Subject community*<br>*Curriculum resources*<br>*Specialism*<br>*Expertise*<br>*Partnership*<br>*Funding*<br>*Choice*<br>*Prescription*<br>*Shared understanding*<br>*Communication*<br>*Different education 'spaces'* | |
| | *Power* | *Representation*<br>*Decision making*<br>*Decision makers*<br>*Control*<br>*Significance*<br>*De/Colonialism* | "…make the colonial legacy and racism apparent in geography more clear and make it clear that people experience geography and places differently" (S-38, q.23)<br><br>"…develop students [*sic*] knowledges and skills so that they can be informed and empowered in making decisions today and in their futures. It should engage with disciplinary debates and shifts in geography, but also meaningfully engage with different knowledges and the world as experienced" (TE-51, q.23) |

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| | | *Imperialism*<br>*Empire*<br>*Anti-racism*<br>*Knowledge production*<br>*Plurality*<br>*Positionality*<br>*Relationality*<br>*Respect*<br>*Discomfort*<br>*In/Justice*<br>*Disadvantage*<br>*Responsibility*<br>*Ethics*<br>*Critical thinking*<br>*Theoretical perspectives*<br>*Alternative perspectives* | "…Promote compassion and sustainability without enforcing stereotypes" (T-64, q.23)<br><br>"…Be balanced to provide students with a understanding of the world around them which encourages curiosity and breaks down stereotypes. It should examine both place and procedural knowledge to empower students in an increasingly globalised society." (T-66, q.23) |
| | *Interdisciplinarity* | *Integrated*<br>*Holistic*<br>*STEM*<br>*SHAPE*<br>*Cross-disciplinarity*<br>*Inter-disciplinarity*<br>*Multi-disciplinarity*<br>*Cognate disciplines* | "…focus more on interdisciplinary skills" (S-46, q.23)<br><br>"…Inspire students to seek out the why and how behind all of the other subjects across the curriculum. It should be the solid foundation for which everything else is built upon." (T-50, q.23) |
| | *Geography Educator* | *Participant's own disciplinary background*<br>*Participant's own educational experiences in relation to practice*<br>*How the participant 'sees' themselves in relation to the discipline* | |

# Appendix 15: Summary of Interview Data Coded by GACF.

| **Broad Code (GA, 2022a)** ***Additional codes***[42] | **Sub Code** ***Additional codes*** | **Key Term(s) and Associated Concepts** ***Additional terms and concepts*** | **References** |
|---|---|---|---|
| **Disciplinary Knowledge**: Key Concepts | | *Reference to the key concepts of disciplinary knowledge in general terms*<br><br>*Reference to the key concepts of disciplinary knowledge in integrative terms* | |
| | Space | Location<br>Distribution<br>Pattern<br>Interaction[43]<br>Interdependence<br>Globalisation<br>*Development*<br>Distance<br>Spatial process<br>Spatial dynamics<br>Spatial narratives<br>Spatial possibilities<br>Spatial justice<br>*Spatial variation*<br>Flows<br>*Global systems*<br>*International trade*<br>*Global governance*<br>*Geopolitics* | "…what we're having to teach the [learners] right now, that will be different in a year or two years' time, is in the AQA spec at GCSE we talk about the UK being interconnected within the wider world and being a member of a trade group or trade associations, and since that was published, we've left the EU and lots of trade links are still developing [inaudible] and so for us … literally you'd have to go, I know we've left the EU but this is what AQA want you to learn. And it's not true to the current geography that we have." (Cole, 229-234) |
| | Place | Character<br>Identity<br>Home<br>Community<br>Landscape[44]<br>Sense of place | "[Researcher]: You've described working with young people that believe they cannot access academic work. You're showing them that they can. How do you go about choosing those scholarly resources that you use in the classroom?<br>[Marie]: It's usually through theme first, so what am I teaching within the specification. There have been a couple of examples. One of them was through urban challenges. And we were looking at some of the cultural influence of why people move to Mumbai. And the Financial Times actually did a really good article about the |

[42] Additional codes generated by the researcher through the document analysis, to supplement the framework established through the use of the GA (2022) *A Framework for the School Geography Curriculum*, are shown in italics.

[43] Distinct from 'interconnection' as an organising concept within disciplinary knowledge (DK-OC-IntC).

[44] Distinct from landscape as a broader context within which key and organising concepts can be applied and exemplified.

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| | | Diversity<br>Nation<br>Assemblage<br>Meanings<br>Place narratives<br>Culture<br>Cultural diversity<br>Migration | up and coming fashion industry in Mumbai and the changes brought about by the fact that billionaires live there… And I find that it's a little bit easier to introduce it within the human side of geography, because there's a lot more that I feel is accessible for them, because it's easier for them to see. So we started off with the Financial Times, and it was through that lens of, how do I get them to understand urban change and the link with culture, and how that is actually displayed in the way that things are made and produced and money is earned." (Marie, 334-337; 343) |
| | Earth Systems | Physical Processes<br>Physical Cycles<br>Dynamic Changes<br>-Biological<br>-Chemical<br>-Physical<br>Land use change<br>Land use management<br>Landform processes | "Plate tectonics or plate theory has.. not *changed*, it's always been there, but the concept or the theories behind are very watered down at lower school but will get a bit more ramped up for GCSE level, and then we sort of unpick those at A-level. And certainly the geology side of our subject, the way it interacts at university at academic level." (Cole, 225-228) |
| | Environment | Interactions between physical and human geography<br>Ecosystems<br>Biodiversity<br>Environmental change<br>Environmental impact<br>Resources<br>Sustainability<br>Environmental stewardship<br>Environmental citizenship<br>*Climate change/climate crisis* | |
| **Disciplinary Knowledge**: Organising Concepts | | *Reference to the organising concepts of disciplinary knowledge in general terms* | |
| | Time | Past<br>Present<br>Future<br>Stability<br>Dynamism<br>Continuity[45]<br>Change<br>*Geological timescale(s)*<br>*Epoch(s)*<br>*Era(s)*<br>*Period(s)* | |
| | Scale | Size of investigation | |

[45] Distinct from the broad term of 'continuity' as the subject of the research questions.

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| | | Local<br>Regional<br>National<br>International<br>Global<br>*Planetary*<br>Spatial relations<br>Multi-scalar connections | |
| | Diversity | Range of characteristics<br>Similarity<br>Difference<br>Comparison<br>Contrast<br>Cultures<br>Identities[46]<br>*Inequality*<br>*Representation*[47] | |
| | Interconnection | People<br>Places<br>Environments<br>Spaces<br>Integration/Integrative | |
| | Interpretation[48] | Changing narratives<br>Different values<br>Range of viewpoints<br>Range of interpretations<br>Contrasting imaginations<br>*Geographical similarities and differences* | |
| **Disciplinary Knowledge**: Practice/Geographical Skills[49] | | *Reference to geographical skills in general terms*<br><br>*Reference to geographical skills in integrative terms* | "And as a department part of our philosophy is that we're not just trying to get people to pass the exam. We're trying to teach them the skills to go on to be a successful geographer, whether that's at university or wherever. But we want them to be a geographer, not just somebody who passes the exam." (Corran, 164-167)<br><br>"Giving them the skills and the attributes to be able to be effective. Like I said a minute ago, that's kind of our philosophy as a department. Whenever they leave us in geography, we want them to have the skills that they'll need to go on. So we do all this work in Years 7 and 8, developing an understanding of holistic geography around the world, developing geographical skill sets, which we then build on in our GCSE and our A-level." (Corran, 188-192) |

[46] Framed, for example, by feminist geographies, decolonising geographies, young people's geographies.
[47] Distinct from 'representation' as power as an aspect of disciplinary identity (DI-Pow).
[48] Distinct from aspects of interpretation related to geographical skills (DK-GeoSk) or application (DK-A) as aspects of disciplinary knowledge.
[49] GA (2022) draws on [the unpublished work' of] Roberts (2021) in outlining the nature of geographical practice.

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| | | | "But ultimately in A-level we want them to be well balanced and effective geographers with the skills and attributes that succeed in a lot of different fields, at university or in the future in work." (Corran, 192-194) |
| | Observing[50] | Identifying geographical questions<br>-What?<br>-Where?<br>-When?<br>-Why?<br>-Who?<br>-How?<br>-What might?<br>-What ought?<br>Observing<br>Perceiving<br>Identifying [questions[51]] | |
| | Describing | Identifying [sources of geographical information[52]]<br>Gathering sources of geographical information<br>*Collecting sources of geographical information*<br>Using sources of geographical information<br>Defining<br>Extracting<br>Describing<br>Classifying<br>Categorising<br>Evaluating the credibility and reliability of sources of geographical information[53]<br>Bias<br>Accuracy<br>*Geographical reasoning*<br>*Inference* | "…one of the things that I always focus on is academic styles of writing and showing them that a) they can understand the research that they read and b) they can write in that style, because a lot of the boys they'll instantly go 'oh, I can't read that. I've got a reading age of 11, I can't read that.' They'll say that, and I'll say 'no, you can.' So, for example, in my Key Stage 4 classes, I've shown them abstracts from geographic research, and I've said 'right, let's unpick this and let's see what we can learn from this'. Then they'll read it, and they'll say 'I don't know that word. I don't know 'decentralisation'.' Then we'll pick apart those specific words, and then they understand the fact that they can access academic language. It's almost like a language barrier, a literacy barrier. So I always focus on that literacy gap. I think in terms of teaching them how to read academically, that has been the biggest thing." (Marie, 137-146)<br><br>"[Researcher]: You've described working with young people that believe they cannot access academic work. You're showing them that they can. How do you go about choosing those scholarly resources that you use in the classroom?<br>[Marie]: …In terms of introducing them to academic style language, the best way to do it is through the media, because it's pared down enough for it to be accessible. But the Financial Times is quite strong in its content. I can trust it in that way. And at that point I introduced that to media bias, as well; is it left leaning, is it centre leaning? They did okay with that… That was in Year 10. And then by the time we got to Year 11, I was talking to them about transnational corporations. And that was where I introduced my first abstract. And I introduced the abstract on - I can't remember where I found the link now. It was a science education one, one of the really famous ones. They'd got a whole page of geographic research into trans-corporations reducing the development gap. So I picked out some specific research from there and added that in." (Marie, 337-340; 344-349) |

[50] Through fieldwork, reading, media images, discussion, etc.

[51] Distinct from 'identifying sources of information, related to 'describing' (DK-GeoSk-Desc).

[52] Distinct from 'identifying geographical questions', related to 'observing' (DK-GeoSk-Obs).

[53] Distinct from 'evaluating *critically* the credibility and reliability of sources of geographical information, related to 'evaluating' (DK-GeoSk-Eval).

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| | | | "We provide students with a range of different media so even things on social media, newspapers, journals, textbooks. Okay, you've looked at the words, you've looked at the theory of what it's saying. Let's start evaluating the quality of who's written it or where it's come from. If it was written by a bunch of people at university, it's going to be slightly more rigorous than a journalist for the Sunday Times or the Mirror or the Sun, for example. It's the quality of where it's from that we want them to focus on." (Cole, 280-285) |
| | Explaining | Analysing<br>Explaining<br>Making connections[54]<br>Statistical techniques<br>Analysing quantitative and qualitative[55] data<br>Comparing<br>Contrasting<br>Interpreting<br>Identifying relationships<br>Identifying impacts<br>Identifying trends<br>Analysing values<br>Clarifying values | |
| | Presenting | Reaching conclusions<br>Relating conclusions to presented findings<br>Summarising<br>*Communicating findings*<br>Drawing together<br>*Synthesising*<br>*Synopticity*<br>Presenting<br>Giving reasoned explanations/interpretations<br>*Geographical reasoning*<br>*Inference*<br>Relating findings to geographical knowledge<br>Relating findings to theories | |

[54] To everyday knowledge, to what is known geographically, to theories and models.

[55] GA (2022) makes a distinction between 'analysing quantitative data' and 'comparing, contrasting, and interpreting qualitative material' (emphasis added). In coding, the researcher makes no distinction between the handling of quantitative and qualitative data, and rejects the distinction between 'quantitative *data*' and 'qualitative *material*' rather than *data*; the QAA (2022) SBS for Geography implies that quantitative and qualitative research methods, and therefore the data generated by these research methods, are of equal standing in the academic discipline of geography. In addition, ALCAB (2014) often recommend that both quantitative and qualitative methods are drawn on across the areas of core (and non-core) content.

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| | | Weighing up alternatives[56]<br>Generalisations | |
| | Evaluating | Reflecting on what has been learned<br>Evaluating critically the credibility and reliability of sources of geographical information[57]<br>Responding<br>Reflecting on further avenues of enquiry<br>Clarifying one's own values, moral stance, and ethical stance<br>*Positionality*<br>Recognising possible courses of action for oneself<br>Recognising possible courses of action for others | "…if I think about my Year 12s and my Year 13s, one of those skills that I worry about when they apply to university, even if they don't do geography or they do another course is they're … as a learner, not necessarily as a geographer, but how to interpret and read through a journal, how to interpret chapters of books or how to engage with articles or how to … the skill of critically assessing a document or assessing a theory or written articles and things. I think that's what …We've spent a lot of time in the department making sure that we have specific activities or specific tasks that … here's some articles about this, here's a chapter from this book … the skill of critically analysing those. I remember finding that jump from A-level to … at least college to university really difficult. I would just go, 'this is my opinion' not critically assess … A lot are able to give their opinion, able to agree or disagree with the theory or a concept or something, but they're not necessarily able to, as well, accurately cross examine - that bit is good about this research, that bit is weaker, I guess." (Cole, 255-266)<br><br>"We provide students with a range of different media so even things on social media, newspapers, journals, textbooks. Okay, you've looked at the words, you've looked at the theory of what it's saying. Let's start evaluating the quality of who's written it or where it's come from. If it was written by a bunch of people at university, it's going to be slightly more rigorous than a journalist for the Sunday Times or the Mirror or the Sun, for example. It's the quality of where it's from that we want them to focus on." (Cole, 280-285) |
| | Fieldwork | Memorable experiences<br>Inspiration<br>Practical work<br>Practical group work<br>Leadership skills<br>Increased confidence<br>Ability to deal with risk<br>Ability to deal with uncertainty<br>Acquisition of knowledge through direct observation<br>Framing enquiry<br>Fieldwork methods<br>Fieldwork tools<br>Fieldwork approaches<br>*Accessibility*<br>*Inclusion (and exclusion)*<br>*Belonging*<br>*Othering*<br>*Learning outside the classroom*<br>*Outdoor education* | "[Teacher in Department] reached out [to Bangor University] and we went from there and focused our field work provision on studying an element of the university. When our field studies centre shut down, we then said 'well actually why don't we stay in the university halls if they're available at a certain times of the year?' so then we took that next step and it's now our base of operations for north Wales fieldwork." (Corran, 96-100)<br><br>"…the idea of outdoor education is very much about the student's experiences and learning from their mistakes." (Corran, 227-228)<br><br>"…the one big thing to consider would be field work. Where actually – and this isn't necessarily from the university, it's from the exam boards – that is one area where we are very dictated to about what we have to deliver, and that does put constraints in terms of what we're able to do in terms of costs, within the school timetable, and so that is the one area where our pedagogy is very much dictated by an external actor. How much are the universities saying to the exam board about fieldwork, I don't know." (Corran, 290-295)<br><br>"The students have to do the NEA. They have to complete a piece of fieldwork, and write it up and hand it in as part of their mark. That used to be in the GCSE content, and the A-level was examined on fieldwork skills. Now it's the other way round. So at GCSE, we have to expose them to fieldwork, we have to teach them the skills… it's almost harder, because they don't have to write it up. They don't see the purpose. There's no end goal, until the exam. But it's still dictated that we have to sign a piece of paperwork to say we've taken them out for two days of fieldwork. So yeah, I don't know. It's very difficult. There's not really an answer. It is completely prescribed. You have to do one human [geography] day, one physical [geography] day, and all the |

[56] Distinct from, but related to, 'designing alternative models' in 'learning how to apply' (DK-A)

[57] Distinct from 'evaluating the credibility and reliability of sources of geographical information, related to 'describing' (DK-GeoSk-Desc).

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| | | | prep, all the analysis, everything to go with it, because they'll have to answer questions in the exam." (Corran, 203-210)<br><br>"…as a school, we want to take them out as much as possible, but we can't necessarily. We do try and take them out in Year 7, we do try and take them out in Year 8. When you get 10 and 11, taking them out of someone else's lesson to do that fieldwork becomes quite a contentious point because the other subjects are like 'Hang on a minute. I'm losing out for the benefit geography' so it makes it quite tricky. That's the same in any subject that requires fieldwork or trips – so I know biology is similar." (Corran, 323-328)<br><br>"…we're taking them because they have to provide a piece of fieldwork which counts towards their exam. It's the same as an art portfolio, whereas actually, if it's at GCSE, I've got to take these 90 students out to measure a river… why? Because the exam board say I have to, because they're going to need to understand the skills to do it in the exam. The answer sometimes is 'but why can't you just teach them those skills in the classroom, they don't need to see the river – do a virtual fieldtrip. You managed a virtual fieldtrip during Covid, and it ticked the box, why can't it work now?'" (Corran, 340-345)<br><br>"You've got two ways to do it. You either plan your curriculum, and then the fieldwork is an add on, or do what we – and other schools – do, which is 'right, we're going to plan the curriculum in line with fieldwork and work it into the curriculum'. We are going to make a bit of shift; we're kind of stuck in the middle a little bit, because we've been trying to adjust some things because of Covid. We've got caught in limbo a little bit, as well as the school with the trips policy and the 'why do you need to go? You managed without it for Covid' - not necessarily blocking, but just challenging why we need to do it. 'Is that the best value for money? Is it the best for student experience?'…which is understandable, but a little frustrating." (Corran, 387-394) |

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| **Disciplinary Knowledge**: Application | Learning how to apply, learning about, learning to | How geographers apply knowledge<br>Making use of geography<br>*Careers*<br>*Employability*<br>*Entrepreneurship*<br>Real world challenges and issues<br>Living peacefully with others<br>Living productively with others<br>Ensuring our future on the planet<br>*Education for sustainable development (ESD)*<br>Designing alternative models[58]<br>*Predicting*<br>*Thinking creatively*<br>*Problem-solving*<br>*Knowledge production*<br>*Geographical Information Systems (GIS)*<br>*Geographical Information Science (GSci)* | "They [universities] brought in some GIS along with it [CPD and training for A-level content] as well – because that's still quite topical as well, where you try to squeeze that in to the spec." (Corran, 64-65)<br><br>"And as a department part of our philosophy is that we're not just trying to get people to pass the exam. We're trying to teach them the skills to go on to be a successful geographer, whether that's at university or wherever. But we want them to be a geographer, not just somebody who passes the exam." (Corran, 164-167)<br><br>"But ultimately in A-level we want them to be well balanced and effective geographers with the skills and attributes that succeed in a lot of different fields, at university or in the future in work." (Corran, 192-194)<br><br>"I think, with geography specifically, it's that [learners]… they don't see the value in the subject. A lot of the time they'll feel like they want to be doctors, or they want to be lawyers, but they don't see the value of how geography actually fits into that plan. And I think it's because they get a lot of parental pressure. They get a lot of parental pressure to go into very specific careers, you know, lawyers, doctors, things like that, and they don't see how geography actually can be helpful and relate to that." (Marie, 64-68)<br><br>"…[learners] don't see the real world value of geography. So in partnership with the Royal Geographical Society, I ran a Zoom Meeting, but they were people from actual jobs that involve geography. So we had a GIS specialist, a town planner, and things like that. And I invited the boys into that session for them to ask questions, and that was sort of facilitated through the Royal Geographical Society, and that really helped them to understand that there is real value in a career that is based in geography; especially with the GIS analyst who was somebody… I can't remember the company… they're a company that does specialist work for the military, and they really saw the value of that. But without that experience I don't think they would have seen it." (Marie, 74-81)<br><br>"But again, that is not something that is given over as part of the curriculum, that understanding their own place within the discipline and the fact that … I've always thought that the discipline of geography is about understanding life and your position in life because it is everything around you. It's understanding the processes that occur around you, and how people move and how the world moves around you. And that's why I see value in it." (Marie, 191-195)<br><br>"…that positionality is based on the fact that I spent a lot of time in my school career in sixth form and in UCAS advising. And as soon as you start sitting and looking at UCAS lists or university lists, so you're advising young people on what do you do next, rather than just teaching the thing that you do in your school - if I'd worked in an 11-16 school, I wouldn't have this perspective. But I've sent so many of my former students on to degrees that are strongly geographical, but aren't called geography." (Philip, 312-317)<br><br>"Are the curriculum choices that we are making allowing them to see the relevance of the subject in what they do? And I think we're seeing in the data, not just in terms of subject entries, but also how people are talking about it, that the focus on climate and sustainability, on green careers, on wanting to make a difference and be part of something, is inherently aligned with some form of geographical values for most people. So there's a subject thing. Can you see yourself doing this thing? Can you see this being relevant? Linked to that - and Steve Brace at the RGS has done a lot of work on this and spoken on this before - but can you see the utility of that for a careers perspective?" (Philip, 329-335) |

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| | | | "…that breadth, capturing the earth and environmental sciences and the wider disciplines and the stuff of sustainability and greenness and the things that young people want to take forward into a tent that is broader than just pure geography at a higher level and at a careers level. Green careers are going to be a big thing for the future. We have thousands of people who work in geography jobs. They just don't call themselves geographers." (Philip, 540-544)<br><br>"One of my many hats is being the humanities career lead. So my role or my position is to have repeated exposures of geographically or humanities linked careers to our students. I also participated in the Oxfordshire Local Enterprise Partnerships project, which was done… it's called 'Find Your Future' that was done in 2022, where we were invited to Harwell and we were introduced to some STEM employers at Harwell and then asked to use that sort of meet and greet engagement. So I met up with a company called Catapult [Satellite Applications] which do [inaudible]. But also I spoke to Dr James Wheeley at Birmingham and I approached Chris Jackson to do the second and third part of the partner project. So I used the project, my role, and just generally being cheeky enough to e-mail and ask professors' secretaries and PAs to ask for free time and engagement with geography and careers and STEM stuff." (Cole, 110-119)<br><br>"…a lot of young people now are looking at the apprenticeship option instead of the university option. They're coming out with three years' work experience, with pay, no fifty, sixty grand debt, minimum, and they're at the same point if not further than the young person coming out of university three years later. It'll be interesting to see in terms of that interaction when will universities start to realise, actually, we've got to do something here because we're not getting young people in, they're taking the other option. Because actually, I'll be honest, if I was a student now, I wouldn't go to university. Why would I want fifty, sixty grand's worth of debt? I'll go straight to a company that will offer me an apprenticeship with one day release. I'll come out with a degree at the end of it anyway but no debt. It's an interesting concept. I mean geography, some universities don't need to recruit because they've got such a pull. It'll become more and more… And if that barrier isn't broken down, will it become more of a problem in the future to get young people to do geography or will universities find actually, we haven't got the pipeline of young people, or mature students coming from a change of career... it'll be interesting." (Duncan, 372-384) |

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| **Progression** | Conceptual understanding | The inherent structure of the subject<br>Hierarchy of concepts/ideas<br>Hierarchy of skills<br>'Terraces not ladders'<br>Exploring horizontally (breadth and range) and then vertically (a 'step up')<br>*Identifying misconceptions*<br>*Addressing misconceptions* | "Most topics have something around 'urban environments', and that one in particular springs to mind where that changed quite significantly from what it had been in previous specifications, and so that boundary crossing of what the university wanted students to already have an understanding of, and an appreciation of… from a teacher's perspective, it almost felt like it was more to their benefit than ours." (Corran, 51-55)<br><br>"So trying to teach 16… only just turned 17… sixth-formers the abstract concepts like sense of place through things like music, art and other forms of media…It's really a very difficult topic to teach…" (Corran, 56-57)<br><br>"If and when I think of the words 'boundary crossing' in the context of school geography or academic geography, my mind goes to theories or concepts that are taught in school that are potentially taught or re-taught or research that breaks the misconception of – at university level…" (Cole, 202-205)<br><br>"Plate tectonics or plate theory has.. not *changed*, it's always been there, but the concept or the theories behind are very watered down at lower school but will get a bit more ramped up for GCSE level, and then we sort of unpick those at A-level. And certainly the geology side of our subject, the way it interacts at university at academic level." (Cole, 225-228) |
| | Curriculum experiences | Experiences planned by the teacher[59]<br>Teaching and learning experiences<br>*Pedagogy*<br>*Curriculum planning*<br>*Lesson planning*<br>*Teacher/educator identity* | "[Sense of place is a] really a very difficult topic to teach, because at 16, 17 years old, you look outside your window, and it's the town, or it's the countryside, and then you can build on that. But then, trying to get them to think of these really abstract ideas that we can represent place through music, that took a lot of time to plan effectively and decide how we were going to teach it, to kind of hold their hands along the way." (Corran, 57-61)<br><br>"One of our graduates is actually here now, she finished a few years ago and is doing her geography teacher training with us. She went off to university to study geography, and she is also very musical. At the time in Year 12 when I taught the abstract concepts of 'sense of place' through art and music, she didn't really get it as a concept. However, it's actually what she based her dissertation on – about how music can influence sense of place. She actually came back and interviewed myself and a couple of other people in the department." (Corran, 151-156)<br><br>"The pedagogy side of things, while important, comes down to how you plan what you're going to do… do you come up with 'I want to do it this way' and then work out the content… I feel I'm more about the content, and how I deliver it, the strategies are dictated by what I want them to learn and has got to change in different situations and scenarios. So to me, it's more 'what I need to teach, what the students need to know, how are they going to experience it' dictates the pedagogy rather than 'I teach like this and I'm always going to teach like this'. I like giving the students a varied diet, because otherwise it just gets mundane and boring for them and it gets mundane and boring for me. There's some things which, off the fly you can almost go and do a little bit of mini fieldwork. If a student asks a particular question, I'll shuffle the scheme of work around while I'm teaching, because if they've asked a question, then take that opportunity. 'Wow, that's great. We might |

[59] In the context of school geography, the 'teacher' is an easily identifiable source of curriculum experiences. In higher education, the 'teacher' with responsibility for developing curriculum experiences may include heads of academic departments, programme leaders, module leaders, lecturers, and postgraduate teaching assistants (PGTAs).

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| | | | not look at that for three more lessons but I can make it fit. Let's shuffle it around'. So their experience is central to how I want to be." (Corran, 196-207)<br><br>"[Researcher]: do you think that focus on the young person and their educational experience, has that always been part of your identity as a teacher, do you think?<br>[Interviewee] : Yeah, that very much has been always part of my identity, and the school I trained at were very supportive in that, and I had some very established geography teachers who were my mentors who had a similar philosophy." (Corran, 215-222)<br><br>"I originally worked as a support worker in an emotional/behavioural school, before I went into mainstream teaching, so I think that in itself as well taught me elements of having to be flexible and to take the opportunities the class presents to you. That went on to develop into 'I want to teach geography' and built from there. So I think that has always been a part of me , I think as I've got more experience I've been comfortable in doing it… I would have struggled to do it sometimes at the start of the new A-level spec, for example, especially with some of the 'Changing Places' and 'urban environments', because that was new to me I had to be a bit more prescriptive." (Corran, 228-234)<br><br>"…the Head of Department [in a previous school in which the interviewee had taught] wasn't a geography teacher himself. He was older, near to retirement. But he was actually a sociology teacher who was Head of Humanities, he could teach some history, some geography… before I left, for a few years we were teaching combined humanities in Year 7, so as a geography teacher I was teaching RE, I was teaching history within the geography curriculum and, as a school as well, I was expected to teach PSHE and citizenship and in those subjects, you've got to be able to think that – when the opportunities present themselves, within your school and within the department – can that element of trust give each other a trust in the department philosophy that allows it to flourish." (Corran, 249-256)<br><br>"…yes there's certain elements of pedagogy that we're told we should do, or there's certain elements of content that we should focus on – but we go above and beyond. So, for example, we have textbooks but we very, very rarely use them, because we like to create our own resources, we like to go beyond what the textbook says. And so when you're looking at the literature and the literature dictates the textbook, we're able to step away from away from that slightly, but still use it as a basis for 'okay, here's the ideas they want us to cover. How do we want to cover those for our students?'" (Corran, 285-290)<br><br>"If you've got someone who's happy to go and stand outside in the freezing cold rain and take 20 kids along with them, that's great. If you've not, they're going to get very different fieldwork experiences. If you've got someone who values fieldwork, they're going to try harder to get the kids out… if you're someone who doesn't want to do fieldwork anyway, and the head teacher says you're not going – 'alright! Thanks very much. I didn't want to go, anyway.'" (Corran, 373-377)<br><br>"You've got two ways to do it. You either plan your curriculum, and then the fieldwork is an add on, or do what we – and other schools – do, which is 'right, we're going to plan the curriculum in line with fieldwork and work it into the curriculum'. We are going to make a bit of shift; we're kind of stuck in the middle a little bit, because we've been trying to adjust some things because of Covid. We've got caught in limbo a little bit, as well as the school with the trips policy and the 'why do you need to go? You managed without it for Covid' - not necessarily blocking, but just challenging why we need to do it. 'Is that the best value for money? Is it the best for student experience?'…which is understandable, but a little frustrating." (Corran, 387-394) |

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| | | | "…one of the things that I always focus on is academic styles of writing and showing them that a) they can understand the research that they read and b) they can write in that style, because a lot of the boys they'll instantly go 'oh, I can't read that. I've got a reading age of 11, I can't read that.' They'll say that, and I'll say 'no, you can.' So, for example, in my Key Stage 4 classes, I've shown them abstracts from geographic research, and I've said 'right, let's unpick this and let's see what we can learn from this'. Then they'll read it, and they'll say 'I don't know that word. I don't know 'decentralisation'.' Then we'll pick apart those specific words, and then they understand the fact that they can access academic language. It's almost like a language barrier, a literacy barrier. So I always focus on that literacy gap. I think in terms of teaching them how to read academically, that has been the biggest thing." (Marie, 137-146)<br><br>"And that's more of a personal journey, that kind of 'spoken history' vibe, rather than an actual teaching moment. So the teaching moment is in understanding academic language and giving them confidence to access academic language and use it themselves. And then from the personal side, it's like a personal story, personal history, kind of 'yes, you can' encouragement." (Marie, 152-155)<br><br>"I think the extent of the possibility [for university involvement in progression through transition] is through things like outside classroom experiences, sharing valid, current research in the subject. So where I'm based, we're really close to the University of Birmingham, and I've been trying to find the time to set up an extra-curricular activity to go over to their geology lab because they do work with the geology lab, and the kids in key stage 3 can go and look at things from that perspective." (Marie, 450-454)<br><br>"[on the positioning on the Venn diagram:] Fairly close to the centre of 'pedagogy teaching and learning in geography' and far less in the 'geographies of education'. And I think part of that is the nature of my prior experience, part of that is the nature of my epistemology and where I come from, and part of that is the nature of the work I do and who I work for. I am far more physical than human in terms of geographical experience and background. I'm much more positivist in terms of mindset and my climate change degree. It was all quantitative science. It was less to do with people. And I don't do, as part of my role, an active research piece into the spaces or the impacts or the place of education." (Philip, 224-230)<br><br>"So I'm working for an education charity rather than for a higher education provider. I'm not doing research as part of my role. The geographies of education sit outside of the scope of not just the work I do, but also the job I have. My job is to do the best I can for my geographers and someone else determines the stance of the organisation. So, to an extent it's driven by work, to an extent it's driven by ontology, to extent it's driven by, I suppose, a belief that there's an element of it which is, 'what is the best thing I can give to teachers in the short term?' And that's far more practical pedagogies, teaching, learning, far more experiential in terms of the debates and the discussions they need to have for classroom. I don't see my role in initial teacher education in the first instance, and part of that is driven by the fact that we have other people in our team who are talking to the same trainees, who are taking this role to talk about the place of education or the history of education. That's done by someone else, that's delivered as a separate part of our training programme." (Philip, 230-241)<br><br>"Your questions about - in the 22s - about the schemes. I went back through our curriculum for key stage three, which is for us year 7 and year 8. And I was basically just checking if we have done those things or if we haven't done those things, which hopefully we have. I just cross-referenced where I teach it, what lessons they're in…" (Cole, 183-187) |

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| | | | "My day to day and my job role is more about teaching, the pedagogy of my teaching, how to develop teaching within the department, how that impacts students by being reflective…" (Cole, 331-335)<br><br>"…[universities] make assumptions that when students come to them, they assume that they don't know a lot of this information. However, I think that actually there is some amazing teaching and some amazing subject areas that are taught at a really, really high level in schools, even at GCSE and going through to A-level – definitely going through to A-level – that I think is ignored." (Charlie, 41-44)<br><br>"[in describing the relationship between school geography and academic geography] …an unfamiliarity. And I think there's two things going on. I think it's not just about the subject. I think the subject of geography is one side of it, and then the other side of it is how it's taught. They're two separate strands, and I think they cause crossover and they cause animosity. I think the subject, they think okay, schools provide the background and the foundational knowledge, and then we just build on that and we go down our… whatever the course is, what the specifics of the course are. And actually the teaching side of it, I would say, has become… maybe that's become more frenemies, with the kind of actual teaching side of it. Because I think there's been a push for universities [for academics] to take some kind of teaching qualification and understand what they're doing and why they're doing it, and not just regurgitating slide after slide after slide. And that understanding of learning. But they're not willing to engage with the educational side of it to really understand what's happening in schools and how that's … So I'd say there's two separate strands. I'd say the subject is not frenemies. I think the subject is just … they kind of just rub alongside each other and it's not, there's not any kind of animosity there. But I think the teaching side of it, I think there is a kind of animosity about that. And that's 'we're different, we do it this way. You're different, you do it that way'. And actually that should be a better overlap." (Charlie, 287-297)<br><br>"And actually, at the end of the day it's the geography that's important, not… find what's the best way to teach your students." (Duncan, 225-226)<br><br>"I work in a school that is an Academy. We don't have to follow the national curriculum but we follow the specifications at A-level and GCSE because if we didn't, the students wouldn't do well and [inaudible] what's going on here, why aren't the students getting the results? In key stage 3, even though we don't have to follow the national curriculum, Ofsted will ask us, why are you not following it, what is your reasoning for following your own ideas? We are restricted in what we can teach, whereas universities can teach whatever." (Duncan, 308-313) |
| | Outcome | Key features of learner performance<br>Threshold levels of performance | "It's different across contexts as well, because I've worked in two schools where we've got no key stage 5. Here, the expectation school-wide for attainment is very high. It's part of the ethos of the school that they aim for those 8s, those 9s, and they go on to the best colleges in the city, they go on to good universities, all part of the conversation. Whereas my previous place where it was just 11-16, it was: how do we get them to pass the GCSE? And that's it. And that was very much the school ethos. And it was a much bigger school, and I don't know whether that was part of the influencing factors, as to why that was the approach to curriculum, because there were over 1600 kids at that school, and all of the amount of issues, safeguarding and otherwise, that come from a cohort that big, it just left no room for scholarship, it just left no room at all." (Marie, 381-389) |
| | *Transition* | *Preparation for subsequent stage of education* | "Most topics have something around 'urban environments', and that one in particular springs to mind where that changed quite significantly from what it had been in previous specifications, and so that boundary |

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| | | *Elements of 'overlap'*<br>*Spiral curriculum* | crossing of what the university wanted students to already have an understanding of, and an appreciation of… from a teacher's perspective, it almost felt like it was more to their benefit than ours." (Corran, 51-55)<br><br>"Some of our students actually went on to go study [at a university with which the school had developed links] because of that relationship, or changed what they were going to study in geography from a more physical focus to a more human focus, because having gone and sat in a lecture hall and actually understood the human side of geography a little bit more… from a different voice, almost." (Corran, 73-77)<br><br>"[In relation to the importance of CPD and support from the subject community] Especially with the effect of filtering down, A-level content suddenly in GCSE, and in preparation for GCSE some of it was being taught by non-specialists in Years 7 and 8, because you need to plant the seed with some of those sets." (Corran, 149-151)<br><br>"Giving them the skills and the attributes to be able to be effective. Like I said a minute ago, that's kind of our philosophy as a department. Whenever they leave us in geography, we want them to have the skills that they'll need to go on. So we do all this work in Years 7 and 8, developing an understanding of holistic geography around the world, developing geographical skill sets, which we then build on in our GCSE and our A-level." (Corran, 188-192)<br><br>"But ultimately in A-level we want them to be well balanced and effective geographers with the skills and attributes that succeed in a lot of different fields, at university or in the future in work." (Corran, 192-194)<br><br>"…when I first started training, it was 'right, here's a Year 7 class. They don't know any geography, because they've never done geography in primary school. They don't know what a geography lesson looks like'" (Corran, 222-224)<br><br>"…obviously the academic side of [the subject] does dictate what happens in the classroom whether that's pedagogy or content. But then the interpretation of the pedagogy and the content is still open to the school level." (Corran, 278-280)<br><br>"So the Financial Times article, for example, was given to [learners], and the abstract was given to them. And the first task is highlight words you don't know. And then we go through the vocabulary side of things and understanding, and then we start picking apart the actual content of the material. So my thought process was: media is the easiest to access; how do I make sure that that media and content is well researched and well written? Then it was: Now we need to go into abstracts, and we need to get actual references, And I haven't asked them to reference, but I've introduced them to the process of referencing, and why it is important. And when I'm observed, I get questioned: Why are you doing that? What's the point - that's not going to be relevant to the GCSE, why are you doing that? And I'm like, but it is relevant, because they do need to know. But I always have to justify that, which is frustrating." (Marie, 351-360)<br><br>"Here, the expectation school-wide for attainment is very high. It's part of the ethos of the school that they aim for those 8s, those 9s, and they go on to the best colleges in the city, they go on to good universities, all part of the conversation. Whereas my previous place where it was just 11-16, it was: how do we get them to pass the GCSE? And that's it." (Marie, 382-382) |

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| | | | "There is too little involvement from university level, too late in school education. So one of the things that I am really focused on is bringing down that academic language, bringing down that academic style of learning and the value of scholarship. And I'm lucky because it's part of our faculty as well, because the history department here do it as well. And I just think that leaving things like [inaudible] the university environment, reading university level writing, to A-level - because that's where it tends to be, it tends to sit in that higher education, that 16 to 18 zone - it's too late. They need the aspiration and the access way before that. They need it in key stage 3. They need it in key stage 4. So if I could wave a magic wand and make it the way I would want it to be, I would be introducing the value of scholarship in year 8, practising the value of scholarship in year 9, reading academic literature in year 10, practising academic practice in year 11, and then they go on to the they go on to the A-level. That is how I would want it." (Marie, 428-438)<br><br>"I remember at university, literally the lecturer in one of the first weeks of the undergrad going, 'everything you learned about the urban environment you can ignore, you can forget. So whatever you've learned at A-level, I'm going to teach you what you need to know and what is correct. What you've learned is essentially wrong, or not what we need.' And I'm like, 'Oh my God. okay.' So if I'm thinking about the word boundary crossing, the difference between … or the skill level, essentially the skills required for school and skill required for academic learning or academic courses, those two, I guess." (Cole, 205-211)<br><br>"…if I think about what I'm doing in terms of teaching and developing geographers, if I think about what my colleagues and I do in terms of A-level, preparing them for next steps, and if I think about what it was like when I was 17, 18 wanting to go to university, and then my engagement at university level, we are still teaching in essence geography but at different levels or different scales, different parts of the same map. So maybe, rather than them being a cousin or this frenemy idea, you could describe it as being on a different tributary and the goal of geography learning or geography education, whatever that end point is for them or you, is the sea… the stream starts at primary level, joins up to the larger stream at secondary school level and we're joining the big stream of information of geographers, as a confluence of geographers or geography learning. And then we're engaging with academic geography or producing geography, let's say." (Cole, 371-380)<br><br>"We are now a Trust of four primaries and by 2025 we're going to be a Trust of eight. We're doubling our primary intake, so a lot of our forward planning is supporting primaries, which are our feeder schools and a lot of … our maths department, our English department have been the first to go and give secondary level support to primary teachers. The next phase will then be subjects such as geography and history and music and art and so on, helping to skill up younger geographers as students. You could consider or that could encapsulate what we're looking at is not just the top end or one end, but the other end and actually make sure you are thinking about geographers who are as young as five because as a school we have gone from just 11-18 to a Trust that is 5-19 now. So our remit has increased. So yes, you're talking about education and geography from school to university engagement but actually, that engagement is going backward and downwards from us. We're doing a lot of support as a school and as departments going into primary schools. That's what we're doing." (Cole, 405-416)<br><br>"I think there is a lot of overlap that happens between what's taught at A-level and then what is then re-taught again at degree level." (Charlie, 37-39)<br><br>"I think students do really well at taking their knowledge from what they've learnt in schools and transferring it to university. And I think that is a great… that's a great movement of knowledge and understanding. |

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| | | | However, I think there's a lack of understanding about what happens in schools at university level, so they almost dumb it down a bit." (Charlie, 50-53)<br><br>"…the students' experience might be that they had some, none, or little [geographical education] at primary. As a secondary teacher I'm trying to improve that but I'm also … When they leave geography lessons is not the only time… when they become lifelong learners they can see the importance." (Duncan, 218-221) |
| **Substantive Knowledge** | | *Reference to substantive knowledge in general terms* | "It almost felt that there was significant elements of sociology being brought in. So it was that that boundary crossing between topic areas as well. And if you're in a department which is primarily physical geographers, who has the adaptability and the flexibility to take on board that element of sociology and human geography when it's completely alien to us as well, possibly." (Corran, 122-126)<br><br>"…yes there's certain elements of pedagogy that we're told we should do, or there's certain elements of content that we should focus on – but we go above and beyond. So, for example, we have textbooks but we very, very rarely use them, because we like to create our own resources, we like to go beyond what the textbook says…" (Corran, 285-288) |
| | Locational knowledge | Geographical features<br>Rivers<br>Seas/Oceans<br>Mountains<br>Cities<br>Positioning systems[60] | |
| | Place knowledge | The connection of location and physical and/or human processes with personal experience[61]<br>Named case studies (on any scale)<br>Country studies<br>Continent studies | |
| | Human processes | | "Most topics have something around 'urban environments', and that one in particular springs to mind where that changed quite significantly from what it had been in previous specifications." (Corran, 51-52)<br><br>"It almost felt that there was significant elements of sociology being brought in. So it was that that boundary crossing between topic areas as well. And if you're in a department which is primarily physical geographers, who has the adaptability and the flexibility to take on board that element of sociology and human geography when it's completely alien to us as well, possibly." (Corran, 122-126)<br><br>"[Researcher]: You've described working with young people that believe they cannot access academic work. You're showing them that they can. How do you go about choosing those scholarly resources that you use in the classroom? |

[60] As suggested by Ofsted (2021).
[61] As suggested by Ofsted (2021).

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| | | | [Marie]: It's usually through theme first, so what am I teaching within the specification. There have been a couple of examples. One of them was through urban challenges… And I find that it's a little bit easier to introduce it within the human side of geography, because there's a lot more that I feel is accessible for them, because it's easier for them to see. So we started off with the Financial Times, and it was through that lens of, how do I get them to understand urban change and the link with culture, and how that is actually displayed in the way that things are made and produced and money is earned. And they did really well with that. That was in Year 10. And then by the time we got to Year 11, I was talking to them about transnational corporations… They'd got a whole page of geographic research into trans-corporations reducing the development gap. So I picked out some specific research from there and added that in." (Marie, 333-334; 340-344; 348-349) |
| | Physical Processes | | |
| | Environmental Processes | | |
| ***Disciplinary Identity*** | *Geography as a discipline* | *History*<br>*Purpose*<br>*Core values*<br>*Fundamental*<br>*Defining*<br>*Characteristic*<br>*Distinctive*<br>*Thinking geographically*<br>*Relevance*<br>*Innovation*<br>*Contemporary*<br>*Breadth*<br>*Depth*<br>*Physical/Human*<br>*'Popular geography'* | "And as a department part of our philosophy is that we're not just trying to get people to pass the exam. We're trying to teach them the skills to go on to be a successful geographer, whether that's at university or wherever. But we want them to be a geographer, not just somebody who passes the exam." (Corran, 164-167)<br><br>"Giving them the skills and the attributes to be able to be effective. Like I said a minute ago, that's kind of our philosophy as a department. Whenever they leave us in geography, we want them to have the skills that they'll need to go on. So we do all this work in Years 7 and 8, developing an understanding of holistic geography around the world, developing geographical skill sets, which we then build on in our GCSE and our A-level." (Corran, 188-192)<br><br>"I think that is something that in terms of the explicit curriculum, that isn't in the curriculum. That drive to help them understand where they are, within the discipline and what their role is, and how they move through the discipline. That isn't taught. That is something that I have always felt like I have had to carve out curriculum time to do for my own personal feeling, rather than something that should be given time, and that is something that I do focus on." (Marie, 182-186)<br><br>"We force students at GCSE and A-level to study all components of geography as a synoptic whole. They have to do physical, they have to do human, they have to do skills and fieldwork, particularly in the sort of paper 3 fieldwork options, and so there's an element of… we package GCSE and A-level geography as if it is all one subject and then often what students really are surprised by at university level is the fact that they can do human geography or physical geography. They don't have to do both." (Philip, 40-45)<br><br>"I spent three years studying a module that was compulsory all the way through called The Philosophy, the Nature and the Practise of Geography, which went back to things like [Edward] Said and [Thomas] Kuhn and [David] Livingstone, the geographical tradition, and Anglo-American geographies and [Ron] Johnston and [James] Sidaway and all of this stuff. 'Twas ever thus, right? It's always been a battle and a response to 'oh, we've gone quantitative, oh, we'll come back in a cultural revolution. Oh, we'll do a post-doctoral turn'. 'Twas ever thus. But I guess what is lost in that storytelling is the nuance of how that's played out in different places |

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| | | | at different departments, rather than saying the discipline as a whole has moved culturally. Well, okay, the discipline might have, but this university over there might still be hugely quantitative because it's led by an old school geographer who believes that. And you kind of miss that in the broad sweep of history, I suppose." (Philip, 106-115)<br><br>"…the best teachers at A-level are the ones who say, "Yeah, that is a really good question. We don't have the answer to that yet." And they say "we" as if they are part of the discipline and they bring you into the discipline by saying "we don't have the answer." But I think if you were to try and mandate that from a curriculum point of view, it would become reductionist very quickly." (Philip, 134-138)<br><br>"Are you in a geography department at university for convenience, or are you in it because you genuinely see yourself as a geographer? If you ask a university academic to define themselves, what do they identify as? Do they identify as geographer, or are they identifying as a glaciologist or 'I'm a historic geographer', or whatever it might be." (Philip, 278-281)<br><br>"But I think we recognise that geography at school level leads into a broader thing than just geography at university level. So if we encompass it into geography and environmental or earth sciences and the range of things that are embedded within that, I think the relationship is positive. If we exclusively limit it only to geography and geography degrees, it's less positive. I think it's still there, but I think it's less positive. I think it's less directly correlated." (Philip, 298-303)<br><br>"…demystifying and empowering scholarship, so recognising that good geography doesn't have to be highly convoluted…really complex words like ontology and epistemology…You don't have to talk like someone who has a PhD in education in order to be a great geographer. The lived experience, the perspectives are really good. How do you demystify and encourage access to scholarship? I'm on the editorial board of Routes as a journal which does that for some, but not many because the understanding and the recognition and the reach of that is small. But how do you empower the kiddie table to feel like their contribution is just as valid as Professor-so-and-so, who uses awfully long words to say exactly the same thing?" (Philip, 343-350)<br><br>"It's remarkable how interesting things like the Royal Institution Christmas lectures are when they touch on things like geography or geology or climate science." (Philip, 399-401)<br><br>"My own geography journey started in 1994 when their Christmas lectures that year were done by James Jackson, who presented on plate tectonics. And that was the first time that I'd seen something cool, and storytelling, and hey, actually this isn't all finished, this isn't all done. This is the story of what we know and how we learned that. And James Jackson is obviously a brilliant storyteller, and was this incredible set of, this is science, this is what we do." (Philip, 406-410)<br><br>"The idea of popular science - Iain Stewart has done so much in terms of the 'Power of the Planet' series and those things. David Attenborough has done so much in those spaces. And arguably, there's a number of people who are brilliant geographers who aren't being captured by the 'geography' world - there's a bit of snobbery there, I think - and being embraced as really powerful agents of geography storytelling and power [inaudible] The space is there." (Philip, 412-417)<br><br>"David Attenborough gets captured by natural science. And actually it's a shame, because if you started doing some of the other stuff with that then - I remember talking to a professor of zoology, I think, who every year |

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| | | | in their class of 100 said how many of you are here because of David Attenborough, and they'd regularly get 90 to 95 hands going up, and we're looking for someone like that. The RGS had Michael Palin a few years ago, but not so much … he doesn't really connect with young people anymore. Like, 'who's Michael Palin? I don't know'." (Philip, 423-428)<br><br>"Having this sort of engagement with Danny Dorling and Chris Jackson, I think it was very much like, oh, I've seen his books or I've seen him on television. I've seen them doing something on TV. That was sort of the capture or link or the sort of [inaudible] of oh, I know him from the TV, rather than actually what they had to say, unfortunately." (Cole, 135-138)<br><br>"Rather than a difference, rather than opposites, we are still learning in school, if you're learning human geography at university, or professionally as a geographer in the wider world, you are still doing geography, you're still part of the geography, as such." (Cole, 384-386)<br><br>"I work in a Faculty of Education and I've tried my hardest to network with geographers and many of them have been really, really accommodating. They've really engaged with me. They've given me opportunities, and I've had really interesting conversations. But my area of geography is … I'm interested in geography education, all the way through from early grades to postgraduate, children's and young people's geographies, and geographies of education and education spaces. But that's still a really narrow area of geography. I'm not speaking to geologists or earth scientists. I'm not in a geography department either. I've been to a couple of meetings or talks, but I am only able to recontextualize some elements." (Juniper, 86-93)<br><br>"…also in schools, we don't in general talk about the histories and the disciplinary turns of the discipline. And we don't talk about things like feminist geographies etcetera. And we've got very limited, very limited discussion of how geographers produce research. We don't just all look at maps or do GIS or do some fieldwork. And the idea of fieldwork is generally 'ranging poles'. It's very limited." (Juniper, 420-406)<br><br>"I don't know if the students have got an understanding of the disciplines that make up … or the concepts or the key ideas that make up geography or history to be able to do the interdisciplinary work. And then the other thing I would say is, who is drawing those boundaries…for me? What if I want to do some stuff on the representation of place through art or music? Why have I been stuck … when geography is such a big discipline." (Juniper, 448-452)<br><br>"…when geography is such a big discipline. It's people, place and environment, so there is a physical geography element, but constructing geography as part of social studies, well, what about the age that we're living in, entanglements between people, humans and more-than-humans? What about people that call themselves geoscientists or earth scientists? Would they identify in social studies? No, I don't think so. I can't speak for them, but my imagination is that they would be a bit annoyed. So yeah. So I think there's some real complex discussions. But I do think there is a place for disciplines and interdisciplinarity in both schools and teacher education…" (Juniper, 451-458)<br><br>"…school geography is broader because our school geography is what the government says we have to teach. So the universities haven't got that restriction that you must research about climate change, or you must research about something. They're researching whatever they can get funding for. There is a distinct difference in priorities. We are told by the government we have to teach these topics. The exam board |

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| | | | [inaudible]. The university geography is not restricted by … they don't have a syllabus to follow, they don't [inaudible]. There's often more … not broad, but very specialised." (Duncan, 294-300) |
| | *Learner attributes* | *Curiosity*<br>*Fascination*<br>*Inspiration*<br>*Enjoyment*<br>*Satisfaction*<br>*Sense of achievement*<br>*Informed*<br>*Engaged*<br>*Lifelong learning*<br>*Impact*<br>*Independence*<br>*Learner attributes* | "I run some fieldwork for my trainees… we get some students from local schools to come in. So we usually target Year 9 Pupil Premium kids to come in and do some fieldwork just from the university base, so looking at that. And what we get is students coming in and going, "Oh well, I know we're doing fieldwork, but can we go to the library? Can we go to the canteen? Can we see a lecture theatre?" And they're Year 9s going, "Oh, that's not what I thought university was like. I thought it was just sitting behind a desk". So as early as Year 9, you can start to go actually, this is what you can do." (Charlie, 112-118) |
| | *Learner diversity* | *Accessibility*<br>*Life experience*<br>*Circumstances*<br>*Learning contexts*<br>*Learner diversity*<br>*Access*<br>*Anticipatory practice*<br>*Appropriate*<br>*Equity*<br>*Inclusion*<br>*Exclusion*<br>*Equality*<br>*Protected characteristics*<br>*Self/other*<br>*Well-being*<br>*Risk*<br>*Safety*<br>*Flexibility*<br>*Rigidity* | "I think some of that is then dictated a little bit by the students you have. And then there's the school; if you're a school that's middle-attaining, then actually it's maybe going to be a little bit more prescriptive, because you just want to get all the kids that are [predicted grades] 6s or 7s. As a school, we're a grammar school. We're very high achieving and we get very good geography results . We've got a lot more flexibility, and to push [students] to those [grade] 9s." (Corran, 280-285)<br><br>"I feel like I am somebody who has crossed the boundary, who has experience of crossing that boundary, and it is my responsibility to enable students to feel like they can cross that boundary. because, especially the students that I work with, I work with disadvantaged boys. Nearly all of them are of ethnic minority status. And there is a very big barrier actually within geography about whether they deserve to cross that boundary. It's almost like they don't deserve it… they don't have the right to do that. So part of my role is to encourage them and prove to them that they do have the right." (Marie, 51-57)<br><br>"…to break that barrier as well as … Because I come from a poor background. I came from a disadvantaged family, and I'll say to them, 'just because you're from a poor family, just because you're from a disadvantaged family, doesn't mean that you don't have the right to go [to university], that there isn't value in it. because there is'." (Marie, 146-149)<br><br>"And then, when they do achieve… I had this wonderful moment with one of my students today. he achieved very well across his other subjects, but he's got a 7 in his recent mock exam, and it was paper one, so heavy rivers and coasts and that kind of stuff, and we sat for the whole of break time, for 15 minutes, just celebrating how well he'd done in his academic writing, and he really struggles with English, and he thinks that he's bad at English. And I'm like, you're not. You've got an amazing handle of academic language here, you can do it. And he's a PP student, he's from a family that is very disadvantaged. I have to provide him with lots of extra tuition because of that, and lots of access to materials because of that. But he's doing it. He is doing it. He has got hold of that academic language, and he can, and it was great to have that 15 min of 'Oh, my goodness, I did it!'" (Marie, 155-163)<br><br>"Danny Dorling talks about geography as the preserve of white middle class, not particularly bright, kids. Geography is a nice option that you can go and do. Your parents recognise it. You can go and do it at a Russell Group university. You can travel a bit. You can be a thoroughly awfully nice geographer and an awfully nice |

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| | | | human being. If you're working with kids from a disadvantaged background, they want their children to be doctors or lawyers or something, where the vocational element comes across more. And how do you tackle that in terms of the marketization of geography from a social justice perspective and from an access to geography perspective?" (Philip, 336-343)<br><br>"…levelling the playing field of access and saying if a really interesting geography book is £75 to buy, you're not going to buy it. If really interesting geography articles require a hugely complex journal subscription, you're not going to buy them. If you can get other content freer and easier, and you can read it at a more engaged academic level with big ideas and get into another big concept, then you'll be captured by that. And if you gate-keep in the academic sense and say, 'oh no, we must restrict publication or we must…' How many great geographers are doing good outreach and good stuff? How many people … I've been doing some Oxbridge interviews over the last week. How many people talk about Tim Marshall and his popular stuff? How many people talk about David Attenborough and Iain Stewart as examples of people doing great geography and asking really interesting things without being intimidating or hugely expensive?" (Philip, 351-360)<br><br>"And [learners in independent schools] may be first time consumers of independent education, but they probably have parents who have higher education. They're not having to persuade the concept of university as valid, good in and of itself. And they will have teachers who are more encouraging and have more disciplinary connections and can have the conversations and say, 'yeah, that's a really good question, we don't know the answer. This is what we know' or whatever. Yeah, of course." (Philip, 385-389)<br><br>"…the nature of how higher education is assessed and scrutinised. It's all about research. You put inclusion, accessibility and how many kids from your local area are studying your subject, onto the research and evaluation framework, and you watch the difference. We get what we incentivise, right? And if you incentivise research to the exclusion of everything else then that's what you're going to get." (Philip, 490-494)<br><br>"The demographics of my school is predominantly White Caucasian or Eastern European White Caucasian, and to have engagement with people of - women, certainly, and men of colour and different backgrounds and diversity of backgrounds, that really shone a light for some of those girls that follow or have that attribute. So to them it was like, oh wow, there's a woman here who's CEO or leads this, or got to this, or [inaudible] and, oh, wow, there are people who look like me in these positions. For them definitely, that's the vast majority of my cohort that were involved, about 60% I think…" (Cole, 128-134)<br><br>"[in relation to the geography-education nexus Venn diagram] Also 'education across the life-course and student experiences' – I make sure that I'm doing a lot of 'student voice'…" (Cole, 335-336)<br><br>"…even my school, which is a state comprehensive, all inclusive. So we've got girls that have been on Broadway and in theatres and we've got girls that have very much compromised learning or abilities… we've got everyone. And I guess the point being some of those experiences you've just mentioned, some of those opportunities for some of our geography students is very much to do with their social economic backgrounds. And I have tried really hard with my engagement with careers and so on to break those invisible barriers, or those actually physical barriers of yes, we live in this part of the country and this does offer us some advantages, particularly the science parks and we've got access in that respect. We have the university very close to us but trying to get engagement from university to a state comprehensive is much harder than my colleagues in private schools that are down the road, where they have a lot more engagement, a lot more discussion between the university and their school, their establishment. So sometimes, I feel, maybe socio- |

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| | | | economic or even geographical location can be a barrier to engagement or skills between school and sixth form or university . In our location there are students who with regards to their socio-economic background have the engagement or have the opportunities to see aspirational geographers from a range of different places, so they can go 'oh, okay, there's someone like me, they live near me, they work near me, this is something that I can do'… so maybe that's something that you've found in your research, that some schools do it better because they are more affluent, or some schools have a better engagement because of certain socio-economic factors." (Cole, 433-451)<br><br>"…access to certain technology or computer hardware or software than we have. Our school has spent, or our Trust I should say, has just spent a lot of money investing in touchscreens, laptops for all of us rather than desktop computers. So we are moving to a more technology-focused school, but if I go back to lockdown and my experiences of teaching, some girls didn't have a laptop or a PC or a printer or even a geography book at home with them, certainly during the first lockdown. Some of them were on their phone, listening into the lessons. Some of them were sharing devices. So technology is another boundary, you could say, and those who have experience of some software at school may find it easier whilst they're at university or vice versa. So that's something you might want to think about. It's something my department … that's something we are trying to address as a Trust.. it can be a socio-economic based boundary or access boundary." (Cole, 511-521)<br><br>"And then [universities] don't realise where these students have come from, what they have and what they can do and how they've been taught." (Charlie, 54-55)<br><br>"I have tried for the last couple of years to set up the movement from universities to schools, to use what we have at university and what happens at undergraduate level, especially to support the NEA, the A-level, and also that is your cohort. They are potentially coming through, especially cost of living, especially because we live in [location redacted]. Chances of people maybe moving away from home is reduced. So 'I could put you in touch with all of these schools. You could provide a one-off something on skills, or place, or whatever it is, or field work, or...'. And it never ever comes to fruition. Never." (Charlie, 69-75) |
| | *Subject community* | *External perspective*<br>*Monitoring*<br>*Review*<br>*Quality assurance*<br>*CPD*<br>*Training*<br>*Subject associations*<br>*Capacity*<br>*Subject community*<br>*Curriculum resources*<br>*Specialism*<br>*Expertise*<br>*Partnership*<br>*Funding*<br>*Choice*<br>*Prescription*<br>*Shared understanding*<br>*Communication* | "I know from initial involvement when the new specifications were being planned that the universities had quite a large role to play in deciding what would be taught at A-level, and then what would be taught at GCSE. From a teacher point of view that felt a little heavy handed in certain topic areas, and in other topic areas it felt quite sensible." (Corran, 47-51)<br><br>"…the university were very, very good. And so a lot of the universities, along those lines of that same topic [sense of place] delivered CPD sessions and put out information. So we went to…I think we actually came to Birmingham once, we went to another university as well, and did some of the CPD sessions." (Corran, 61-64)<br><br>"I've not seen as many things from university after those initial couple of years to develop that CPD, but then at the same time, I've not been proactively looking, because I feel comfortable enough to do it." (Corran, 67-69)<br><br>"One thing in particular that we do is that we have a link with Bangor University, and so we go there for our fieldwork and we use their facilities… in the past they have given us a lecture on urban environments because we've been there studying Bangor as a small town. And so if as a school, you have some of those links or can develop some of those links that can be really, really powerful." (Corran, 70-73) |

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| | | *Different education 'spaces'* | "[Teacher in Department] went to Bangor University to do her geography degree originally. And our field studies centre that we used was in north Wales, so we were in the area anyway, it made sense." (Corran, 94-96)<br><br>"Without [Teacher in Department] I don't know where we would have ended up going [for fieldwork, when a previously used field study centre closed down], so it's very much down to the staff you've got being able to tap into those relationships." (Corran, 100-101)<br><br>"…it was a mindset shift for us as teachers as well. This [sense of place] is new to us… how do we deliver this effectively, and so that was a challenge." (Corran, 121-122)<br><br>"It almost felt that there was significant elements of sociology being brought in. So it was that that boundary crossing between topic areas as well. And if you're in a department which is primarily physical geographers, who has the adaptability and the flexibility to take on board that element of sociology and human geography when it's completely alien to us as well, possibly." (Corran, 122-126)<br><br>"[In relation to the importance of CPD and support from the subject community] Especially with the effect of filtering down, A-level content suddenly in GCSE, and in preparation for GCSE some of it was being taught by non-specialists in Years 7 and 8, because you need to plant the seed with some of those sets." (Corran, 149-151)<br><br>"One of our graduates is actually here now, she finished a few years ago and is doing her geography teacher training with us. She went off to university to study geography, and she is also very musical. At the time in Year 12 when I taught the abstract concepts of 'sense of place' through art and music, she didn't really get it as a concept. However, it's actually what she based her dissertation on – about how music can influence sense of place. She actually came back and interviewed myself and a couple of other people in the department." (Corran, 151-156)<br><br>"My background isn't actually geography. My original degree was Environmental Management and Outdoor Education." (Corran, 225-227)<br><br>"I think that if you've got some departments who aren't confident, they aren't going to be as willing to take risks, or possibly as capable to be able to take those risks depending on their school philosophy. In my previous school we were quite strong department. We got decent results. We were quite a big department, and – like you say – there was a range of experience." (Corran, 246-249)<br><br>"…the one big thing to consider would be field work. Where actually – and this isn't necessarily from the university, it's from the exam boards – that is one area where we are very dictated to about what we have to deliver, and that does put constraints in terms of what we're able to do in terms of costs, within the school timetable, and so that is the one area where our pedagogy is very much dictated by an external actor. How much are the universities saying to the exam board about fieldwork, I don't know." (Corran, 290-295)<br><br>"If you've got someone who's happy to go and stand outside in the freezing cold rain and take 20 kids along with them, that's great. If you've not, they're going to get very different fieldwork experiences. If you've got someone who values fieldwork, they're going to try harder to get the kids out… if you're someone who |

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| | | | doesn't want to do fieldwork anyway, and the head teacher says you're not going – 'alright! Thanks very much. I didn't want to go, anyway.'" (Corran, 373-377)<br><br>"The only one thing I would say, is sometimes teacher training is very, very good as a department, because it can inspire us and reinvigorate us. But sometimes… we had a trainee a few years ago, and actually it was an absolute slog, I'm not saying it destroyed the department, but it did take a lot out of the department. We were supporting University X with that, and they were coming and sending students to us, and we'd have 10 students and 3 in this classroom, 3 in that classroom… It was a few years ago, and they were getting £28,000 to train to be geography teacher, and when they were sitting around without us in their break time, just hearing snippets of the conversation… Some of them were taking geography because it paid better than English. They were going to qualify as a geographer and then teach English because their degree in English, but they got geography place for some reason. Or, 'oh, I just didn't want to move back in with my parents after university. I don't know if I want to be a teacher'. But £28,000 tax free is a lot of money. That did frustrate us a little bit, especially when one of the trainees who was saying similar things to this was our own trainee... and we had to fight really hard to get him through, to do the basic requirements, and the university almost let him fail? And so that was… he was getting paid more than us, because he was tax-free £28,000 over nine months, and yet we were working harder than him. So yeah, I think that's part of the broken bit of the system that doesn't help departments because that did cause a few conflicts between us in the department over how best to deal with it. We joke about it now, but at time it was a bit fraught on occasion." (Corran, 401-417)<br><br>"…we do need geography teachers and it's about making sure we have the right teachers – in a different school, a different teacher might work very effectively, so it's partially to do with that. But sometimes, if… you could arguably lose a young, good teacher who is asked to mentor someone who isn't good, and it's the thing that burns them out. They don't get paid anything extra to be a mentor. Some schools do put a lot of pressure on departments to have trainees, because it does bring in some extra income. It feels like a fault in the system at the moment, because it has more potential – the bursaries, that is – it has more potential damage than benefit (Corran, 437-443)<br><br>"…there's a weird tension between the sort of QAA Statements of what geography and earth science degrees should be in principle, but there's no prescribed curriculum, which means that a geography degree or a geography curriculum is constructed primarily based on the research interests of the geographers who are delivering it. Which means that the space changes significantly depending on who you've hired that year. You could change the nature of your geography department by hiring two or three staff who bring with them some researchers at university level. You would never do that in a school environment. The curriculum is the curriculum. You might hire someone who's a physical geography specialist at A-level teaching, but they don't get to rewrite the entire curriculum and reconceptualise what the space is. Whereas at university level that happens far more regularly." (Philip, 70-79)<br><br>"We know that we've got a lot of schools now with non-specialist teachers at GCSE even, probably into A-level. Add this in terms of do you really understand your disciplinary history to be able to have those conversations comfortably? Well, it's hard enough at the moment to recruit people to teach the A-level content as it is well, let alone someone who's able to say, here are my perspectives on the evolution of geography over the last 100 years." (Philip, 142-147) |

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| | | | "I think geography and school geography are sort of cousins. It's like getting together with your cousins at Christmas and you're sat on the kiddie table and the grown-ups are over there talking about their stuff in much more detail. School geography is the kiddie table. You do a little bit of a lot and that's very nice, but over here you're going to join the adults, and we're going to talk as glaciologists or climatologists or political geographers or whatever. And you've had a little bit of everything, sort of a little bit pre-cut up for you, thank you very much, so that you can eat it and chew it down a little bit easier. But over here, if you want to survive at the adult table, get your elbows out, get your own food, capture - you know. There's a thread of connection, there's a thematic similarity, but the specialism and the rigour and the extent to which you really are part of the wider community versus not, changes." (Philip, 269-278)<br><br>"The RGS does a Christmas lecture for schools, but it's captured what, 400 people within the London area-ish, who can commute to it on a Monday night." (Philip, 411-412)<br><br>"I guess one of the interesting conversations that geography has that perhaps other subjects don't, is what is the role of subject associations or subject organisations in bridging the gap? If you look at the work of the GA or the RGS, how does that sit by comparison to other subjects? How does that sit by comparison to the theoretical perspective of who should be bridging the gap? Schools' job is to deliver A-level results. Universities' job is to deliver research. Whose job is it to look out for 'client geography', if you like. Is that something that subject associations or subject organisations ought to be doing? And to what extent are they? Geography is very lucky. We've got two very strong ones. They do slightly different things. Do they talk to each other as much as they might do? Probably not." (Philip, 511-519)<br><br>"…one of the things that happened to me as soon as I stepped out to schools was to recognise that not everyone plays the same game we do. I'd always worked with history colleagues who have the Historical Association and the Royal Historical Society in exactly the same way. And you're like, surely everyone has this. And then you talk to someone else and it's like, yeah, we don't have a subject association at all. What? How? What?" (Philip, 535-539)<br><br>"Your questions about - in the 22s - about the schemes. I went back through our curriculum for key stage three, which is for us year 7 and year 8. And I was basically just checking if we have done those things or if we haven't done those things, which hopefully we have. I just cross-referenced where I teach it, what lessons they're in…" (Cole, 183-187)<br><br>"I'm not saying it hasn't been done or it can't be done, but it's very much dependent on lots of factors, as you mentioned, but also my department's time or my time to do that, phone calling, sending all those emails, that chasing, so absolutely. That's another boundary, if you want to call it that." (Cole, 475-478)<br><br>"Even talking about all the other school events that go on, the majority of those are known associates or known people. Most of our careers … when we talk about girls going to a work experience placement, most of those lists are historical, developed through our relationships with those businesses or those clientele so absolutely, it's very much who you know before what you know." (Cole, 487-491)<br><br>"I think partly [the overlap between student experiences of geography at school and at university] is due to there is a massive lack of communication between what happens at university level and what happens in schools. And I think universities don't see themselves as part of that world…" (Charlie, 39-41) |

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| | | | "I think [universities] have a very limited understanding of what happens within schools and what is going on. They don't seem to engage at all in what is happening in schools and understanding that really, yes, you need to get into schools much earlier on. By the time you're at sixth form college it is too late. Not completely, but actually, they're not the people you need to be targeting. You need to be targeting them earlier and then you need to be actually doing something that's practical later on, that they can see what it's like." (Charlie, 107-112)<br><br>"My colleagues that lead on the undergraduate [course], they seem to want to have an idea, and they want to run things that are to do with education, but they don't want to engage with secondary schools, or they don't know how to engage with secondary schools, or they don't have the time or the capacity. I'm not really sure what the barriers are, but it's not happening." (Charlie, 118-122)<br><br>"…maybe [school geography and academic geography are] just more acquaintances. They kind of rub alongside each other. They exist within the same educational structure, but they don't really see themselves as part of each other. Well, like I said before, it's not that two-way. I think schools automatically see themselves as part of the further and higher education system because that's where their students go, and that's what they're preparing them for. However, that's only if they deal in A-level. I think if they stop at GCSE, I think that also is something where they don't see that relationship either. And I think that universities don't see the relationship because I think it's a generic understanding. They think that schools are producing a kind of generic geography, and their courses are very specific, that they run in a very focused way of what they're trying to work through. I wouldn't say they're 'frenemies' or anything like that. I don't think there's animosity between anybody. I think there's just a lack of understanding." (Charlie, 268-277)<br><br>"…one of the boundaries or issues with school and university collaboration is everything takes forever in universities. It takes two to three months to get ethical approval. It takes … we teach a lot, there's assessment, there's etcetera, etcetera. We've got busy jobs and then it can take a while to analyse data. But if you're doing research with 11, 12 year old children, are they going to remember something a year down the line or how is this meaningful for the children in the classroom?" (Juniper, 52-57)<br><br>"Training is the wrong word: mentor education, mentor development, which is obviously changing within the new ITE curricula. But when you're not bringing people in [to universities] to have conversations like at [name of institution] we used to do new mentor training, we used to look at the guidelines and the forms that you're going to fill in, but we also used to do work for experienced mentors that might be subject or pedagogical content knowledge updates. And we can't do that unless there's a reason to bring people in." (Juniper, 64-67)<br><br>"I said, I really need to go to researchED, and someone who's in a quite a senior position in the university was like, why would you go to researchED, why would you want to do that, Juniper? I said, because sometimes my students are writing assignments that are based on ideas that I don't really understand, that sometimes my instant reaction is to dismiss them, but actually how can I dismiss them unless I've truly engaged with them? But I have prioritised other conferences and not been to researchED. I'd say I navigate some boundaries with fluency, but not others." (Juniper, 137-143)<br><br>"I think that there's a lot of teachers that want to engage with you, want to develop, want to take part. Obviously they face some barriers in terms of time and being let out of school. But I also think there's some people involved in researchED because that's a form of progression for them. That's how they can do things. |

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| | | | And often it's cheap or free and they can get themselves down as presenting and they can get kudos within their communities and schools." (Juniper, 159-164)<br><br>"It's also what's free and what's available open-access. What's written, whether people want to read academic - there's some academic journal articles that you think, oh, that's quite easy to read, I can read that… on the bus. There's others that you think I'll need to sit in a darkened room and read that eight times before I've got a vague sense of what that means. But even then, I think organisations - the journal *Teaching Geography*, which I think is brilliant, I think that is still a bit limiting because they'll only let you have ten references and they want it written in a certain way that can be read in a staff room, which is completely reasonable, but then does that shape the knowledge that's in there? And is that problematic? And I understand that *Teaching Geography* is … the GA have got to make money, but should it be free? I think we're shaped by these wider forces and I want to be clear that I do want the Geographical Association to exist, but it's not always ideal to have to pay for journals. What if your school doesn't? And what if you're a single mum with two kids?" (Juniper, 196-207)<br><br>"From my experience when I've worked with people from academia, and what I mean by academia, I mean universities, some are very willing to work with teachers. Some feel it is a chore that they have to do because they have been told to have to do it. What they're actually bothered about is their research, their research funding, and what the university - if it's not going to up their RAE they don't want to do it. and if they are doing it, it's because they've been told to – not because they want to, because that's not always the case." (Duncan, 42-47)<br><br>"[University X] are in a little ivory tower, and they do some things, but it's on their terms and not necessarily what teachers would like. From more local experience, from the university where I live, they are much more forthcoming and wanting to work with schools, wanting to help and see what teachers want, what teachers want support with, and are more forthcoming with their help." (Duncan, 49-52) |
| | *Power* | *Representation*<br>*Decision making*<br>*Decision makers*<br>*Control*<br>*Significance*<br>*De/Colonialism*<br>*Imperialism*<br>*Empire*<br>*Anti-racism*<br>*Knowledge production*<br>*Plurality*<br>*Positionality*<br>*Relationality*<br>*Respect*<br>*Discomfort*<br>*In/Justice*<br>*Disadvantage*<br>*Responsibility*<br>*Ethics* | "I know from initial involvement when the new specifications were being planned that the universities had quite a large role to play in deciding what would be taught at A-level, and then what would be taught at GCSE. From a teacher point of view that felt a little heavy handed in certain topic areas, and in other topic areas it felt quite sensible." (Corran, 47-51)<br><br>"We were a little bit more hesitant at the start that… it was being dictated that we had to do certain things because the universities wanted students to have those skills. That would be the broad answer on that." (Corran, 77-79)<br><br>"…obviously the academic side of [the subject] does dictate what happens in the classroom whether that's pedagogy or content. But then the interpretation of the pedagogy and the content is still open to the school level." (Corran, 278-280)<br><br>"I feel like I am somebody who has crossed the boundary, who has experience of crossing that boundary, and it is my responsibility to enable students to feel like they can cross that boundary. because, especially the students that I work with, I work with disadvantaged boys. Nearly all of them are of ethnic minority status. And there is a very big barrier actually within geography about whether they deserve to cross that boundary. It's almost like they don't deserve it… they don't have the right to do that. So part of my role is to encourage them and prove to them that they do have the right." (Marie, 51-57) |

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| | | *Critical thinking*<br>*Theoretical perspectives*<br>*Alternative perspectives* | "I think there's an extent to which the Decolonising Geography movement is doing that for the human spaces of geography by forcing people to say there isn't one geography, there's multiple geographies. Are we reflecting the geographies of the global South? Are we reflecting geographies of people on the other side of this equation that we don't normally tell the story of? I don't think people are doing it as Kuhn might have done in terms of the paradigms of the discipline and what it means to be ontologically scientific and so on. And I think that probably is slightly too mind blowing for an A-level student, like that's 'head stuff'. I think people are starting to get comfortable with the idea of representing multiple views in multiple places and multiple perspectives of humans, and through that, to recognise that fundamentally geography is a constructed discipline and is a constructed narrative. That diagram from the GA Manifesto of 'the subject, the teacher, the pupil' and 'the experience' is at the heart - it's a construction. There's no *one* geography." (Philip, 150-160)<br><br>"I think we've lost something in the A-level specification change. If I go back to when I started teaching the old AQA 2030 spec, with David Redfern as chief examiner and "Evaluate the theory of plate tectonics and how it evolved", "Evaluate the theory of this" and there were questions, even in the physical geography topics, where you were forced to say, well, Wegener argued this, and then Vine and Matthews argued this, and how do we construct and weigh those things up, and to recognise that humanity in that construction." (Philip, 162-167)<br><br>"…the most recent [RI Christmas Lectures] that were geographical, Chris Jackson and Helen Czerski, and the climate sequence were overshadowed a little bit by the small 'p' politics of climate as a discipline and also the pretty horrendous experience of Chris Jackson as he lectured in that space for the first time and took the brunt of that. And I think a lot of that was behind his reason to leave academia, the unacceptable racism that he experienced in that space. But that says a lot about the visibility of that space and what it looks like and what it is." (Philip, 401-406)<br><br>"[in relation to the geography-education nexus Venn diagram] Also 'education across the life-course and student experiences' – I make sure that I'm doing a lot of 'student voice'…" (Cole, 335-336)<br><br>"…even my school, which is a state comprehensive, all inclusive. So we've got girls that have been on Broadway and in theatres and we've got girls that have very much compromised learning or abilities… we've got everyone. And I guess the point being some of those experiences you've just mentioned, some of those opportunities for some of our geography students is very much to do with their social economic backgrounds. And I have tried really hard with my engagement with careers and so on to break those invisible barriers, or those actually physical barriers of yes, we live in this part of the country and this does offer us some advantages, particularly the science parks and we've got access in that respect. We have the university very close to us but trying to get engagement from university to a state comprehensive is much harder than my colleagues in private schools that are down the road, where they have a lot more engagement, a lot more discussion between the university and their school, their establishment. So sometimes, I feel, maybe socio-economic or even geographical location can be a barrier to engagement or skills between school and sixth form or university . In our location there are students who with regards to their socio-economic background have the engagement or have the opportunities to see aspirational geographers from a range of different places, so they can go 'oh, okay, there's someone like me, they live near me, they work near me, this is something that I can do'… so maybe that's something that you've found in your research, that some schools |

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| | | | do it better because they are more affluent, or some schools have a better engagement because of certain socio-economic factors." (Cole, 433-451)<br><br>"In my experience, in contrast to a colleague of mine who works in a private school, I would say that is…that door, to use your analogy, is much more open for them. And when I approached the same person or the same university, I found it much more difficult to get engagement from the university because I've got my school name attached, rather than their name attached from their school. So absolutely, I think that is another boundary to cross." (Cole, 463-467)<br><br>"Even talking about all the other school events that go on, the majority of those are known associates or known people. Most of our careers … when we talk about girls going to a work experience placement, most of those lists are historical, developed through our relationships with those businesses or those clientele so absolutely, it's very much who you know before what you know." (Cole, 487-491) |
| | *Interdisciplinarity* | *Integrated*<br>*Holistic*<br>*STEM*<br>*SHAPE*<br>*Cross-disciplinarity*<br>*Inter-disciplinarity*<br>*Multi-disciplinarity*<br>*Cognate disciplines* | "Some of our students actually went on to go study [at a university with which the school had developed links] because of that relationship, or changed what they were going to study in geography from a more physical focus to a more human focus, because having gone and sat in a lecture hall and actually understood the human side of geography a little bit more… from a different voice, almost." (Corran, 73-77)<br><br>"My background isn't actually geography. My original degree was Environmental Management and Outdoor Education." (Corran, 225-227)<br><br>"…as a school, we want to take them out as much as possible, but we can't necessarily. We do try and take them out in Year 7, we do try and take them out in Year 8. When you get 10 and 11, taking them out of someone else's lesson to do that fieldwork becomes quite a contentious point because the other subjects are like 'Hang on a minute. I'm losing out for the benefit geography' so it makes it quite tricky. That's the same in any subject that requires fieldwork or trips – so I know biology is similar." (Corran, 323-328)<br><br>"[Learners] don't see the value of geography as a science, if you see what I mean, which is something that I try and encourage through scholarship in terms of the way that we do fieldwork… so we lean into those statistical skills that we try and focus on in the GCSE, especially through the fieldwork. And I'm like, 'this is what science is', and I am always very conscious with my vocabulary, to make geography a science, and I'm always saying to the boys – because I teach in an all-boys school – and I'm always saying 'geography is just like biology. It's a science. It's like physics, it's a science. It's like chemistry, it's a science.'" (Marie, 68-74)<br><br>"One of the challenges that I've found – I've worked in four different institutions, in schools, some with Key Stage 5, some with not – and every time I make a point of going and introducing myself to the Head of Science and saying, 'we need to sit down and cross-curricular check our schemes of work; are we doing things at the same time that science will be doing it'. And I always introduce myself to the Head of Science and the Head of Maths. Now, the response I get from maths teachers is always very positive! But the response I get from science teachers is negligible." (Marie, 100-105)<br><br>"Obviously, science gets so much curriculum time and I get what I feel is so little for what is an as in-depth subject as biology or chemistry or physics. And I think some of that is fighting back for some of that time." (Marie, 125-127) |

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| | | | “I think we have that weird boundary crossing from university - from school to university: the idea that you can specialise. But then at university level we have the same issue that the discipline crosses beyond the geography department and the geography ‘box’. So you might be working in physical geography, but you're working with colleagues in meteorology or you're working with colleagues in the maths department because they're the ones who've got the computer modelling expertise. So I did a PhD in climate science and I could have been in a physics department, a maths department or a geography department, and it would have made no difference to the PhD. And that's such a weird thing to conceive of for a student who thinks that climate science belongs to one subject by itself. So I think we have a strange thing where we cross boundaries in two ways. We box people in, in the school curriculum, and then we unbox them and then repackage it, I suppose, at university.” (Philip, 47-56)<br><br>“I think there's a terrain-capturing we're seeing certainly in the school curriculum - I don't know the extent to which it's reflected at university level - but the GCSE for Natural Science, for example, was launched in the Natural History Museum with only science departments and no representation from geography as a subject. And that's odd, that's unusual when you look at the content of that. So I think there is an element of bidding for funding maybe? Are some projects more attractive than others if they're multidisciplinary, or if they come with a green label on them, or a sustainability label on them? Is that a way to get money in university departments? I don't know. It certainly seems to be the way for the curriculum material.” (Philip, 79-86)<br><br>“Are you in a geography department at university for convenience, or are you in it because you genuinely see yourself as a geographer? If you ask a university academic to define themselves, what do they identify as? Do they identify as geographer, or are they identifying as a glaciologist or ‘I'm a historic geographer’, or whatever it might be.” (Philip, 278-281)<br><br>“But I think we recognise that geography at school level leads into a broader thing than just geography at university level. So if we encompass it into geography and environmental or earth sciences and the range of things that are embedded within that, I think the relationship is positive. If we exclusively limit it only to geography and geography degrees, it's less positive. I think it's still there, but I think it's less positive. I think it's less directly correlated.” (Philip, 298-303)<br><br>“I work in a Faculty of Education and I've tried my hardest to network with geographers and many of them have been really, really accommodating. They've really engaged with me. They've given me opportunities, and I've had really interesting conversations. But my area of geography is … I'm interested in geography education, all the way through from early grades to postgraduate, children's and young people's geographies, and geographies of education and education spaces. But that's still a really narrow area of geography. I'm not speaking to geologists or earth scientists. I'm not in a geography department either. I've been to a couple of meetings or talks, but I am only able to recontextualize some elements.” (Juniper, 86-93)<br><br>“Lots of universities or some universities - lots of is probably a bit of an overstatement – but some universities are making students do interdisciplinary modules as part of their undergraduate degrees now. And should we be having … because there are some things that geographers alone can't solve. We can't solve climate change alone. So is it right that we just teach children solely geography? My personal philosophy is that geography makes a valuable contribution to a person's education. I really buy into that. But geographers often produce knowledge through boundary crossing and through networking. Look at Peter Kraftl's work. He's working with health professionals in terms of children's entanglements of plastics, he's doing all his stuff on treescapes. He's got anthropologists involved, people really into citizenship. So his work is interdisciplinary. I think |

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| | | | children, and I think teachers, need an understanding of disciplines to be able to think in interdisciplinary ways. But I don't think that we should just be teaching three subjects in schools. Maybe we can teach three subjects some of the time, and there's obviously some day-to-day … or the majority of the time. But is there a value of an interdisciplinary project once a year or something? And I appreciate that timetables are a nightmare, but geographers don't just sit and talk to geographers, do they?" (Juniper, 407-420)<br><br>"I don't know if the students have got an understanding of the disciplines that make up … or the concepts or the key ideas that make up geography or history to be able to do the interdisciplinary work. And then the other thing I would say is, who is drawing those boundaries…for me? What if I want to do some stuff on the representation of place through art or music? Why have I been stuck … when geography is such a big discipline." (Juniper, 448-452)<br><br>"…when geography is such a big discipline. It's people, place and environment, so there is a physical geography element, but constructing geography as part of social studies, well, what about the age that we're living in, entanglements between people, humans and more-than-humans? What about people that call themselves geoscientists or earth scientists? Would they identify in social studies? No, I don't think so. I can't speak for them, but my imagination is that they would be a bit annoyed. So yeah. So I think there's some real complex discussions. But I do think there is a place for disciplines and interdisciplinarity in both schools and teacher education…" (Juniper, 451-458) |
| | *Geography Educator* | *Participant's own disciplinary background*<br>*Participant's own educational experiences in relation to practice*<br>*How the participant 'sees' themselves in relation to the discipline* | "[Researcher]: do you think that focus on the young person and their educational experience, has that always been part of your identity as a teacher, do you think?<br>[Interviewee] : Yeah, that very much has been always part of my identity, and the school I trained at were very supportive in that, and I had some very established geography teachers who were my mentors who had a similar philosophy." (Corran, 215-223)<br><br>"My background isn't actually geography. My original degree was Environmental Management and Outdoor Education . And so actually, the idea of outdoor education is very much about the student's experiences and learning from their mistakes. I originally worked as a support worker in an emotional/behavioural school, before I went into mainstream teaching, so I think that in itself as well taught me elements of having to be flexible and to take the opportunities the class presents to you. That went on to develop into 'I want to teach geography' and built from there. So I think that has always been a part of me." (Corran, 225-231)<br><br>"That drive to help them understand where they are, within the discipline and what their role is, and how they move through the discipline. That isn't taught. That is something that I have always felt like I have had to carve out curriculum time to do for my own personal feeling, rather than something that should be given time, and that is something that I do focus on. And a lot of times I get told off by my management because I am doing that within my lunchtime. I'm doing it within my break time. I'm doing it after school. I'm lucky, because I have students that come to me to talk to me, because I'm personable, and we end up talking about general economic changes. We end up talking about the relationship between politics and where people live. And they engage in those kind of higher academic conversations with me because they like being with me. But again, that is not something that is given over as part of the curriculum, that understanding their own place within the discipline and the fact that … I've always thought that the discipline of geography is about understanding life and your position in life because it is everything around you. It's understanding the processes that occur around you, and how people move and how the world moves around you. And that's why I see value in it. And I think that it's easier for me to explain their position in that, because I understand it |

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| | | | in that way. And again, that isn't something that was taught to me as a trainee, it was something that I've done myself. It isn't something that's explicit." (Marie, 183-197)<br><br>"I'm in quite a lucky position, because both me and my husband are geography teachers, and we went through different pathways for training. So I did a SCITT where I was attached to BCU and the academic side of it was all about behaviour management and attainment and progress and assessment, and all of that kind of stuff. There was nothing geography specific about it, whereas my husband went with the University of Worcester, and had a specific geographer, and his training was very different to my training. It was really interesting because we could actively compare as it was happening. We had this unique insight about how we were taught to be subject leaders… It turned out interestingly in comparison with our progression as well, because I am now a subject leader and he's not. Because I had more management for behaviour. I had more management for assessment. I had more management for teaching and learning in the classroom, whereas he had more geography specific, 'how do you make the curriculum amazing?' But in reality, in terms of my personal progression. It's turned out that I've progressed faster than he has. But then I'm like, is the goal progression? Probably not, not for me, anyway. I am the subject lead here at [name of school], and I am the only geography teacher for the whole school. So it's completely mine, which is great, because it means I control everything. And I can flesh it out as I see fit, whereas he has a lot more in terms of compromise, and what he does in his classroom is dictated a bit more than me, but then he gets better standardisation and moderation from others. So in terms of the actual correctness of his curriculum, he gets more support in that, whereas I have to go outside of my organisation for that. But that comparative ability between us both has been really interesting from a research perspective." (Marie, 212-232)<br><br>"My initial reaction to this is to be leaning more towards the pedagogy teaching and learning … and time management. So I feel like I would prefer to be towards the geographies of education. If it was just me, it was just me and if I had 3 days a week in the classroom, and 2 days doing what I want, I would be in the green. But as the constraints of the job and the actual administration of the job, I am a lot more towards the pedagogy, teaching and learning., so I think in that sense I would probably put myself on the mid to left hand side of the green circle, if that makes sense., I've got that contextual awareness, but I don't have time for research. I've got that contextual understanding, and I can see it happening in my classroom. I haven't got time to write about it, I haven't got time to research on it. I haven't got time to set up the kind of actual experimentational research in the classroom that I would want it to do because I am too busy doing the job. Does that make sense?" (Marie, 266-275)<br><br>"One thing that I find interesting, frustrating, I don't know the right word, is that in order for me to access this process that we're currently in, I think I got an email from somebody else that you'd sent to the school about something, and it was like a chain. It wasn't like I could easily say, oh, there's a thing I could participate in, there's a piece of research that I could do, or that's a department that's local to me that I could go and have a conversation with. It feels like there are a lot of barriers between me and local research educational units. And they're about communication. Who do I talk to? Without somebody sending me that link, I wouldn't know who you are, because I couldn't find you. And I think that it was only through pure chance that I got access to this process, and I've loved it. I've really loved it. I love thinking about it. I love talking about it. It's making me think about like, oh, actually, should I step away from the day to day teaching and into the research, because I really enjoy it. And I think that making that conversation easier to begin would be a very, very valuable first step." (Marie, 506-516) |

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| | | | “Fairly close to the centre of ‘pedagogy teaching and learning in geography’ and far less in the ‘geographies of education’. And I think part of that is the nature of my prior experience, part of that is the nature of my epistemology and where I come from, and part of that is the nature of the work I do and who I work for. I am far more physical than human in terms of geographical experience and background. I'm much more positivist in terms of mindset and my climate change degree. It was all quantitative science. It was less to do with people. And I don't do, as part of my role, an active research piece into the spaces or the impacts or the place of education.” (Philip, 224-230)<br><br>“So I'm working for an education charity rather than for a higher education provider. I'm not doing research as part of my role. The geographies of education sit outside of the scope of not just the work I do, but also the job I have. My job is to do the best I can for my geographers and someone else determines the stance of the organisation. So, to an extent it's driven by work, to an extent it's driven by ontology, to extent it's driven by, I suppose, a belief that there's an element of it which is, ‘what is the best thing I can give to teachers in the short term?’ And that's far more practical pedagogies, teaching, learning, far more experiential in terms of the debates and the discussions they need to have for classroom.” (Philip, 230-237)<br><br>“My day to day and my job role is more about teaching, the pedagogy of my teaching, how to develop teaching within the department, how that impacts students by being reflective, even thinking about different educational spaces in terms of understanding where our year sevens are coming from and their geography experiences in primary and where their space is next, be it in our sixth form or to another sixth form college or institution. Also ‘education across the life-course and student experiences’ – I make sure that I’m doing a lot of ‘student voice’ to make sure that their experience and life course…” (Cole, 331-337)<br><br>“I'm interested in the positioning of the teacher educator. So, for my own selfish reasons, I want to develop as an academic, do research - well, not selfish because it's to give to the community, to make a citizenship contribution to disciplines and things like that. But I do want to do things like research supervision and conduct research. But I feel very committed, very committed, to going into schools because I think that there are so many people that just sit in their ivory towers. And obviously I see things in classrooms. I can help the student do practical theorising because I've taught the lectures or given the seminars. But I have a chat with the student, I see what's happening in classrooms, but I have a chat with the mentor. They often take me to the staff room and I'm engaged with staff room conversations… and going in and talking to children and to colleagues, I feel it stops me just being – obviously I am in an ivory tower and I'm really privileged to be in the position I'm in – but I feel very committed to doing that. ” (Juniper, 93-103)<br><br>“I am really interested in education across the life course, but I think that's more than the student experience because I am really interested in children's experiences and imaginations and perspectives on geography education and student voice. I've done research into that. [Redacted: A personal example. 285-286] And I'm interested in geographies of education and social justice and socio-spatial and just how that's reproduced through education. But I think I would put different education spaces. And I think I'd put that because I'm interested in the entanglement between curriculum, pedagogy, assessment, children's lived identity, citizenship and things like that, in different spaces. And I guess the space is there - that could be the classroom, that could be the playground, that could be an early years classroom, that could be an HE classroom, and it would be how things are experienced and perceived in different spaces. And different teachers, geography teachers, even within the same school, you go into different classrooms and there's a different kind of vibe. And it's how that space is collectively produced together, which is perhaps not what they actually meant when they wrote that. But I think that's where I'm positioning myself.” (Juniper, 279-292) |

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| | | | “I think it's really important that teacher education is a broad church, and that's because the people that come in to teacher education, some of them are very academic, some of them just want to go and work with children, some of them have come straight from a degree or Masters or a PhD, some of them haven't done a degree for many years. And teacher education itself is a broad church in terms of who are teacher educators. Now, are they academics doing research? Are they someone that's just come from the classroom? Are they on secondment from a school doing two days a week in the university? Are they a retired head teacher just topping up their pension with a couple of days of extra work? And what kind of pathways are there? Because each of them will negotiate this relationship in different ways.” (Juniper, 326-334)<br><br>“I think because of what I do, I think it's really important that I'm trying to enhance teaching and learning in geography and that pedagogy, teaching and learning in geography. But then I also think the one on the right, the impact of education in the present and the future is also quite important, so I guess I sit somewhere in the middle.” (Charlie, 179-182)<br><br>“When I stopped teaching, my family would say you're not a teacher anymore. And I'd go, no, I am. I am a teacher. I'm still a teacher. That's still what I do. But my influence is to do with what's going on in schools, but I don't have any influence within the university to do with the geography education. But my identity I think is absolutely held up with geography and being a geography teacher. And that's really important to me and I suppose then that's why I sit closer with schools. But most of my experience, because I was in schools for 19 years, so that's where most of my experience sits.” (Charlie, 220-226)<br><br>“Yeah, I'm a teacher, but I’m a geography teacher. I came into geography because I enjoyed the subject. When I first started out being a teacher, training, it was – I wanted to do something that I could use my geography in. I wasn't necessarily someone that wanted to work with the kids, wanted to work with young people initially. I wanted to pass my knowledge of geography on to other people. I've not always wanted to be a teacher but now I enjoy being a teacher and being able to teach geography. Yes, I am a teacher and yes, we have to develop the whole person, not just our subject, but at the end of the day I’m a geography teacher, I’m not a history teacher, and I wouldn’t want to teach history.” (Duncan, 243-250) |

# Appendix 16: Summary of Interview Data Coded by Benefits and Limitations.

| Participant | Benefits of more closely connecting school geography and academic geography | Limitations of more closely connecting school geography and academic geography | Additional |
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| Corran | "But then on the other side of it, the university were very, very good. And so a lot of the universities, along those lines of that same topic [sense of place] delivered CPD sessions and put out information. So we went to…I think we actually came to Birmingham once, we went to another university as well, and did some of the CPD sessions. They brought in some GIS along with it as well – because that's still quite topical as well, where you try to squeeze that in to the spec." (Corran, 61-65)<br><br>"One thing in particular that we do is that we have a link with Bangor University, and so we go there for our fieldwork and we use their facilities… in the past they have given us a lecture on urban environments because we've been there studying Bangor as a small town. And so if as a school, you have some of those links or can develop some of those links that can be really, really powerful. Some of our students actually went on to go study there because of that relationship, or changed what they were going to study in geography from a more physical focus to a more human focus, because having gone and sat in a lecture hall and actually understood the human side of geography a little bit more… from a different voice, almost." (Corran, 70-77)<br><br>"[Teacher in Department] went to Bangor University to do her geography degree originally. And our field studies centre that we used was in north Wales, so we were in the area anyway, it made sense. [Teacher in Department] reached out and we went from there and focused our field work provision on studying an element of the university. When our field studies centre shut down, we then said 'well actually why don't we stay in the university halls if they're available at a certain times of the year?' so then we took that next step and it's now our base of operations for north Wales fieldwork. Without [Teacher in Department] I don't know where we would have ended up going, so it's very much down to the staff you've got being able to tap into those relationships." (Corran, 94-101)<br><br>"One of our graduates is actually here now, she finished a few years ago and is doing her geography teacher training with us. | "So trying to teach 16… only just turned 17 sixth-formers the abstract concepts like sense of place through things like music, art and other forms of media… It's really a very difficult topic to teach, because at 16, 17 years old, you look outside your window, and it's the town, or it's the countryside, and then you can build on that. But then, trying to get them to think of these really abstract ideas that we can represent place through music, that took a lot of time to plan effectively and decide how we were going to teach it, to kind of hold their hands along the way." (Corran, 56-61)<br><br>"So yeah… it works both ways. We were a little bit more hesitant at the start that… it was being dictated that we had to do certain things because the universities wanted students to have those skills." (Corran, 77-78)<br><br>"I mean, it was a mindset shift for us as teachers as well. This is new to us… how do we deliver [new A-level content] effectively, and so that was a challenge. It almost felt that there was significant elements of sociology being brought in. So it was that that boundary crossing between topic areas as well. And if you're in a department which is primarily physical geographers, who has the adaptability and the flexibility to take on board that element of sociology and human geography when it's completely alien to us as well, possibly." (Corran, 121-126)<br><br>"[In relation to the need for CPD support] Especially with the effect of filtering down, A-level content suddenly in GCSE, and in preparation for GCSE some of it was being taught by non-specialists in Years 7 and 8, because you need to plant the seed with some of those sets. (Corran, 149-151)<br><br>"…the one big thing to consider would be field work. Where actually – and this isn't necessarily from the university, it's from the exam boards – that is one area where we are very dictated to about what we have to deliver, and that does put constraints in terms of what we're able to do in terms of costs, | "I know from initial involvement when the new specifications were being planned that the universities had quite a large role to play in deciding what would be taught at A-level, and then what would be taught at GCSE. From a teacher point of view that felt a little heavy handed in certain topic areas, and in other topic areas it felt quite sensible. Most topics have something around 'urban environments', and that one in particular springs to mind where that changed quite significantly from what it had been in previous specifications, and so that boundary crossing of what the university wanted students to already have an understanding of, and an appreciation of… from a teacher's perspective, it almost felt like it was more to their benefit than ours." (Corran, 47-55)<br><br>"It will be interesting to see where those boundary crossings go in the future. I've not seen as many things from university after those initial couple of years to develop that CPD, but then at the same time, I've not been proactively looking, because I feel comfortable enough to do it." (Corran, 66-69)<br><br>"[The relationship between school geography and academic geography is] A necessary evil [laughs]. It's difficult, because obviously the academic side of it does dictate what happens in the classroom whether that's pedagogy or content. But then the interpretation of the pedagogy and the content is still open to the school level." (Corran, 278-280) |

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| | She went off to university to study geography, and she is also very musical. At the time in Year 12 when I taught the abstract concepts of 'sense of place' through art and music, she didn't really get it as a concept. However, it's actually what she based her dissertation on – about how music can influence sense of place. She actually came back and interviewed myself and a couple of other people in the department." (Corran, 151-156)<br><br>"…you know you've done a decent job when they get the good grades in the end. But actually, how much of it is that they've just learned it to pass the exam with a surface level understanding, and how much of it have they really taken on board? And as a department part of our philosophy is that we're not just trying to get people to pass the exam. We're trying to teach them the skills to go on to be a successful geographer, whether that's at university or wherever. But we want them to be a geographer, not just somebody who passes the exam. And we have reasonable numbers who go on to study geography and things like that, but not huge numbers so it's really nice when one of them comes back and reinvigorates the department and feeds something back in." (Corran, 162-169)<br><br>"So, for example, we have textbooks but we very, very rarely use them, because we like to create our own resources, we like to go beyond what the textbook says. And so when you're looking at the literature and the literature dictates the textbook, we're able to step away from away from that slightly, but still use it as a basis for 'okay, here's the ideas they want us to cover. How do we want to cover those for our students?'" (Corran, 286-290) | within the school timetable, and so that is the one area where our pedagogy is very much dictated by an external actor. How much are the universities saying to the exam board about fieldwork, I don't know." (Corran, 290-295)<br><br>"The only one thing I would say, is sometimes teacher training is very, very good as a department, because it can inspire us and reinvigorate us. But sometimes… we had a trainee a few years ago, and actually it was an absolute slog, I'm not saying it destroyed the department, but it did take a lot out of the department. We were supporting University X with that, and they were coming and sending students to us, and we'd have 10 students and 3 in this classroom, 3 in that classroom… It was a few years ago, and they were getting £28,000 to train to be geography teacher, and when they were sitting around without us in their break time, just hearing snippets of the conversation… Some of them were taking geography because it paid better than English. They were going to qualify as a geographer and then teach English because their degree in English, but they got geography place for some reason. Or, 'oh, I just didn't want to move back in with my parents after university. I don't know if I want to be a teacher'. But £28,000 tax free is a lot of money. That did frustrate us a little bit, especially when one of the trainees who was saying similar things to this was our own trainee... and we had to fight really hard to get him through, to do the basic requirements, and the university almost let him fail? And so that was… he was getting paid more than us, because he was tax-free £28,000 over nine months, and yet we were working harder than him. So yeah, I think that's part of the broken bit of the system that doesn't help departments because that did cause a few conflicts between us in the department over how best to deal with it. We joke about it now, but at time it was a bit fraught on occasion." (Corran, 401-417) | |
| Marie | "So in partnership with the Royal Geographical Society, I ran a Zoom Meeting, but they were people from actual jobs that involve geography. So we had a GIS specialist, a town planner, and things like that. And I invited the boys into that session for them to ask questions, and that was sort of facilitated through the Royal Geographical Society, and that really helped them to understand that there is real value in a career that is based in geography; especially with the GIS analyst who was somebody… I can't remember the company… they're a company that does specialist work for the military, and they really saw the value of | "I think, with geography specifically, it's that [pupils]… they don't see the value in the subject. A lot of the time they'll feel like they want to be doctors, or they want to be lawyers, but they don't see the value of how geography actually fits into that plan. And I think it's because they get a lot of parental pressure. They get a lot of parental pressure to go into very specific careers, you know, lawyers, doctors, things like that, and they don't see how geography actually can be helpful and relate to that." (Marie, 64-68) | "Thinking of that phrase [boundary crossing] in the immediate, it's 'how do I get the students to cross that boundary' is how I respond to that, because I'm very conscious that the boundary is there, and I feel like I am somebody who has crossed the boundary, who has experience of crossing that boundary, and it is my responsibility to enable students to feel like they can cross that boundary. because, especially the students that I work with, I work with disadvantaged boys. Nearly all of them are of ethnic minority status. And there is a very big barrier actually within geography about whether they deserve to cross that boundary. It's almost like they don't deserve it… |

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| | that. But without that experience I don't think they would have seen it." (Marie, 75-81)<br><br>"I think the specifics for me – and I don't know whether that's the current context that I work in, because we have a real literacy focus as a school, like a school-wide literacy focus – one of the things that I always focus on is academic styles of writing and showing them that a) they can understand the research that they read and b) they can write in that style, because a lot of the boys they'll instantly go 'oh, I can't read that. I've got a reading age of 11, I can't read that.' They'll say that, and I'll say 'no, you can.' So, for example, in my Key Stage 4 classes, I've shown them abstracts from geographic research, and I've said 'right, let's unpick this and let's see what we can learn from this'. Then they'll read it, and they'll say 'I don't know that word. I don't know 'decentralisation'.' Then we'll pick apart those specific words, and then they understand the fact that they can access academic language. It's almost like a language barrier, a literacy barrier. So I always focus on that literacy gap. I think in terms of teaching them how to read academically, that has been the biggest thing, to break that barrier as well as … Because I come from a poor background. I came from a disadvantaged family, and I'll say to them, 'just because you're from a poor family, just because you're from a disadvantaged family, doesn't mean that you don't have the right to go, that there isn't value in it. because there is'." (Marie, 136-149)<br><br>"And that's more of a personal journey, that kind of 'spoken history' vibe, rather than an actual teaching moment. So the teaching moment is in understanding academic language and giving them confidence to access academic language and use it themselves. And then from the personal side, it's like a personal story, personal history, kind of 'yes, you can' encouragement. And then, when they do achieve… I had this wonderful moment with one of my students today. he achieved very well across his other subjects, but he's got a 7 in his recent mock exam, and it was paper one, so heavy rivers and coasts and that kind of stuff, and and we sat for the whole of break time, for 15 minutes, just celebrating how well he'd done in his academic writing, and he really struggles with English, and he thinks that he's bad at English. And I'm like, you're not. You've got an amazing handle of academic language here, you can do it. And he's a PP student, he's from a family that is very disadvantaged. I have to provide him with lots of extra tuition because of that, and lots of access to materials because of that. But he's doing it. He is doing it. He has got hold of that academic language, and he can, | "[Pupils] don't see the value of geography as a science, if you see what I mean, which is something that I try and encourage through scholarship in terms of the way that we do fieldwork… so we lean into those statistical skills that we try and focus on in the GCSE, especially through the fieldwork. And I'm like, 'this is what science is', and I am always very conscious with my vocabulary, to make geography a science, and I'm always saying to the boys – because I teach in an all-boys school – and I'm always saying 'geography is just like biology. It's a science. It's like physics, it's a science. It's like chemistry, it's a science.', but they don't see the real world value of geography. (Marie, 68-75)<br><br>"I think that is something that in terms of the explicit curriculum, that isn't in the curriculum. That drive to help them understand where they are, within the discipline and what their role is, and how they move through the discipline. That isn't taught." (Marie, 182-184)<br><br>"[In relation to introducing pupils to scholarship]: And when I'm observed, I get questioned: Why are you doing that? What's the point - that's not going to be relevant to the GCSE, why are you doing that? And I'm like, but it is relevant, because they do need to know. But I always have to justify that, which is frustrating." (Marie, 357-360)<br><br>"[On the relationship between school geography and academic geography] The immediate answer for me is too little too late. There is too little involvement from university level, too late in school education." (Marie, 428-429)<br><br>"I think the extent of the possibility is through things like outside classroom experiences, sharing a valid [inaudible] research in the subject. So where I'm based, we're really close to the University of Birmingham, and I've been trying to find the time to set up an extra-curricular activity to go over to their geology lab because they do work with the geology lab, and the kids in key stage 3 can go and look at things from that perspective. But again, the day to day job stops me from engaging in that, because of the demands of the job, of actually [inaudible] it, actually marking the amount of papers I have to mark, and all of that kind of stuff. So I think that universities could be more active in contacting us to promote those things, because it's only because I sit on my sofa and talk to my husband [also a geography teacher] about, what | they don't have the right to do that. So part of my role is to encourage them and prove to them that they do have the right." (Marie, 50-57)<br><br>"It's different across contexts as well, because I've worked in two schools where we've got no key stage 5. Here, the expectation school-wide for attainment is very high. It's part of the ethos of the school that they aim for those 8s, those 9s, and they go on to the best colleges in the city, they go on to good universities, all part of the conversation. Whereas my previous place where it was just 11 to 16, it was: how do we get them to pass the GCSE? And that's it. And that was very much the school ethos. And it was a much bigger school, and I don't know whether that was part of the influencing factors, as to why that was the approach to curriculum, because there were over 1600 kids at that school, and all of the amount of issues, safeguarding and otherwise, that come from a cohort that big, it just left no room for scholarship, it just left no room at all. Whereas here, it is very much like we want to shape the future, and that is an ethos that is school wide. So I think that works in my favour and it's almost acceptable for me to have these conversations and have that approach because that is the overall ethos of the school." (Marie, 381-391)<br><br>"I just think that leaving things like [inaudible] the university environment, reading university level writing, to A level - because that's where it tends to be, it tends to sit in that higher education, that 16 to 18 zone - it's too late. They need the aspiration and the access way before that. They need it in key stage 3. They need it in key stage 4. So if I could wave a magic wand and make it the way I would want it to be, I would be introducing the value of scholarship in year 8, practising the value of scholarship in year 9, reading academic literature in year 10, practising academic practice in year 11, and then they go on to the they go on to the A level. That is how I would want it. But whether that's practical with the demands of a school, and the demands of National Curriculum, and the demands of the Department of Education, because we all know what chaos that is at the moment. They're very different demands. And I don't think the Department for Education specifically, actually hold any value for scholarship. They hold value for economic productivity, not for scholarship. So for me, at the moment, university level involvement in schools is too little too late." (Marie, 432-442) |

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| | and it was great to have that 15 min of 'Oh, my goodness, I did it!' So for me, it's that combination of oral history and academic language and accessing academic language." (Marie, 152-164)<br><br>"I'm lucky, because I have students that come to me to talk to me, because I'm personable, and we end up talking about general economic changes. We end up talking about the relationship between politics and where people live. And they engage in those kind of higher academic conversations with me because they like being with me. But again, that is not something that is given over as part of the curriculum, that understanding their own place within the discipline and the fact that … I've always thought that the discipline of geography is about understanding life and your position in life because it is everything around you. It's understanding the processes that occur around you, and how people move and how the world moves around you. And that's why I see value in it." (Marie, 188-195)<br><br>"It's usually through theme first, so what am I teaching within the specification. There have been a couple of examples. One of them was through urban challenges. And we were looking at some of the cultural influence of why people move to Mumbai. And the Financial Times actually did a really good article about the up and coming fashion industry in Mumbai and the changes brought about by the fact that billionaires live there. In terms of introducing them to academic style language, the best way to do it is through the media, because it's pared down enough for it to be accessible. But the Financial Times is quite strong in its content. I can trust it in that way. And at that point I introduced that to media bias, as well; is it left leaning, is it centre leaning? They did okay with that. And I find that it's a little bit easier to introduce it within the human side of geography, because there's a lot more that I feel is accessible for them, because it's easier for them to see. So we started off with the Financial Times, and it was through that lens of, how do I get them to understand urban change and the link with culture, and how that is actually displayed in the way that things are made and produced and money is earned. And they did really well with that. That was in Year 10. And then by the time we got to Year 11, I was talking to them about transnational corporations. And that was where I introduced my first abstract. And I introduced the abstract on - I can't remember where I found the link now. It was a science education one, one of the really famous ones. They'd got a whole page of geographic research into trans- | could you do, and then Google it, that I even know that." (Marie, 450-458)<br><br>"There's almost a personal stigma around it as well. I don't think teachers remember that they're well educated and that they have access to that level. So they don't feel like they have the right to reach out and be scholars… it's almost like teachers get so bogged down in the day to day job that they forget that they're scholars themselves." (Marie, 467-469; 477-478)<br><br>"I do think that's a result of the political will of the Department of Education. They don't value the level of scholarship that is required to be a teacher. They don't understand it, they don't engage with it, they don't want to admit to it, and they actively discourage it from their policy. I think that does have a direct correlation with the recruitment and retention crisis. We don't get any option to stretch that educational muscle, that research muscle. And then people forget that they can do stuff. And then when they go and do stuff they're like, Oh, my God, I did stuff. I agree with you, I think it's a crying shame and I think that hand in hand undervaluing the teachers and their skill leads to a gap in research and a gap in progression. For all subjects. I don't think that's specifically a geography thing. I think that is an all subject thing." (Marie, 488-496)<br><br>"One thing that I find interesting, frustrating, I don't know the right word, is that in order for me to access this process that we're currently in, I think I got an email from somebody else that you'd sent to the school about something, and it was like a chain. It wasn't like I could easily say, oh, there's a thing I could participate in, there's a piece of research that I could do, or that's a department that's local to me that I could go and have a conversation with. It feels like there are a lot of barriers between me and local research educational units. And they're about communication. Who do I talk to? Without somebody sending me that link, I wouldn't know who you are, because I couldn't find you. And I think that it was only through pure chance that I got access to this process, and I've loved it. I've really loved it. I love thinking about it. I love talking about it. It's making me think about like, oh, actually, should I step away from the day to day teaching and into the research, because I really enjoy it. And I think that making that conversation easier to begin would be a very, very valuable first step." (Marie, 506-516) | |

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| | corporations [sic] reducing the development gap. So I picked out some specific research from there and added that in. Now, I've been leading change across the school in terms of how we use the, "Do now" approach, getting them into an activity straight away. And I use that for the majority of the introduction of the written academic work. So the Financial Times article, for example, was given to them, and the abstract was given to them. And the first task is highlight words you don't know. And then we go through the vocabulary side of things and understanding, and then we start picking apart the actual content of the material. So my thought process was: media is the easiest to access; how do I make sure that that media and content is well researched and well written? Then it was: Now we need to go into abstracts, and we need to get actual references, And I haven't asked them to reference, but I've introduced them to the process of referencing, and why it is important." (Marie, 333-357)<br><br>"So one of the things that I am really focused on is bringing down that academic language, bringing down that academic style of learning and the value of scholarship. And I'm lucky because it's part of our faculty as well, because the history department here do it as well." (Marie, 429-431) | | |
| Philip | "Are the curriculum choices that we are making allowing [learners] to see the relevance of the subject in what they do? And I think we're seeing in the data, not just in terms of subject entries, but also how people are talking about it, that the focus on climate and sustainability, on green careers, on wanting to make a difference and be part of something, is inherently aligned with some form of geographical values for most people. So there's a subject thing. Can you see yourself doing this thing? Can you see this being relevant? Linked to that - and Steve Brace at the RGS has done a lot of work on this and spoken on this before - but can you see the utility of that for a careers perspective? " (Philip, 328-333)<br><br>"…demystifying and empowering scholarship, so recognising that good geography doesn't have to be highly convoluted…really complex words like ontology and epistemology…You don't have to talk like someone who has a PhD in education in order to be a great geographer. The lived experience, the perspectives are really good. How do you demystify and encourage access to scholarship? I'm on the editorial board of Routes as a journal which does that for some, but not many because the understanding and the recognition | "I think there's always been an artificial tension in the way that the school geography curriculum is constructed. We force students at GCSE and A-level to study all components of geography as a synoptic whole. They have to do physical, they have to do human, they have to do skills and fieldwork, particularly in the sort of paper 3 fieldwork options, and so there's an element of… we package GCSE and A level geography as if it is all one subject and then often what students really are surprised by at university level is the fact that they can do human geography or physical geography. They don't have to do both. "What, you mean I can apply for a BSc and I don't have to do any human geography after my first year module?" Yeah. And I think we have that weird boundary crossing from university - from school to university: the idea that you can specialise. But then at university level we have the same issue that the discipline crosses beyond the geography department and the geography 'box'. So you might be working in physical geography, but you're working with colleagues in meteorology or you're working with colleagues in the maths department because they're the ones who've got the computer modelling expertise. So I did a PhD in climate science and I could have been in a physics | "…the best teachers at A-level are the ones who say, "Yeah, that is a really good question. We don't have the answer to that yet." And they say "we" as if they are part of the discipline and they bring you into the discipline by saying "we don't have the answer." But I think if you were to try and mandate that from a curriculum point of view, it would become reductionist very quickly. You would learn tropes and rotes and essays of theorists. And it would become just another reduction to fact, rather than the lived experience of the debates and the perspectives and the lectures that you need as a slightly more mature thinker and someone who's chosen to specialise in it, and who's chosen to have specialisms - you get to choose your options or you get to choose cross-curricular links or whatever. And I think that it's an inequitable playing field. We know that we've got a lot of schools now with non-specialist teachers at GCSE even, probably into A-level. Add this in terms of do you really understand your disciplinary history to be able to have those conversations comfortably? Well, it's hard enough at the moment to recruit people to teach the A-level content as it is well, let alone someone who's able to say, here are my perspectives on the evolution of geography over the last 100 years." (Philip, 134-147) |

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| | and the reach of that is small. But how do you empower the kiddie table to feel like their contribution is just as valid as Professor-so-and-so, who uses awfully long words to say exactly the same thing?" (Philip, 342-349)<br><br>"And that's the difference between gatekeeping and not. Someone who understands that outreach and getting more people onto the table, not necessarily making the effort to go down to the kiddie table, but just occasionally looking around and going, how do I make this table look more interesting? How do I make sure that what I'm serving at this table is cool?" (Philip, 462-465) | department, a maths department or a geography department, and it would have made no difference to the PhD. And that's such a weird thing to conceive of for a student who thinks that climate science belongs to one subject by itself. So I think we have a strange thing where we cross boundaries in two ways. We box people in, in the school curriculum, and then we unbox them and then repackage it, I suppose, at university. And it's a weird one to conceive of for a lot of students. " (Philip, 39-57)<br><br>"…there's a weird tension between the sort of QAA Statements of what geography and earth science degrees should be in principle, but there's no prescribed curriculum, which means that a geography degree or a geography curriculum is constructed primarily based on the research interests of the geographers who are delivering it. Which means that the space changes significantly depending on who you've hired that year. You could change the nature of your geography department by hiring two or three staff who bring with them some researchers at university level. You would never do that in a school environment. The curriculum is the curriculum. You might hire someone who's a physical geography specialist at A-level teaching, but they don't get to rewrite the entire curriculum and reconceptualise what the space is. Whereas at university level that happens far more regularly." (Philip, 70-79)<br><br>"I think there's a terrain-capturing we're seeing certainly in the school curriculum - I don't know the extent to which it's reflected at university level - but the GCSE for Natural Science, for example, was launched in the Natural History Museum with only science departments and no representation from geography as a subject. And that's odd, that's unusual when you look at the content of that. So I think there is an element of bidding for funding maybe? Are some projects more attractive than others if they're multidisciplinary, or if they come with a green label on them, or a sustainability label on them? Is that a way to get money in university departments? I don't know. It certainly seems to be the way for the curriculum material." (Philip, 79-86)<br><br>"I think there's an extent to which the Decolonising Geography movement is doing that for the human spaces of geography by forcing people to say there isn't one geography, there's multiple geographies. Are we reflecting the geographies of the global South? Are we reflecting | "I think it's worth stepping back from that and recognising that the education element in that changes the dynamic. If we think about geography as the discipline of geography and purely the subject of geography – rather than geography, education and teacher training and the kind of worlds of how we educate people in geography, set that aside – I think geography and school geography are sort of cousins. It's like getting together with your cousins at Christmas and you're sat on the kiddie table and the grown-ups are over there talking about their stuff in much more detail. School geography is the kiddie table. You do a little bit of a lot and that's very nice, but over here you're going to join the adults, and we're going to talk as glaciologists or climatologists or political geographers or whatever. And you've had a little bit of everything, sort of a little bit pre cut up for you, thank you very much, so that you can eat it and chew it down a little bit easier. But over here, if you want to survive at the adult table, get your elbows out, get your own food, capture - you know. There's a thread of connection, there's a thematic similarity, but the specialism and the rigour and the extent to which you really are part of the wider community versus not, changes. Are you in a geography department at university for convenience, or are you in it because you genuinely see yourself as a geographer? If you ask a university academic to define themselves, what do they identify as? Do they identify as geographer, or are they identifying as a glaciologist or 'I'm a historic geographer', or whatever it might be. And I think there'll be a difference in the physical versus human spaces. I think physical will be much more divisive. I think human will be much, much broader and a little bit more synoptic. But I think A-level geography is, you have to do a bit of everything… you have to have breadth; depth is less important. So sort of cousins, I don't think frenemies, I don't think there's a tension. But I think there's a divide in terms of we're the grown-ups, you're the children, from the university perspective versus the school perspective. We know lots more about our subject, you know less about our subject. There's a sort of kiddie table, almost." (Philip, 265-286)<br><br>"I think we recognise that geography at school level leads into a broader thing than just geography at university level. So if we encompass it into geography and environmental or earth sciences and the range of things that are embedded within that, I think the relationship is positive. If we exclusively limit it only to geography and geography degrees, it's less positive. I |

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| | | geographies of people on the other side of this equation that we don't normally tell the story of? I don't think people are doing it as Kuhn might have done in terms of the paradigms of the discipline and what it means to be ontologically scientific and so on. And I think that probably is slightly too mind blowing for an A-level student, like that's 'head stuff'. I think people are starting to get comfortable with the idea of representing multiple views in multiple places and multiple perspectives of humans, and through that, to recognise that fundamentally geography is a constructed discipline and is a constructed narrative. That diagram from the GA Manifesto of 'the subject, the teacher, the pupil' and 'the experience' is at the heart - it's a construction. There's no *one* geography." (Philip, 150-160)<br><br>"…and yet, I think we've lost something in the A-level specification change. If I go back to when I started teaching the old AQA 2030 spec, with David Redfern as chief examiner and "Evaluate the theory of plate tectonics and how it evolved", "Evaluate the theory of this" and there were questions, even in the physical geography topics, where you were forced to say, well, Wegener argued this, and then Vine and Matthews argued this, and how do we construct and weigh those things up, and to recognise that humanity in that construction. So I think it can be done. I just … yeah, I don't know." (Philip, 161-167)<br><br>"…it is about levelling the playing field of access and saying if a really interesting geography book is £75 to buy, you're not going to buy it. If really interesting geography articles require a hugely complex journal subscription, you're not going to buy them. If you can get other content freer and easier, and you can read it at a more engaged academic level with big ideas and get into another big concept, then you'll be captured by that. And if you gate-keep in the academic sense and say, 'oh no, we must restrict publication or we must…' How many great geographers are doing good outreach and good stuff? How many people … I've been doing some Oxbridge interviews over the last week. How many people talk about Tim Marshall and his popular stuff? How many people talk about David Attenborough and Iain Stewart as examples of people doing great geography and asking really interesting things without being intimidating or hugely expensive?" (Philip, 348-359) | think it's still there, but I think it's less positive. I think it's less directly correlated." (Philip, 297-302)<br><br>"Danny Dorling talks about geography as the preserve of white middle class, not particularly bright, kids. Geography is a nice option that you can go and do. Your parents recognise it. You can go and do it at a Russell Group university. You can travel a bit. You can be a thoroughly awfully nice geographer and an awfully nice human being. If you're working with kids from a disadvantaged background, they want their children to be doctors or lawyers or something, where the vocational element comes across more. And how do you tackle that in terms of the marketization of geography from a social justice perspective and from an access to geography perspective?" (Philip, 335-342)<br><br>"…the solution is the same as all of the solutions, which is we need to fund it better. If you had significantly more funding and people weren't scrabbling around to just about survive on the research funding that was available, then they'd have the time in their day to do the… Funding is always the solution." (Philip, 499-502)<br><br>"I guess one of the interesting conversations that geography has that perhaps other subjects don't, is what is the role of subject associations or subject organisations in bridging the gap? If you look at the work of the GA or the RGS, how does that sit by comparison to other subjects? How does that sit by comparison to the theoretical perspective of who should be bridging the gap? Schools' job is to deliver A-level results. Universities' job is to deliver research. Whose job is it to look out for 'client geography', if you like. Is that something that subject associations or subject organisations ought to be doing? And to what extent are they? Geography is very lucky. We've got two very strong ones. They do slightly different things. Do they talk to each other as much as they might do? Probably not." (Philip, 510-518) |

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| | | "But look, I get it. Like if you are being measured … There's a couple of geographies of higher education that I think are set against us in this space. The first is the expectation that being an academic should be some form of sacrifice and that the sacrifice may, and often does, involve significant locational change, that if you want another job or if you want security of job, you have to move all around the country all of the time. And so your ability to develop roots in a place and connect to - well, 'I'm the governor of this school and my kids are at this school' or 'I've got a connection to bringing these people into your university'. You've been there on a temporary contract and probably treated not particularly well on that contract, or whatever it might be. The nature of higher education itself is set against that. And then the nature of how higher education is assessed and scrutinised. It's all about research. You put inclusion, accessibility and how many kids from your local area are studying your subject, onto the research and evaluation framework, and you watch the difference. We get what we incentivise, right? And if you incentivise research to the exclusion of everything else then that's what you're going to get. I get it, like OK, sort of." (Philip, 481-493)<br><br>"I'm old enough to remember that when I first joined the Royal Geographical Society you had joint membership with the GA. Can't do that now. That's not a thing. And again, you know in a zero-sum game where there's only so much money to be spent on memberships, why would you choose one versus another? And they each have to get their elbows out a little bit for their members and Fellows, don't they?" (Philip, 530-534)<br><br>"And that breadth, capturing the earth and environmental sciences and the wider disciplines and the stuff of sustainability and greenness and the things that young people want to take forward into a tent that is broader than just pure geography at a higher level and at a careers level. Green careers are going to be a big thing for the future. We have thousands of people who work in geography jobs. They just don't call themselves geographers." (Philip, 539-543) | |
| Cole | "The demographics of my school is predominantly White Caucasian or Eastern European White Caucasian, and to have engagement with people of - women, certainly, and men of colour and different backgrounds and diversity of backgrounds, that really shone a light for some of those girls that follow or have that attribute. So to them it was like, oh wow, there's a | "Rather than going oh, that wasn't just a free lesson or [inaudible] worthwhile. Having this sort of engagement with Danny Dorling and Chris Jackson, I think it was very much like, oh, I've seen his books or I've seen him on television. I've seen them doing something on TV. That was sort of the capture or link or the sort of [inaudible] of oh, I know him from the TV, | "From my contacts, from my school, my Trust, I should say, we are very much an 'Outstanding' Trust. We are now a Trust of four primaries and by 2025 we're going to be a Trust of eight. We're doubling our primary intake, so a lot of our forward planning is supporting primaries, which are our feeder schools and a lot of … our maths department, our English department |

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| | woman here who's CEO or leads this, or got to this, or [inaudible] and, oh, wow, there are people who look like me in these positions." (Cole, 128-133)<br><br>"[Chris Jackson] was brilliant. I was inspired. I felt I wanted to do another degree or do my degree again." (Cole, 145-146)<br><br>"We provide students with a range of different media so even things on social media, newspapers, journals, textbooks. Okay, you've looked at the words, you've looked at the theory of what it's saying. Let's start evaluating the quality of who's written it or where it's come from. If it was written by a bunch of people at university, it's going to be slightly more rigorous than a journalist for the Sunday Times or the Mirror or the Sun, for example. It's the quality of where it's from that we want them to focus on." (Cole, 280-285) | rather than actually what they had to say, unfortunately." (Cole, 134-138)<br><br>"If and when I think of the words 'boundary crossing' in the context of school geography or academic geography, my mind goes to theories or concepts that are taught in school that are potentially taught or re-taught or research that breaks the misconception of – at university level – I remember at university, literally the lecturer in one of the first weeks of the undergrad going, 'everything you learned about the urban environment you can ignore, you can forget. So whatever you've learned at A-level, I'm going to teach you what you need to know and what is correct. What you've learned is essentially wrong, or not what we need.' And I'm like, 'Oh my God. okay.' So if I'm thinking about the word boundary crossing, the difference between … or the skill level, essentially the skills required for school and skill required for academic learning or academic courses, those two, I guess." (Cole, 202-211)<br><br>"Plate tectonics or plate theory has.. not *changed*, it's always been there, but the concept or the theories behind are very watered down at lower school but will get a bit more ramped up for GCSE level, and then we sort of unpick those at A-level. And certainly the geology side of our subject, the way it interacts at university at academic level. The other thing which you mentioned, what we're having to teach the girls right now, that will be different in a year or two years' time is in the AQA spec at GCSE we talk about the UK being interconnected within the wider world and being a member of a trade group or trade associations, and since that was published, we've left the EU and lots of trade links are still developing [inaudible] and so for us … literally you'd have to go, I know we've left the EU but this is what AQA want you to learn. And it's not true to the current geography that we have." (Cole, 225-234)<br><br>"…you have a new spec put into place to teach, and now we come to the end of that cycle. So we've gone through that period of introduction to a new step, knowing that with all the changes that have happened in the world, now we're coming to the end of its life cycle." (Cole, 241-244)<br><br>"One area that I think, if I think about my Year 12s and my Year 13s, one of those skills that I worry about when they apply to university, even if they don't do geography or they do | have been the first to go and give secondary level support to primary teachers. The next phase will then be subjects such as geography and history and music and art and so on, helping to skill up younger geographers as students. You could consider or that could encapsulate what we're looking at is not just the top end or one end, but the other end and actually make sure you are thinking about geographers who are as young as five because as a school we have gone from just 11-18 to a Trust that is 5-19 now. So our remit has increased. So yes, you're talking about education and geography from school to university engagement but actually, that engagement is going backward and downwards from us. We're doing a lot of support as a school and as departments going into primary schools. That's what we're doing." (Cole, 405-417)<br><br>"Even talking about all the other school events that go on, the majority of those are known associates or known people. Most of our careers … when we talk about girls going to a work experience placement, most of those lists are historical, developed through our relationships with those businesses or those clientele so absolutely, it's very much who you know before what you know." (Cole, 488-492) |

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| | | another course is they're … as a learner, not necessarily as a geographer, but how to interpret and read through a journal, how to interpret chapters of books or how to engage with articles or how to … the skill of critically assessing a document or assessing a theory or written articles and things. I think that's what …We've spent a lot of time in the department making sure that we have specific activities or specific tasks that … here's some articles about this, here's a chapter from this book … the skill of critically analysing those. I remember finding that jump from A-level to … at least college to university really difficult. I would just go, 'this is my opinion' not critically assess … A lot are able to give their opinion, able to agree or disagree with the theory or a concept or something, but they're not necessarily able to, as well, accurately cross examine - that bit is good about this research, that bit is weaker, I guess. Does that make sense?" (Cole, 255-266)<br><br>"…even my school, which is a state comprehensive, all inclusive. So we've got girls that have been on Broadway and in theatres and we've got girls that have very much compromised learning or abilities… we've got everyone. And I guess the point being some of those experiences you've just mentioned, some of those opportunities for some of our geography students is very much to do with their social economic backgrounds. And I have tried really hard with my engagement with careers and so on to break those invisible barriers, or those actually physical barriers of yes, we live in this part of the country and this does offer us some advantages, particularly the science parks and we've got access in that respect. We have the university very close to us but trying to get engagement from university to a state comprehensive is much harder than my colleagues in private schools that are down the road, where they have a lot more engagement, a lot more discussion between the university and their school, their establishment. So sometimes, I feel, maybe socio-economic or even geographical location can be a barrier to engagement or skills between school and sixth form or university. In our location there are students who with regards to their socio-economic background have the engagement or have the opportunities to see aspirational geographers from a range of different places, so they can go 'oh, okay, there's someone like me, they live near me, they work near me, this is something that I can do'… so maybe that's something that you've found in your research, that some schools do it better because they are more affluent, or | |

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| | | some schools have a better engagement because of certain socio-economic factors." (Cole, 434-452)<br><br>"In my experience, in contrast to a colleague of mine who works in a private school, I would say that is … that door, to use your analogy, is much more open for them. And when I approached the same person or the same university, I found it much more difficult to get engagement from the university because I've got my school name attached, rather than their name attached from their school. So absolutely, I think that is another boundary to cross." (Cole, 464-468)<br><br>"I'm not saying it hasn't been done or it can't be done, but it's very much dependent on lots of factors, as you mentioned, but also my department's time or my time to do that, phone calling, sending all those emails, that chasing, so absolutely. That's another boundary, if you want to call it that." (Cole, 476-479)<br><br>"I went to my key stage 5 team about it and we all agreed that access to technology or technology such as GIS is very dependent or limited by the school you're in. Some schools have better or more access to certain technology or computer hardware or software than we have. Our school has spent, or our Trust I should say, has just spent a lot of money investing in touchscreens, laptops for all of us rather than desktop computers. So we are moving to a more technology-focused school, but if I go back to lockdown and my experiences of teaching, some girls didn't have a laptop or a PC or a printer or even a geography book at home with them, certainly during the first lockdown. Some of them were on their phone, listening into the lessons. Some of them were sharing devices. So technology is another boundary, you could say, and those who have experience of some software at school may find it easier whilst they're at university or vice versa. So that's something you might want to think about. It's something my department … that's something we are trying to address as a Trust.. it can be a socio-economic based boundary or access boundary." (Cole, 510-522) | |
| Juniper | "I'm interested in the positioning of the teacher educator. So, for my own selfish reasons, I want to develop as an academic, do research - well, not selfish because it's to give to the community, to make a citizenship contribution to disciplines and things like that. But I do want to do things like research supervision and conduct research. But I feel very committed, | "So one of the boundaries or issues with school and university collaboration is everything takes forever in universities. It takes two to three months to get ethical approval. It takes … we teach a lot, there's assessment, there's etcetera, etcetera. We've got busy jobs and then it can take a while to analyse data. But if you're doing research with 11, 12 year old | "I think that there are gaps between school and university geography, but they do have different functions and obviously a curriculum is out a date as soon as it is written. [Juniper gives examples from across different countries. 39-40] And those things are written with distinct purposes, and we can't have a new curriculum every time a new piece of literature comes |

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| | very committed, to going into schools because I think that there are so many people that just sit in their ivory towers. And obviously I see things in classrooms. I can help the student do practical theorising because I've taught the lectures or given the seminars. But I have a chat with the student, I see what's happening in classrooms, but I have a chat with the mentor. They often take me to the staff room and I'm engaged with staff room conversations… and going in and talking to children and to colleagues, I feel it stops me just being – obviously I am in an ivory tower and I'm really privileged to be in the position I'm in – but I feel very committed to doing that." (Juniper, 93-103)<br><br>"I think that there's a lot of teachers that want to engage with you, want to develop, want to take part. Obviously they face some barriers in terms of time and being let out of school. But I also think there's some people involved in ResearchED because that's a form of progression for them. That's how they can do things. And often it's cheap or free and they can get themselves down as presenting and they can get kudos within their communities and schools." (Juniper, 159-164)<br><br>"I'm a passionate geographer, but then some of the framing of social studies can support thinking about places in different ways. Because you're thinking about place with a historical lens as well. And also this kind of citizenship is worked in in a different way. Some of it is under-theorised and there's problems with it, but I'm quite up for someone telling me, or having a debate with me, about the advantages of social studies over geography, because that will either change my opinion or it will enable me to work out why my viewpoint is different. So I think it's healthy for there to be different actors with different viewpoints." (Juniper, 368-374)<br><br>"Lots of universities or some universities - lots of is probably a bit of an overstatement – but some universities are making students do interdisciplinary modules as part of their undergraduate degrees now. And should we be having … because there are some things that geographers alone can't solve. We can't solve climate change alone. So is it right that we just teach children solely geography? My personal philosophy is that geography makes a valuable contribution to a person's education. I really buy into that. But geographers often produce knowledge through boundary crossing and through networking. Look at Peter Kraftl's work. He's working with health professionals in terms of children's entanglements of plastics, he's doing all his stuff on treescapes. He's got anthropologists | children, are they going to remember something a year down the line or how is this meaningful for the children in the classroom?" (Juniper, 52-57)<br><br>"…there are boundaries in terms of getting people involved in various different things. [Redacted: A personal example. 63-65] Training is the wrong word: mentor education, mentor development, which is obviously changing within the new ITE curricula. But when you're not bringing people in [to universities] to have conversations like at [name of institution] we used to do new mentor training, we used to look at the guidelines and the forms that you're going to fill in, but we also used to do work for experienced mentors that might be subject or pedagogical content knowledge updates. And we can't do that unless there's a reason to bring people in. And I guess that there's these unseen boundaries that make it harder for people to work together. (Juniper, 62-71)<br><br>"I guess there's an ideological position that it is really important to advocate for within the policy context and within our institutions. And we've both informally spoken before that that's not always been easy. But there is what happens in reality when budgets are cut and there's a landscape of higher education and people are just on tenuous contracts doing three hours of school visits a week for…yeah." (Juniper, 107-112)<br><br>"I was in the staff room at work the other day - and I completely agree with how you articulated it - but I said, I really need to go to ResearchED, and someone who's in a quite a senior position in the university was like, why would you go to ResearchED, why would you want to do that, Juniper? I said, because sometimes my students are writing assignments that are based on ideas that I don't really understand, that sometimes my instant reaction is to dismiss them, but actually how can I dismiss them unless I've truly engaged with them? But I have prioritised other conferences and not been to ResearchED. I'd say I navigate some boundaries with fluency, but not others." (Juniper, 136-143)<br><br>"It's also what's free and what's available open-access. What's written, whether people want to read academic - there's some academic journal articles that you think, oh, that's quite easy to read, I can read that on the bus. There's others that you think I'll need to sit in a darkened room and read that eight times before I've got a vague sense of what that means. | out, and neither should we because they're academic debates." (Juniper, 37-41)<br><br>"I work in a Faculty of Education and I've tried my hardest to network with geographers and many of them have been really, really accommodating. They've really engaged with me. They've given me opportunities, and I've had really interesting conversations. But my area of geography is … I'm interested in geography education, all the way through from early grades to postgraduate, children's and young people's geographies, and geographies of education and education spaces. But that's still a really narrow area of geography. I'm not speaking to geologists or earth scientists. I'm not in a geography department either. I've been to a couple of meetings or talks, but I am only able to recontextualize some elements." (Juniper, 86-93)<br><br>"I don't think I have a word, but what I do think is that teacher education is a broad church and I think it's really important that teacher education is a broad church, and that's because the people that come in to teacher education, some of them are very academic, some of them just want to go and work with children, some of them have come straight from a degree or Masters or a PhD, some of them haven't done a degree for many years. And teacher education itself is a broad church in terms of who are teacher educators. Now, are they academics doing research? Are they someone that's just come from the classroom? Are they on secondment from a school doing two days a week in the university? Are they a retired head teacher just topping up their pension with a couple of days of extra work? And what kind of pathways are there? Because each of them will negotiate this relationship in different ways." (Juniper, 328-337) |

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| | involved, people really into citizenship. So his work is interdisciplinary. I think children, and I think teachers, need an understanding of disciplines to be able to think in interdisciplinary ways. But I don't think that we should just be teaching three subjects in schools. Maybe we can teach three subjects some of the time, and there's obviously some day-to-day … or the majority of the time. But is there a value of an interdisciplinary project once a year or something? And I appreciate that timetables are a nightmare, but geographers don't just sit and talk to geographers, do they?" (Juniper, 410-423) | But even then, I think organisations - the journal *Teaching Geography*, which I think is brilliant, I think that is still a bit limiting because they'll only let you have ten references and they want it written in a certain way that can be read in a staff room, which is completely reasonable, but then does that shape the knowledge that's in there? And is that problematic? And I understand that *Teaching Geography* is … the GA have got to make money, but should it be free? I think we're shaped by these wider forces and I want to be clear that I do want the Geographical Association to exist, but it's not always ideal to have to pay for journals. What if your school doesn't? And what if you're a single mum with two kids?" (Juniper, 197-208)<br><br>"I think there's an identity thing. And also in schools, we don't in general talk about the histories and the disciplinary turns of the discipline. And we don't talk about things like feminist geographies etcetera. And we've got very limited, very limited discussion of how geographers produce research. We don't just all look at maps or do GIS or do some fieldwork. And the idea of fieldwork is generally 'ranging poles'. It's very limited." (Juniper, 405-409)<br><br>"I don't know if the students have got an understanding of the disciplines that make up … or the concepts or the key ideas that make up geography or history to be able to do the interdisciplinary work." (Juniper, 451-453)<br><br>"…who is drawing those boundaries on social studies for me? What if I want to do some stuff on the representation of place through art or music? Why have I been stuck … when geography is such a big discipline. It's people, place and environment, so there is a physical geography element, but constructing geography as part of social studies, well, what about the age that we're living in, entanglements between people, humans and more-than-humans? What about people that call themselves geoscientists or earth scientists? Would they identify in social studies? No, I don't think so. I can't speak for them, but my imagination is that they would be a bit annoyed." (Juniper, 453-459) | |
| Charlie | "I run some fieldwork for my trainees. So during February we get some students from local schools to come in. So we usually target year 9 Pupil Premium kids to come in and do some fieldwork just from the university base, so looking at that. And what we get is students coming in and going, "Oh well, I know | "I think there is a lot of overlap that happens between what's taught at A-level and then what is then re-taught again at degree level. And I think partly that is due to there is a massive lack of communication between what happens at university level and what happens in schools. And I think | "Well, yeah, maybe they're just more acquaintances. They kind of rub alongside each other. They exist within the same educational structure, but they don't really see themselves as part of each other. Well, like I said before, it's not that two-way. I think schools automatically see themselves as part of |

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| | we're doing fieldwork, but can we go to the library? Can we go to the canteen? Can we see a lecture theatre?" And they're Year 9s going, "Oh, that's not what I thought university was like. I thought it was just sitting behind a desk". So as early as Year 9, you can start to go actually, this is what you can do." (Charlie, 112-118) | universities don't see themselves as part of that world and they make assumptions that when students come to them, they assume that they don't know a lot of this information. However, I think that actually there is some amazing teaching and some amazing subject areas that are taught at a really, really high level in schools, even at GCSE and going through to A-level – definitely going through to A-level – that I think is ignored." (Charlie, 37-44)<br><br>"So I think students do really well at taking their knowledge from what they've learnt in schools and transferring it to university. And I think that is a great … that's a great movement of knowledge and understanding. However, I think there's a lack of understanding about what happens in schools at university level, so they almost dumb it down a bit. And then they don't realise where these students have come from, what they have and what they can do and how they've been taught. So there is this one-way movement. But then I think there's almost a barrier to the boundaries from the university to the schools." (Charlie, 50-56)<br><br>"I have tried for the last couple of years to set up the movement from universities to schools, to use what we have at university and what happens at undergraduate level, especially to support the NEA, the A-level, and also that is your cohort. They are potentially coming through, especially cost of living, especially because we live in [location redacted]. Chances of people maybe moving away from home is reduced. So 'I could put you in touch with all of these schools. You could provide a one-off something on skills, or place, or whatever it is, or field work, or...'. And it never ever comes to fruition. Never." (Charlie, 69-75)<br><br>I think [universities] have a very limited understanding of what happens within schools and what is going on. They don't seem to engage at all in what is happening in schools and understanding that really, yes, you need to get into schools much earlier on. By the time you're at sixth form college it is too late. Not completely, but actually, they're not the people you need to be targeting. You need to be targeting them earlier and then you need to be actually doing something that's practical later on, that they can see what it's like. (Charlie, 107-112)<br><br>"My colleagues that lead on the undergraduate [course], they seem to want to have an idea, and they want to run things | the further and higher education system because that's where their students go, and that's what they're preparing them for. However, that's only if they deal in A-level. I think if they stop at GCSE, I think that also is something where they don't see that relationship either. And I think that universities don't see the relationship because I think it's a generic understanding. They think that schools are producing a kind of generic geography, and their courses are very specific, that they run in a very focused way of what they're trying to work through. I wouldn't say they're 'frenemies' or anything like that. I don't think there's animosity between anybody. I think there's just a lack of understanding." (Charlie, 268-277)<br><br>"I think it's not just about the subject. I think the subject of geography is one side of it, and then the other side of it is how it's taught. They're two separate strands, and I think they cause crossover and they cause animosity. I think the subject, they think okay, schools provide the background and the foundational knowledge, and then we just build on that and we go down our… whatever the course is, what the specifics of the course are. And actually the teaching side of it, I would say, has become… maybe that's become more frenemies, with the kind of actual teaching side of it. Because I think there's been a push for universities [for academics] to take some kind of teaching qualification and understand what they're doing and why they're doing it, and not just regurgitating slide after slide after slide. And that understanding of learning. But they're not willing to engage with the educational side of it to really understand what's happening in schools and how that's … So I'd say there's two separate strands. I'd say the subject is not frenemies. I think the subject is just … they kind of just rub alongside each other and it's not, there's not any kind of animosity there. But I think the teaching side of it, I think there is a kind of animosity about that. And that's 'we're different, we do it this way. You're different, you do it that way'. And actually that should be a better overlap." (Charlie, 283-297)<br><br>"I do think it's really interesting and I think the connections can be really valuable, really valuable. And there's lots of it just feels like there's maybe lots of missed opportunities perhaps." (Charlie, 350-352) |

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| | | that are to do with education, but they don't want to engage with secondary schools, or they don't know how to engage with secondary schools, or they don't have the time or the capacity. I'm not really sure what the barriers are, but it's not happening." (Charlie, 118-122)<br><br>"It feels a bit sad that I don't influence the education. I don't know really. I think it's just really hard. I think the nature of my role within teacher training is so complex and so varied, and it changes on a yearly basis and it changes on who you're working with." (Charlie, 204-206)<br><br>"When I stopped teaching, my family would say you're not a teacher anymore. And I'd go, no, I am. I am a teacher. I'm still a teacher. That's still what I do. But my influence is to do with what's going on in schools, but I don't have any influence within the university to do with the geography education. But my identity I think is absolutely held up with geography and being a geography teacher. And that's really important to me…" (Charlie, 220-224)<br><br>"I don't know. See I don't think there is a relationship. I think it's a bit ad hoc. It's like 'if it happens, it happens'. I don't think there is a relationship." (Charlie, 261-262) | |
| Duncan | "On an individual basis, some academics are very happy to work with schools, [inaudible] to give talks to students. Other local universities are really supportive of schools to get them in and work with those schools." (Duncan, 83-85)<br><br>"[University Y has] done a lot with the virtual reality resource they did last year and they're very happy to give talks, they're doing stuff on Malawi now, on top of the VR stuff. But they've always seemed much more open. I think partly because they're a smaller university, they've got to get people onto their courses, they're looking at getting more locals." (Duncan, 118-121)<br><br>"When I approach academics for talks, I look for a) have they done one before, so they're more likely to do one again, if they've got one they don't have to rewrite. I have a look at what students and schools have asked for. Is there a niche, is there something that they want a talk on? I'll then look around. With the access to Zoom and things like that, which we have got, we can get speakers… if they're in Leeds and they can't afford the one and a half hour journey each way, well, we can still do a | "From my experience when I've worked with people from academia, and what I mean by academia, I mean universities, some are very willing to work with teachers. Some feel it is a chore that they have to do because they have been told to have to do it. What they're actually bothered about is their research, their research funding, and what the university - if it's not going to up their RAE they don't want to do it. and if they are doing it, it's because they've been told to – not because they want to, because that's not always the case." (Duncan, 42-47)<br><br>"[University X] are in a little ivory tower, and they do some things, but it's on their terms and not necessarily what teachers would like. From more local experience, from the university where I live, they are much more forthcoming and wanting to work with schools, wanting to help and see what teachers want, what teachers want support with, and are more forthcoming with their help." (Duncan, 49-52)<br><br>"And it's not the departments' fault. At the end of the day, universities are ranked on the RAE, on the research. And | "…it's probably because their focus is on RAE research funding, and they don't need to work with schools because they've got lots of students applying for their course, so they're not at risk. Other universities, they have to work with schools because they know they need to get people in. But I think it's hit and miss." (Duncan, 62-65)<br><br>"It's not 'bigger universities are more unapproachable', or there's more of a boundary [between schools and bigger universities]. I think it's on a case-by-case - because I've had some universities who are very happy to help a teacher, or give a talk. Others … [University X], when I approach someone up there, it was 'oh, your sort of school, we don't get any students from your sort of school. So no thank you. Go away'. Well, actually, we do send students to your university - not necessarily to your department." (Duncan, 65-70)<br><br>"But I know [the geography department at University Y] have always been very supportive and very helpful. But they haven't got the framework or the size of [University X's] resources, you know, the university … it does seem like [University X], they |

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| | talk, we can do it from your office on Zoom. So we've found that some speakers are more willing to do it because they don't have the travel time. I think that's important - they are busy people. And if you're travelling to a school, that could be two hours each way, and not being able to do work when you're travelling." (Duncan, 149-157)<br><br>"We had a speaker face to face, from London. [Line redacted.] That was our first face to face talk since Covid. We didn't have many people there, but the fact that he could interact with the young people in the room more easily, they got more out of it with it being face-to-face. So I think from that perspective, you get better interaction. The disadvantage obviously is not all schools can get out. So the Zoom ones, the schools can access it somehow. Often teachers can't get out of school before 4 o'clock." (Duncan, 167-173)<br><br>"My experiences in… [lines 321-328 redacted] So there's a lot more joined up thinking and it's much less restricted… it's controlled in some ways, but it does enable more continuity between the universities and school… so there seem to be less barriers because it's more joined up." (Duncan, 321-331) | teaching is something often they have to do, not that they'd like to do, and if they're told they have to do it, it may be more centralised." (Duncan, 52-55)<br><br>"I know different universities arrange their outreach work in a different way. The boundary, as you say, as I see it from my experience, is some academics are very willing to, for example, give talks to sixth-forms. Others, you send an email. You never get a reply. You send another email. You never get a reply. They say they're doing stuff, but actually, when you actually try to get them to do something, it's more difficult. [line redacted] …has been like trying to get blood out of stone. You speak to the person who's supposed to be organising it, and they say, oh, I'll get someone, then nothing happens. Nothing happens. Nothing happens. It's very hit and miss." (Duncan, 55-62)<br><br>"I think it's not necessarily departmental issues. It's what the university is telling them, what the hierarchy are telling departments, and whether that person is actually trying to get up the ladder. Unfortunately, I think that the obstacle is the focus of the universities. Students don't bring money in. Outreach activities don't bring money in. Research brings money in. That's my experience." (Duncan, 70-74)<br><br>"And [University X] had a teachers workshop, which was good, but when you try to get someone to actually come in … [inaudible] It's like they've blocked your email." (Duncan, 86-87)<br><br>"[University X] don't respond. So it's a difficult one [inaudible]. They do connect, but I think it [inaudible] expect too much from university. I think it's a barrier in both ways. The universities need to know what's going on in schools. And school teachers and students need to know what goes on in university. The barrier, or boundary, between schools… It needs a lot of work and teachers [inaudible] haven't got the time. That's absolutely one of the issues. Both sides are busy and if you want it to work, it needs a lot of work to get it to work, and I think that's often where it falls apart." (Duncan, 91-96)<br><br>"The face to face [talks by academics] I would say are better, but reality means we can get more reach to the schools, because they may not be allowed out, so more young people, more teachers are accessing the talk virtually. But face-to- | don't need to advertise, they get people every time, and maybe that's why…" (Duncan, 122-125) |

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| | | face I would agree is better because you can get those interactions you might not get over a screen." (Duncan, 173-176)<br><br>"The focus of academic geography is often very, very [inaudible], what their research grant is, what their [inaudible] They're looking at the next contract [inaudible]. Where school geography is broader because our school geography is what the government says we have to teach. So the universities haven't got that restriction that you must research about climate change, or you must research about something. They're researching whatever they can get funding for. There is a distinct difference in priorities. We are told by the government we have to teach these topics. The exam board [inaudible]. The university geography is not restricted by … they don't have a syllabus to follow, they don't [inaudible]. There's often more … not broad, but very specialised. So I think that's one difference. Whereas we're structured." (Duncan, 293-301)<br><br>"I work in a school that is an Academy. We don't have to follow the national curriculum but we follow the specifications at A-level and GCSE because if we didn't, the students wouldn't do well and [inaudible] what's going on here, why aren't the students getting the results? In key stage 3, even though we don't have to follow the national curriculum, Ofsted will ask us, why are you not following it, what is your reasoning for following your own ideas? We are restricted in what we can teach, whereas universities can teach whatever." (Duncan, 308-313)<br><br>"I think it does need to be looked into, why there still is this barrier between … We're providing young people to go to the universities. And they often say, well the students aren't prepared, they can't write, they've got no experience of GIS, they've got no experience of this – but well, you don't work with the… only a small number of people worked on the ALCAB, when the A-level was being developed. So I think both could help each other. I think your project could be interesting if you raise some of the issues into the bigger picture." (Duncan, 352-358)<br><br>"One thing you've just made me think about, a lot of young people now are looking at the apprenticeship option instead of the university option. They're coming out with three years' work experience, with pay, no fifty, sixty grand debt, | |

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| | | minimum, and they're at the same point if not further than the young person coming out of university three years later. It'll be interesting to see in terms of that interaction when will universities start to realise, actually, we've got to do something here because we're not getting young people in, they're taking the other option. Because actually, I'll be honest, if I was a student now, I wouldn't go to university. Why would I want fifty, sixty grand's worth of debt? I'll go straight to a company that will offer me an apprenticeship with one day release. I'll come out with a degree at the end of it anyway but no debt. It's an interesting concept. I mean geography, some universities don't need to recruit because they've got such a pull. It'll become more and more… And if that barrier isn't broken down, will it become more of a problem in the future to get young people to do geography or will universities find actually, we haven't got the pipeline of young people, or mature students coming from a change of career... it'll be interesting." (Duncan, 373-385) | |

# Appendix 17: Application for Ethical Review.

[appendix redacted from UBIRA eTheses repository copy]

Appendix 18: Participant Information Sheet.

# Developing an ambitious and connected geography curriculum

September 2022 to December 2023

## Information sheet for participants

**Who is conducting the research?**

My name is Gemma Collins, and I am inviting you to take in part in my research project. This is a doctoral research project, funded by the School of Education at the University of Birmingham. You have been invited to take part in this research as someone who has a stake in the discipline of geography, either in a school or academic context.

For some time, there has appeared to be a 'gap' between the school geography curriculum in England and academic geography as studied in higher education in UK institutions, and I want to explore the ways in which the school geography curriculum and the academic discipline of geography might be more closely connected to one another. I hope to identify opportunities that can arise from bridging this 'gap', as well as the factors that maintain the gap between geography in the two contexts. I will be using schools in Birmingham and the West Midlands and the School of Geography, Earth and Environmental Sciences (GEES) at the University of Birmingham as case studies.

I very much hope that you would like to take part. The purpose of this information sheet is to answer any questions you might have about the project, but please don't hesitate to contact me or the lead supervisor for this project if there is anything else you would like to know. You

will find our contact details at the end of this document, along with a more detail statement about your privacy and your data.

**Why am I doing this research?**

There are three main questions which I hope will be answered by your involvement in this research.

1. What are the elements of continuity and progression between the school geography curriculum and the academic discipline of geography?
2. What do stakeholders perceive the benefits and limitations of more closely connecting school geography and academic geography?
3. What might a more connected geography curriculum look like in practice?

**Why am I being invited to take part?**

It is important that this research features voices from interested stakeholders in a range of positions and contexts. I want to hear from geography teachers in schools in England (principally those teaching in secondary schools, but those teaching geography in a primary school context are encouraged to participate), academic geographers working in higher education institutions in the United Kingdom, and other key stakeholders in the discipline of geography, such as those working for subject associations and other subject related bodies. Students of geography who are aged 18 years or older are welcome to take part.

**What will happen if I choose to take part?**

You will be asked to take part in a **survey**, designed to allow you to share your experiences and opinions by answering a range of questions. You will only be asked to provide personal data that is required for the project; for example, you might be asked to identify a broad age category to which you belong, or to give information about your role(s) and experience, such as whether you are a teacher or academic, and for how long you have worked in your role(s). The survey will be administered online; your responses will be anonymous unless you

choose to share your name, and your data will be kept securely and confidentially. Only the researcher and project supervisors will have access to this data.

At the end of the survey, you will be asked if you would like to participate in an **individual interview** conducted after the survey. The interview will take place remotely using a platform such as Zoom or Teams. The interview will last for a maximum of one hour and will provide an opportunity to elaborate on some of your survey responses. The interview will be audio recorded and transcribed, and the transcription will be shared with you so that you can check it is an accurate record of your views.

You can choose to participate in the survey but not the interview. It is not essential to participate in all stages in order to be involved in this research project, and you are very welcome to complete the online survey only. Your responses will be very valued.

**Will anyone know I have been involved?**

The data collected for this research project will be kept confidential and will only be reviewed by the researcher and supervisors. Your contributions will be anonymised in any reports, publications, or presentations. Any other identifying information, for example the name of your employer, place or work, or role, will also be anonymised. If you have any concerns that your data could be easily identifiable, you are welcome to discuss this with the researcher and/or lead supervisor, and your data will only be used with your full consent. If you choose to participate in the interview, you will be invited to choose a pseudonym for yourself, and to write a brief 'pen portrait' or biography of yourself that you would be happy to be shared in any written outputs from the research.

**What will happen to the results of the research?**

The results of this research project will contribute to a written doctoral thesis. In addition, these results will contribute to other published articles, and will be disseminated at research

conferences. All of your contributions will be anonymous, and it will not be possible for you to be individually identified, unless you have given your explicit consent for your name to be used. As a participant, you will have access to your own data, and to the results of the research. In line with the University of Birmingham's requirements, data will be retained for a period of 10 years on a secure University of Birmingham IT system.

**Do I have to take part?**

It is entirely up to you whether or not you choose to take part. I hope that if you do choose to be involved then you will find it a valuable experience. There will be no detrimental impact should you decide **not** to take part. As the survey responses will be anonymous and you will not be asked to provide your name unless you are interested in participating in a focus group, you cannot withdraw your survey responses once they have been submitted. If, however, you choose to give your name in the survey but later decide you wish to withdraw from the study, you can do so at any stage up to **31st January 2023** by letting me know; in this case, all of the information you have given me will be destroyed.

**Thank you very much for taking the time to read this information sheet. Please also take time to read the Data Protection Essentials on the following page.**

**If you would like to be involved in this research project, please complete the consent statement at the start of the online survey. If you would like to also take part in an interview, please indicate this when prompted in the online survey.**

**If you have any further questions before you decide whether to take part, or regarding the outcomes of the research, you can contact me in the following ways. I would be happy to talk to you about the project in more detail or to answer any questions you might have.**

**Email:** [redacted]

**This research is supervised by Professor Celia Greenway who may also be contacted if you have any questions.**

**Email:** [redacted]

## Data Protection Essentials

In order to carry out the research project described above, we will need to collect information about you, and some of this information will be your personal data. Under data protection law, we have to provide you with very specific information about what we do with your data and about your rights. We have set out below the key information you need to know about how we will use your personal data.

The University of Birmingham's web page 'Data Protection - How the University Uses Your Data' sets out much of this information, including how to ask any questions you may have about how your personal data is used, exercise any of your rights or complain about the way your data is being handled. The rest of the key information you need to know about how we used your personal data is set out below.

### Who is the Data Controller?

The University of Birmingham, Edgbaston, Birmingham B15 2TT is the data controller for the personal data that we process in relation to you.

### What data are we processing and for what purpose will we use it?

We will collect and process your personal data to conduct the research project, as explained in the Participant Information Sheet.

### What is our legal basis for processing your data?

The legal justification we have under data protection law for processing your personal data is that it is necessary to do so for our research, which is a task we carry out in the public interest.

### Who will my personal data be shared with?

We will not share your data with any third party. Sometimes, external organisations assist us with processing your information, for example, in providing IT support, including Bristol Online Surveys which will provide a data analysis services for survey responses, and a transcription service who will transcribe any interviews in which you participate.

These organisations act on our behalf in accordance with our instructions and do not process your data for any purpose over and above what we have asked them to do.

We make sure we have appropriate contracts in place with them to protect and safeguard your data. If your personal data are transferred outside the European Union (for example, if one of our partners is based outside the EU or we use a cloud-based app with servers based outside the EU), we make sure that appropriate safeguards are in place to ensure the confidentiality and security of your personal data.

**How long will my personal data be kept?**

Your data will be retained for a period of 10 years, in line with the requirements of the University of Birmingham.

This privacy notice is effective from 1st November 2021 and is reviewed when necessary. Any changes will be published here.

Appendix 19: Consent Statement for Inclusion in Online Forms.

# Developing an ambitious and connected geography curriculum

## Consent statement for participants

*[NB This consent statement will form the first question on the online **survey**; participants will not be able to complete further questions unless they have checked the boxes next to every statement below. The same consent statement will be sent to participants in the **focus group**, via online form, for them to complete in advance of the focus group. The consent statement will be verbally read out to the focus group participants again at the start of the focus group.]*

I confirm that I have read and understand the participant information leaflet for this study.

I have had the opportunity to ask questions if necessary and have had these answered satisfactorily.

I understand that my participation is voluntary and that, should I choose to give my name as part of this survey, I am free to withdraw at any time **up to 30th September 2022** without giving any reason. If I withdraw my data will be removed from the study and will be destroyed.

I understand that if I choose to keep my survey responses anonymous, I cannot withdraw my data once I have submitted my survey.

I understand that my personal data will be processed for the purposes detailed above, in accordance with the Data Protection Essentials statement below.

I agree to take part in this study.

Name of participant:

Date:

*[Signature will be electronic, via completion and submission of the online form, for both the survey and the focus group.]*

# Appendix 20: Interview Schedule.

**Introduction**

**Welcome** the participant and **thank** them for their engagement. Talk through the **process**:

*1) I will read the **consent statements** and ask for your verbal agreement; 2) The interview is semi-structured, and there will be four main questions; 3) It is possible that I will ask some follow-on questions as they arise from your responses; 4) One of the questions includes accessing **Mentimeter**, and I will add the link to the online chat – you are welcome to access this using any device you wish; 5) There should be time at the end of the interview for you to **add anything else** that you would like to share.*

The interview will last somewhere between **30 to 60 minutes**, and I will not ask for more than one hour of the participant's time. The interview will be **audio-recorded** and a **transcript** generated. After the interview has taken place, I will **share the transcript** with the participant so that they can confirm they are happy that it represented the conversation and for them to correct any errors in the automatically generated transcription.

As part of their engagement in the interview, I have asked the participant to select a **pseudonym** and to co-construct with me a '**pen portrait**' or biography of themselves which they would be happy to be used in any written outputs from the research. We can revisit this at the end of the interview, and/or in follow-up email communication.

**Consent Statement (only proceed with the interview if the participant can answer 'yes' to all questions)**

- I confirm that I understand the participant information for this study.
- I have had the opportunity to ask questions if necessary and, if so, have had these answered satisfactorily.
- I understand that my participation in this interview is voluntary and that I am free to withdraw at any time up to 31st January 2024 without giving any reason. If I withdraw my interview data will be removed from the study and will be destroyed.
- I understand that my personal data will be processed for the purposes detailed in the participant information sheet, in accordance with the Data Protection Essentials statement provided.

| | | | |
|---|---|---|---|
| • I am aged 18 years or older.<br>• I agree to take part in this study. | | | |
| **Theme(s)** | **Question** | **Prompts/Follow On Questions** | **Rationale** |
| | Having had an opportunity to review your survey responses*, is there anything you would like to elaborate on, anything new you would like to add, or any views you now wish to change? | *None required; the participant does not need to elaborate, add, or change any responses unless they wish to.* | There was a long period of time (c.10 months) between the survey and the interview. During this time, it is possible that the participant may have changed their thinking, as a consequence either of engaging with the survey, or of subsequent experiences they have had.<br>**The participant was emailed a copy of their survey responses at the point at which the date and time for the interview was set.* |
| Boundary-crossing (Finn *et al.*, 2022) | One of the themes that has emerged from the literature I have read about the relationship between school subjects and academic disciplines is the idea of 'boundary-crossing'. | How do you see these boundaries? Are they hard/soft? Permeable/non-permeable? Porous/non-porous? Permanent/temporary? Transparent/opaque? | The notion of 'boundary-crossing' is emerging as a prominent theme, particularly of the more recent literature on this issue. I am interesting in the participant's |

| | | | |
|---|---|---|---|
| | Before I share any more about what the literature has to say about this, could you tell me what 'boundary-crossing' might mean to you, in the context of you and your work? | Are there any other descriptions you would use for these boundaries? | view of what this might mean, as it can be interpreted differently. I am also interested in the participant's perception of the nature of the boundaries, and whether their response indicates any element of boundary-crossing in their own work. |
| The 'geography and education nexus' (Finn *et al.*, 2022; Kraftl *et al*., 2022)<br><br>*Mentimeter links can be found on the participant list – each* | My research has links to geography and to education, and this is an emerging field of the academic discipline of geography. Shortly, you'll see an image of a Venn diagram; this shows what has been named the 'geography and education nexus' by the RGS Geography and Education Research Group.<br><br>I have added a link to a Menti poll in the chat. Using whatever device you | If you had the option to position yourself in more than one place on the Venn diagram, where else would you select?<br>Why?<br>What influenced your final decision? | |

| | | | |
|---|---|---|---|
| *participant has their own unique link.* | wish (laptop/PC, mobile phone) I would like you to position yourself on this Venn diagram. It would be really interesting if you could talk me through your thinking as you do so. | | |
| The nature of the relationship between school subjects and academic disciplines:<br><br>'Gap' (Tate and Swords, 2013; Butt and Collins, 2013)<br><br>'Chasm' (Goudie, 1993)<br><br>'The Great Divide' (Goudie, 1993)<br><br>'Frenemies' (Finn, 2018)<br><br>'Joined-up geography' (Hill and Jones, 2010) | The literature on this theme often uses descriptive, emotive words such as 'divide', 'gap', 'chasm'. One description is even that schools and universities are 'frenemies'. Another suggestion is that we should look for 'joined-up geography'.<br><br>Can you offer your own analogy or adjective to describe the nature of the relationship between school geography and academic geography? | Is your view of the relationship broadly positive, or broadly negative?<br>Why? | |

| | | | |
|---|---|---|---|
| | Is there anything else that you would like to share with me? | Are there any benefits to more closely connecting school geography and academic geography that you don't think have been addressed in the survey or the interview?<br>Are there any limitations that you don't think have been addressed in the survey or the interview? | This question gives the participant (and the researcher) a final opportunity to explore information pertinent to RQ2, as well as the opportunity for the participant to introduce any themes not anticipated by the researcher. |
| | Do you have any final questions for me? | | This is a standard good practice approach to ending the interview. The participant will also be reminded that they can contact the researcher (or the lead supervisor) as per the participant information sheet. |

# Appendix 21: Example of a Coded Interview Transcript.

Appendix 21: Example of a Coded Interview Transcript.

Connecting Geography: Corran

Pen Portrait of Corran

Intelligent Verbatim Transcript of Interview with Corran

00:03:40.960 --> 00:04:04.690
Gemma Collins: So it has been some time since I circulated the survey. The survey was actually shared this time last year. And so, bearing in mind that that gap between the survey and the interview, I did want to give each participant an opportunity to review their initial responses in the survey, and an opportunity to adjust, to elaborate, to change, to add anything.

00:04:04.890 --> 00:04:20.630
Gemma Collins: It is by no means compulsory, but is there anything that you want to change or views that you think have shifted since you completed those survey responses?

[Corran indicates 'no']

00:04:21.660 --> 00:04:43.589

Gemma Collins: Okay, that's absolutely fine. Of course, the questions in this interview focus on similar themes to the survey, so there may be opportunities to elaborate on some of what you said. So, if it feels appropriate to call back to anything you've written on the survey, you'd be very welcome to do so.

00:04:43.830 --> 00:05:25.050
Gemma Collins : So you'll know that the research is focused around the relationship between school subjects and their [respective] academic disciplines with a particular focus on geography. And one of the themes that really comes out of the literature around geography is this idea of boundary crossing between schools and universities. And so, before I share any more with you about what the literature has to say about that, I wonder if you might be able to tell me what boundary crossing might mean to you in the context of you and your work?

00:05:25.940 --> 00:09:21.100
[Corran] : So this question is obviously quite broad in its context, to start with. I know from initial involvement when the new specifications were being planned that the universities had quite a large role to play in deciding what would be taught at A-level, and then what would be taught at GCSE. From a teacher point of view that felt a little heavy handed in certain topic areas, and in other topic areas it felt quite sensible. Most topics have something around 'urban environments', and that one in particular springs to mind where that changed quite significantly from what it had been in previous specifications and so that boundary crossing of what the university wanted students to already have an understanding of, and an appreciation of... from a teacher's perspective, it almost felt like it was more to their benefit than ours.

So trying to teach 16... only just turned 17 sixth-formers the abstract concepts like sense of place through things like music, art and other forms of media... It's really a very difficult topic to teach, because at 16, 17 years old, you look outside your window, and it's the town, or it's the countryside, and then you can build on that. But then, trying to get them to think of these really abstract ideas that we can represent place through *music*, that took a lot of time to plan effectively and decide how we were going to teach it, to kind of hold their hands along the way. But then on the other side of it, the university were very, very good. And so a lot of the universities, along those lines of that same topic [sense of place] delivered CPD sessions and put out information. So we went to...I think we actually came to Birmingham once, we went to another university as well, and did some of the CPD sessions. They brought in some GIS along with it as well – because that's still quite topical as well, where you try to squeeze that in to the spec. So, it set a high standard in that particular topic but then it was supported. It will be interesting to see where those boundary crossings go in the future. I've not seen as many things from university after those initial couple of years to develop that CPD, but then at the same time, I've not been proactively looking, because I feel comfortable enough to do it.

**Commented [GC1]:** DI-Comm

**Commented [GC2R1]:** Universities feeding into curriculum making as a stakeholder in the subject community

**Commented [GC3]:** DI-Pow

**Commented [GC4R3]:** Decision making and decision making

**Commented [GC5]:** SK-HP

**Commented [GC6]:** P-CU and P-T

**Commented [GC7R6]:** Universities wanted UGs to already have some conceptual understanding (greater than was facilitated by previous specifications) of urban environments, presumably to have positive impacts on the transition from A-level to UG.

**Commented [GC8]:** P-CU

**Commented [GC9R8]:** The A-level reform introduced concepts that this teacher feels are possibly too abstract for learners of that age.

**Commented [GC10]:** P-CE

**Commented [GC11R10]:** Although some teachers may have previously planned the use of music, art, etc. into curriculum experiences, the A-level reform explicitly requires these kinds of experiences - see example below from DfE-KSS.

**Commented [GC12R10]:** "...one of the following topics through which to address the concepts of meaning and representation as applied to place: Place making and marketing...
Representation of place through photography and film, music and art, literature and poetry, through cartography, census data, statistical representations, digital worlds and geo-spatial technologies such as geographical information ...

**Commented [GC13]:** P-CE and SK-HP

**Commented [GC14R13]:** "The place within which students live and study are likely to be the starting point f...

**Commented [GC15R13]:** "The place within which students live and study are likely to be the starting point f...

**Commented [GC16]:** P-CE and P-CU

**Commented [GC17R16]:** Teachers were careful of how they planned appropriate curriculum experiences in order ...

**Commented [GC18]:** DI-Comm

**Commented [GC19R18]:** Universities and schools working together as part of the same subject community.

**Commented [GC20]:** DI-Comm

**Commented [GC21R20]:** CPD delivered by and for the subject community.

**Commented [GC22]:** DK-A

**Commented [GC23]:** DI-Comm (but also perhaps alludes to challenging yet appropriate P-CU?)

**Commented [GC24]:** DI-Comm

One thing in particular that we do is that we have a link with Bangor University, and so we go there for our fieldwork and we use their facilities... in the past they have given us a lecture on urban environments because we've been there studying Bangor as a small town. And so if as a school, you have some of those links or can develop some of those links that can be really, really powerful. Some of our students actually went on to go study there because of that relationship, or changed *what* they were going to study in geography from a more physical focus to a more human focus, because having gone and sat in a lecture hall and actually understood the human side of geography a little bit more... from a different voice, almost. So yeah... it works both ways. We were a little bit more hesitant at the start that... it was being dictated that we had to do certain things because the universities wanted students to have those skills. That would be the broad answer on that.

00:09:21.230 --> 00:10:12.539
Gemma Collins: I think you've mentioned several types of boundary crossing there. If we start with the most recent one, it seems to me there's a bit of boundary crossing between educational spaces there - that the young people you're teaching... the opportunity to be in a higher education space, to engage with the idea of geography as a an academic subject before they get to that point is doing something for their thinking, isn't it? Whether that's reassurance about the content, or familiarity with the setting, or being inspired by the kinds of people they might get to work with. So there's a bit of boundary crossing between educational spaces there, isn't there.

00:10:12.660 --> 00:10:18.380
Gemma Collins: Are you aware of how that relationship with Bangor came about?

00:10:48.060 --> 00:11:02.750
[Corran]: Yeah, [Teacher in Department]. [Teacher in Department] went to Bangor University to do her geography degree originally. And our field studies centre that we used was in north Wales, so we were in the area anyway, it made sense. [Teacher in Department] reached out and we went from there and focused our field work provision on studying an element of the university. When our field studies centre shut down, we then said 'well actually why don't we stay in the university halls if they're available at a certain times of the year?' so then we took that next step and it's now our base of operations for north Wales fieldwork. Without [Teacher in Department] I don't know where we would have ended up going, so it's very much down to the staff you've got being able to tap into those relationships.

00:11:17.400 --> 00:12:40.600
Gemma Collins: That's a theme that has come out of several interviews - this idea that it can feel like - whether it's a perception, or if it's a reality - often really effective relationships between schools and

**Commented [GC25]:** DI-Comm

**Commented [GC26]:** P-T

**Commented [GC27R26]:** Maybe also alludes to DI-Int (it is possible that some of these learners may have been exposed to the cognate disciplines of geography available for study at HE)?

**Commented [GC28]:** DI-Pow

**Commented [GC29]:** P-T (being in a higher education space, familiarity with setting)

DI-Geo (engaging with the idea of geography as an academic subject)

**Commented [GC30]:** DI-Comm

**Commented [GC31]:** DK-GeoSk-Fwk

**Commented [GC32]:** DI-Comm

universities arise because of the right person in the right place at the right time, or the right connection, rather than something that is easily replicable or a standardized way of doing it, so that's really interesting.

The other types of boundary crossing that I think you've raised, which are really interesting - to go back to this idea about university involvement with A-level specification reform, there's a kind of boundary crossing there of actual subject content. So 'sense of place', 'cultural geography' – from previously just at university, shifting down into A-level... the knock on effect then of some A-level content being shifted down to GCSE. But it's not just the subject content, is it? You talked about 'sense of place' being quite challenging - so then it's a bit of a boundary crossing between the abstract and the concrete which, as teachers, we know that starting from something concrete is a really effective way of helping somebody learn, but the expectation that we begin to introduce more abstract concepts into our teaching is a challenge, and it requires some conceptual boundary crossing with the expectations that we have of post 16 learners. Do you think that's a fair summary of what you said about that?

00:12:53.680 --> 00:13:48.859

[Corran]: It is hugely. I mean, it was a mindset shift for us as teachers as well. This is new to us... how do we deliver this effectively, and so that was a challenge. It almost felt that there was significant elements of sociology being brought in. So it was that that boundary crossing between topic areas as well. And if you're in a department which is primarily physical geographers, who has the adaptability and the flexibility to take on board that element of sociology and human geography when it's completely alien to us as well, possibly.

00:13:49.800 --> 00:13:58.189

Gemma Collins: You mentioned there felt like quite a lot support at the time that the specifications were revised. You said that it feels like maybe there's less now, but perhaps you're just not looking for it because you don't need it. But I think probably your gut instinct may be somewhat accurate in that I think that there was an awareness in the geography subject community at the time that geography teachers... well, there are a couple of things. At that time geography teachers were more... I think there was a higher proportion of geography teachers who were geography graduates, and that has unfortunately over the last few years decreased a little bit. We've now got more non-specialists teaching geography. But at that time as well, it was not common for those geography teachers to have to studied something like cultural geography or 'sense of place' themselves as an undergraduate. So it was brand new in two respects. Brand new to A-level specifications, but also brand new to their own geographical education. I shouldn't say *their* own, I should say *our* own. You know, it was also new to me. So I think that there was an understanding of that, and that generated that kind of enhanced support at the point at which that the those specifications were launched. But I think, perhaps what we haven't acknowledged as a subject

**Commented [GC33]:** DI-Comm

**Commented [GC34]:** P-CU

**Commented [GC35]:** DI-Comm (and also P-CU)

**Commented [GC36]:** SK

community is that increase in non-specialist teachers, and that actually, that support is needed more than ever. Yes, anyone who's graduated from a geography undergraduate course in the last five, maybe even ten years, may be more familiar with those concepts, but it's not necessarily those graduates who are teaching geography, and so if you're a non-specialist, it's incredibly important to have that support, isn't it.

**Commented [GC37]:** DI-Comm

00:16:05.560 --> 00:17:11.660

[Corran]: Yeah. Especially with the effect of filtering down, A-level content suddenly in GCSE, and in preparation for GCSE some of it was being taught by non-specialists in Years 7 and 8, because you need to plant the seed with some of those sets. One of our graduates is actually here now, she finished a few years ago and is doing her geography teacher training with us. She went off to university to study geography, and she is also very musical. At the time in Year 12 when I taught the abstract concepts of 'sense of place' through art and music, she didn't really get it as a concept. However, it's actually what she based her dissertation on – about how music can influence sense of place. She actually came back and interviewed myself and a couple of other people in the department.

**Commented [GC38]:** P-T

**Commented [GC39]:** DI-Comm (and feeding into P-CE)

00:17:30.990 --> 00:17:39.919

Gemma Collins: It must feel quite nice to see that come full circle.

00:17:40.360 --> 00:18:25.399

[Corran] : It was. It was quite nice, because you know you've done a decent job when they get the good grades in the end. But actually, how much of it is that they've just learned it to pass the exam with a surface level understanding, and how much of it have they *really* taken on board? And as a department part of our philosophy is that we're not just trying to get people to pass the exam. We're trying to teach them the skills to go on to be a successful geographer, whether that's at university or wherever. But we want them to be a geographer, not just somebody who passes the exam. And we have reasonable numbers who go on to study geography and things like that, but not huge numbers so it's really nice when one of them comes back and reinvigorates the department and feeds something back in.

**Commented [GC40]:** DK-GeoSk (and DI-Geo)

**Commented [GC41]:** P-T (and DI-Comm?)

00:19:55.620

Gemma Collins: So the Venn diagram you're looking at... the origin of it is from one of the RGS research groups. It's now called the Geography and Education Research group. It was previously the Higher Education Research Group. One of its remits, I suppose, was to look at geography across the educational experience from schools to universities, and when they rebranded to become the Geography and Education Research Group, it was in part to reflect the fact that 'geographies of education' is in itself an emerging aspect of the discipline, a kind of sub discipline of geography. And so what they tried to do with

this Venn diagram is to present this idea that there are overlapping areas between the more academic sub discipline of 'geographies of education' but also the practical application of geography education in the classroom.

00:21:17.890 --> 00:21:22.759
Gemma Collins: So I can see that you've dropped your pin in the middle of 'geographical education'. I would love it if you could talk me through your choice of position.

00:22:01.680 --> 00:24:59.719
[Corran] : I've put it very much in 'education across the lifetime of the student: the student experience'. Giving them the skills and the attributes to be able to be effective. Like I said a minute ago, that's kind of our philosophy as a department. Whenever they leave us in geography, we want them to have the skills that they'll need to go on. So we do all this work in Years 7 and 8, developing an understanding of holistic geography around the world, developing geographical skill sets, which we then build on in our GCSE and our A-level. But ultimately in A-level we want them to be well balanced and effective geographers with the skills and attributes that succeed in a lot of different fields, at university or in the future in work. And slightly to the right [of the Venn diagram] because that idea of spatial and temporal educational inequality is the element of education that is going to help them in the present and in the future is why I'm leaning slightly that way. The pedagogy side of things, while important, comes down to how you plan what you're going to do... do you come up with 'I want to do it this way' and then work out the content... I feel I'm more about the content, and how I deliver it, the strategies are dictated by what I want them to learn and has got to change in different situations and scenarios. So to me, it's more 'what I need to teach, what the students need to know, how are they going to experience it' dictates the pedagogy rather than 'I teach like this and I'm always going to teach like this'. I like giving the students a varied diet, because otherwise it just gets mundane and boring for them and it gets mundane and boring for me. There's some things which, off the fly you can almost go and do a little bit of mini fieldwork. If a student asks a particular question, I'll shuffle the scheme of work around while I'm teaching, because if they've asked a question, then take that opportunity. 'Wow, that's great. We might not look at that for three more lessons but I can make it fit. Let's shuffle it around'. So their experience is central to how I want to be.

00:25:01.990 --> 00:26:04.119
Gemma Collins: So it seems to me that that response sounds like a teacher who is confident in their subject knowledge, confident in their curriculum knowledge and confident in their classroom practice. I'm going to ask a really difficult question. It's difficult to answer in that neither of us know... it's a bit of speculation. Is it possible, do you think, that over your teaching experience you've shifted position on that Venn diagram because of that experience? So I suppose I'm asking you to speculate - if you'd done this

**Commented [GC42]:** DK-GeoSk (the skills that they'll need to go on, developing geographical skill sets)

P-T (the skills that they'll need to go on, we do all this work in Years 7 and 8...which we then build on in our GCSE and A-level)

DI-Geo (purpose of geography - whenever they leave us in geography, we want them to have....)

**Commented [GC43]:** DK-GeoSk

**Commented [GC44]:** DK-A

**Commented [GC45]:** P-T

**Commented [GC46]:** P-CE

**Commented [GC47]:** P-CU and P-CE

**Commented [GC48R47]:** Incl. the relationship between the two.

**Commented [GC49R47]:** But more P-CE, I think.

early in your career, might you be more focused on pedagogy? Or do you think that focus on the young person and their educational experience, has that always been part of your identity as a teacher, do you think?

00:26:04.420 --> 00:27:57.810

[Corran] : Yeah, that very much has been always part of my identity, and the school I trained at were very supportive in that, and I had some very established geography teachers who were my mentors who had a similar philosophy. And when I first started training, it was 'right, here's a Year 7 class. They don't know any geography, because they've never done geography in primary school. They don't know what a geography lesson looks like.' Off you go... you've got two year 7 classes on your timetable; do the lesson, do it better the next time. And that was really a great opportunity for me to be able to do that. My background isn't actually geography. My original degree was Environmental Management and Outdoor Education. And so actually, the idea of outdoor education is very much about the student's experiences and learning from their mistakes. I originally worked as a support worker in an emotional/behavioural school, before I went into mainstream teaching, so I think that in itself as well taught me elements of having to be flexible and to take the opportunities the class presents to you. That went on to develop into 'I want to teach geography' and built from there. So I think that has always been a part of me, I think as I've got more experience I've been comfortable in doing it... I would have struggled to do it sometimes at the start of the new A-level spec, for example, especially with some of the 'Changing Places' and 'urban environments', because that was new to me I had to be a bit more prescriptive. But very quickly, once I got used to what I was doing, that improved.

00:28:00.910 --> 00:28:06.960

Gemma Collins: So I think there's a couple of other really interesting things that have arisen there. One is that perhaps there's something about departmental identity. It's not the actions of individual teachers. Quite often teaching is an isolated activity, isn't it? Or it can feel like it, or it can appear like it. But perhaps if you're in a department that sets a tone, that has a combination of disciplinary backgrounds, levels of experience, that might feed into the way that you approach this relationship between school and university.

00:28:38.630 --> 00:30:00.130

[Corran] : Yeah. And I think that if you've got some departments who aren't confident, they aren't going to be as willing to take risks, or possibly as capable to be able to take those risks depending on their school philosophy. In my previous school we were quite strong department. We got decent results. We were quite a big department, and – like you say – there was a range of experience. And the Head of Department wasn't a geography teacher himself. He was older, near to retirement. But he was actually a

**Commented [GC50]:** POTENTIAL NEW CODE: DI-GeogEd (disciplinary identity - geography educator?)

**Commented [GC51R50]:** Or is this too covered by P-CE? I think it probably is.

**Commented [GC52R50]:** BUT - I'm going to add DI-GeogEd as a separate sub-code anyway, and make a decision after coding all transcripts whether this should remain or be subsumed into other codes.

**Commented [GC53]:** P-T

**Commented [GC54R53]:** Lack of geography in primary phase, in spite of KS1 and KS2 content in GNC2014?

**Commented [GC55]:** DI-Int (and the new code of DI-GeogEd?)

**Commented [GC56]:** DK-GeoSk-Fwk

**Commented [GC57]:** DI-GeogEd

**Commented [GC58]:** DI-Comm

**Commented [GC59]:** DI-Comm

**Commented [GC60]:** DI-Comm

sociology teacher who was Head of Humanities, he could teach some history, some geography… before I left, for a few years we were teaching combined humanities in Year 7, so as a geography teacher I was teaching RE, I was teaching history within the geography curriculum and, as a school as well, I was expected to teach PSHE and citizenship and in those subjects, you've got to be able to think that – when the opportunities present themselves, within your school and within the department – can that element of trust give each other a trust in the department philosophy that allows it to flourish

00:30:01.300 --> 00:30:12.480
Gemma Collins: Yeah. that's really interesting. So that's partly about departmental dynamics and characteristics. But also there's an element of thinking about the place of the subject in the school curriculum… where it's housed, even – are you part of a humanities faculty rather than a discrete geography department; is your timetable structured in a way that there is some mixed humanities teaching, perhaps, in Key Stage 3; and then moving on to discrete subjects in Key Stages 4 and 5. Some really interesting things are rising. We could talk for very long time, but I'm also keeping an eye on the clock and thinking about your time. So we'll move on slightly.

00:30:54.580 --> 00:31:46.180
Gemma Collins: Again, going back to the literature that I've read around this, one thing that really strikes me about that literature is that the language used is often very descriptive, often quite *emotive* I would say . So, words like 'divide' have arisen, 'gap', 'chasm'… this is all to describe the relationship between schools and universities. One piece of work describes schools and universities as 'frenemies', you know, looking at the idea that we are at times friends, and at others, enemies? And then others are slightly more positive, talking about 'joined up geography', for example. So, I'm putting you on the spot a little bit here. I just wonder if there's any other kind of analogy or adjective that you would use to describe the relationship between school geography and academic geography?

00:31:47.360 --> 00:34:12.610
[Corran] : A necessary evil [laughs]. It's difficult, because obviously the academic side of it does dictate what happens in the classroom whether that's pedagogy or content. But then the *interpretation* of the pedagogy and the content is still open to the school level. I think some of that is then dictated a little bit by the students you have. And then there's the school; if you're a school that's middle-attaining, then actually it's maybe going to be a little bit more prescriptive, because you just want to get all the kids that are [predicted grades] 6s or 7s. As a school, we're a grammar school. We're very high achieving and we get very good geography results. We've got a lot more flexibility, and to push [students] to those [grade] 9s – yes there's certain elements of pedagogy that we're told we should do, or there's certain elements of content that we should focus on – but we go above and beyond. So, for example, we have textbooks but

**Commented [GC61]:** DI-Comm

**Commented [GC62R61]:** Or is this more about P-CE?

**Commented [GC63]:** DI-Geo and DI-Int

**Commented [GC64]:** P-T (but also some elements of DI-Pow, in terms of decision making)

**Commented [GC65]:** DI-LD

**Commented [GC66]:** Is it possible that I'll need a code relating to pedagogy? Or maybe even PCK?

**Commented [GC67R66]:** I don't think so. I think most references to pedagogy can be coded as P-CE.

**Commented [GC68]:** SK (General)

we very, very rarely use them, because we like to create our own resources, we like to go beyond what the textbook says. And so when you're looking at the literature and the literature dictates the textbook, we're able to step away from away from that slightly, but still use it as a basis for 'okay, here's the ideas they want us to cover. How do we want to cover those for our students?' I mean, the one big thing to consider would be field work. Where actually – and this isn't necessarily from the university, it's from the exam boards – that is one area where we are very dictated to about what we have to deliver, and that does put constraints in terms of what we're able to do in terms of costs, within the school timetable, and so that is the one area where our pedagogy is very much dictated by an external actor. How much are the universities saying to the exam board about fieldwork, I don't know.

00:34:14.310 --> 00:34:22.129
Gemma Collins: Have you got any thoughts about potential causes for that prescriptive content for fieldwork?

00:34:29.770 --> 00:35:27.900
[Corran] : It's because... At A-level, we have to provide the NEA. The students have to do the NEA. They have to complete a piece of fieldwork, and write it up and hand it in as part of their mark. That used to be in the GCSE content, and the A-level was examined on fieldwork skills. Now it's the other way round. So at GCSE, we have to expose them to fieldwork, we have to teach them the skills... it's almost harder, because they don't have to write it up. They don't see the purpose. There's no end goal, until the exam. But it's still dictated that we have to sign a piece of paperwork to say we've taken them out for two days of fieldwork. So yeah, I don't know. It's very difficult. There's not really an answer. It is completely prescribed. You have to do one human [geography] day, one physical [geography] day, and all the prep, all the analysis, everything to go with it, because they'll have to answer questions in the exam.

00:35:40.410 -->
Gemma Collins: I don't want to put words in your mouth. But does it sort of sound like, maybe we could describe that as jumping through a hoop. You know, it's formulaic...

[Corran] : It's a limiting factor.

00:35:56.560 --> 00:36:05.060
Gemma Collins: Tick it off to say you've done it because somebody's decided you need to do it, but very little thought about the purpose and the substance behind it.

00:36:05.090 --> 00:36:42.400

**Commented [GC69]:** DI-Comm

**Commented [GC70]:** P-CE

**Commented [GC71]:** DK-GeoSk-Fwk (but also reference to DI-Comm, in terms of costs/resourcing/capacity etc.)

**Commented [GC72]:** DK-GeoSk-Fwk - but also P-T?

**Commented [GC73]:** DK-GeoSk-Fwk

[Corran] : Yeah, exactly that. Whereas as a school, we want to take them out as much as possible, but we can't necessarily. We do try and take them out in Year 7, we do try and take them out in Year 8. When you get 10 and 11, taking them out of someone else's lesson to do that fieldwork becomes quite a contentious point because the other subjects are like 'Hang on a minute. I'm losing out for the benefit geography' so it makes it quite tricky. That's the same in any subject that requires fieldwork or trips – so I know biology is similar.

Commented [GC74]: DK-GeoSk-Fwk

Commented [GC75R74]: Also - link to biology - potential benefits of interdisciplinarity and/or cognate disciplines working more closely together?

00:36:44.100 --> 00:37:24.269
Gemma Collins: I mean, that's always been the battle hasn't it. It's something that I'm very familiar with. I've had hundreds, if not thousands, of those conversations with equivalent heads of department – fighting my corner, justifying things, lobbying to headteachers, to get young people out of school. I suppose the danger, then, if it becomes a bit more of a prescriptive, minimum entitlement that you have to tick off, it becomes harder to justify. If you don't have that robust 'we're taking them because…' – because if the answer is, 'we're taking them because we have to', that's less compelling, isn't it, than 'we're taking them because this is what it's going to do for their learning'.

00:37:24.460 --> 00:37:41.599
[Corran] : Yeah, we're taking them because they have to provide a piece of fieldwork which counts towards their exam. It's the same as an art portfolio, whereas actually, if it's at GCSE, I've got to take these 90 students out to measure a river… why? Because the exam board say I have to, because they're going to need to understand the skills to do it in the exam. The answer sometimes is 'but why can't you just teach them those skills in the classroom, they don't need to see the river – do a virtual fieldtrip. You managed a virtual fieldtrip during Covid, and it ticked the box, why can't it work now?'

Commented [GC76]: DK-GeoSk-Fwk

00:38:27.380 --> 00:39:36.359
Gemma Collins: Yes, I think the suspension of fieldwork during Covid has presented a little bit of an existential threat for fieldwork, certainly in some schools in particular that have always faced high pressures, around timetabling, staffing, etcetera. I think I'm going need to give the fieldwork theme a little more thought as well, because obviously we have a fieldwork element in higher education in academic geography. And so I think at the moment I'm less sure about where the continuity is like. You know, you talked about universities setting the agenda for GCSE and A-level, because that's the baseline knowledge they wanted geography undergraduates to have; I'm less sure where the continuity is with fieldwork skills. It seems to me, from my understanding of both worlds, is that they're fairly disjointed. The kind of field work that happens in school geography is not really representative of that which happens in academic geography, and therefore there is no building of fundamental skills in schools that are required. I think that anybody could go on a piece of academic geography field work. Maybe that's a hugely sweeping

statement… no, maybe that's not accurate. Maybe you do need a certain set of skills, but I don't necessarily think the fieldwork we deliver at school geography does provide those baseline skills.

00:39:36.600 --> 00:39:38.640
[Corran] : It could possibly provide an element of context, or understanding of some basic core principles. But yeah, in terms of the skills, I don't think it really does fulfil that criteria.

00:40:18.240 --> 00:40:54.529
Gemma Collins : And I know that some other research is finding this idea of fieldwork really being unique… or that the way that we do it is unique to geography, and that fieldwork is becoming quite an important part of geography teacher identity is a strong theme that's coming out of some research. So hopefully, that might help us in the long term,

00:40:54.570 --> 00:41:19.310
[Corran] : 'If you've got someone who's happy to go and stand outside in the freezing cold rain and take 20 kids along with them, that's great. If you've not, they're going to get very different fieldwork experiences. If you've got someone who values fieldwork, they're going to try harder to get the kids out… if you're someone who doesn't want to do fieldwork anyway, and the head teacher says you're not going – 'alright! Thanks very much. I didn't want to go, anyway.'

**Commented [GC77]:** DI-Comm (in the context of DK-GeoSk-Fwk)

**Commented [GC78R77]:** There are also implications here for P-CE.

00:42:41.610 --> 00:43:12.439
Gemma Collins: You're absolutely right. And it speaks again, doesn't it, to that theme that we've identified, which is departmental dynamics, departmental leadership and whole school priorities as well. And fieldwork is particularly susceptible to that, so that philosophy pervades the entire curriculum. But fieldwork is a very tangible, visible part of the curriculum, where we can see where there isn't the motivation or desire to present a really rich geographical experience.

00:43:13.940 --> 00:44:04.970
[Corran] : You've got two ways to do it. You either plan your curriculum, and then the fieldwork is an add on, or do what we – and other schools – do, which is 'right, we're going to plan the curriculum in line with fieldwork and work it into the curriculum'. We are going to make a bit of shift; we're kind of stuck in the middle a little bit, because we've been trying to adjust some things because of Covid. We've got caught in limbo a little bit, as well as the school with the trips policy and the 'why do you need to go? You managed without it for Covid' - not necessarily blocking, but just challenging why we need to do it. 'Is that the best value for money? Is it the best for student experience?'…which is understandable, but a little frustrating.

**Commented [GC79]:** DK-GeoSk-Fwk

**Commented [GC80R79]:** Also implications for P-CE.

00:44:08.550 --> 00:44:19.889
Gemma Collins: Is there anything else that you'd like to share with me that hasn't arisen during this conversation? Anything else that's on your mind? Anything else you think is really pertinent to this?

00:44:20.970 --> 00:46:32.769
[Corran] : The only one thing I would say, is sometimes teacher training is very, very good as a department, because it can inspire us and reinvigorate us. But sometimes... we had a trainee a few years ago, and actually it was an absolute slog, I'm not saying it destroyed the department, but it did take a lot out of the department. We were supporting University X with that, and they were coming and sending students to us, and we'd have 10 students and 3 in this classroom, 3 in that classroom... It was a few years ago, and they were getting £28,000 to train to be geography teacher, and when they were sitting around without us in their break time, just hearing snippets of the conversation... Some of them were taking geography because it paid better than English. They were going to qualify as a geographer and then teach English because their degree in English, but they got geography place for some reason. Or, 'oh, I just didn't want to move back in with my parents after university. I don't know if I want to be a teacher'. But £28,000 tax free is a lot of money. That did frustrate us a little bit, especially when one of the trainees who was saying similar things to this was our own trainee... and we had to fight really hard to get him through, to do the basic requirements, and the university almost let him fail? And so that was... he was getting paid more than us, because he was tax-free £28,000 over nine months, and yet we were working harder than him. So yeah, I think that's part of the broken bit of the system that doesn't help departments because that did cause a few conflicts between us in the department over how best to deal with it. We joke about it now, but at time it was a bit fraught on occasion.

**Commented [GC81]:** Issue raised by interviewee: Teacher Training (DI-Comm?)

00:46:34.010 --> 00:48:28.000
Gemma Collins: I'm sad to say, I absolutely understand what you're saying, and I think that in my own experience, having recruited throughout a varied bursary landscape, my approach has always been to retain as robust a recruitment process as possible for that very reason. I have quite a fundamental problem with bursaries; I don't see any research that suggests that it improves recruitment or retention. I think it is hugely divisive between student teachers, but my particular concern which you've echoed is the political situation that it generates with mentors and practicing geography teachers. I found it very uncomfortable to send student teachers into departments where I knew categorically, they were bringing in more per month than the mentors that they were working with. It's a very complicated situation, and I think it has a bearing on this as well, doesn't it? We're talking about continuity and progression through school geography to academic geography. If bursaries are attracting a greater proportion of either graduates who don't have a geography degree, who are suddenly claiming to have a desire to teach geography, or who do have a geography degree, but don't intrinsically have that desire to share that with

young people but are doing it just because it will bring in quite a good income for them, that muddies the water of what we're trying to do as inspirational geography educators, doesn't it? And the legacy of that can be quite long lasting, I think, so I think you're right to raise it.

00:49:13.730 --> 00:49:52.170
[Corran] : I agree – it is a challenge, because we do need geography teachers and it's about making sure we have the right teachers – in a different school, a different teacher might work very effectively, so it's partially to do with that. But sometimes, if... you could arguably lose a young, good teacher who is asked to mentor someone who isn't good, and it's the thing that burns them out. They don't get paid anything extra to be a mentor. Some schools do put a lot of pressure on departments to have trainees, because it does bring in some extra income. It feels like a fault in the system at the moment, because it has more potential – the bursaries, that is – it has more potential damage than benefit.

**Commented [GC82]:** DI-Comm

00:49:53.640 --> 00:49:59.410
Gemma Collins: hmm, well, if we had another hour we could debate that further, but we don't so we won't! Okay, so thank you so much. I'll stop the recording there.

# Appendix 22: Participants' Conceptions of the School Geography Curriculum.

Participants completed the sentence in varied ways. When the responses were coded, there were references across the broad themes of the GACF, including general references to DK-KC and more specific examples of all four key concepts (space, place, environment, and earth systems), and also to several strands of DK-OC, particularly scale, diversity, and interconnection. DK-GeoSk featured heavily in the responses to Q23, largely in general terms (n=9) but also more specifically in relation to DK-GeoSk-Eval; for example, this the response from participant **T-33** from the **teacher** community:

> [The school geography curriculum should]…*allow children to become curious about themselves, aspire to improve their community and strive to make a difference in the world. It gives pupils an understanding of who they are, where they are, and how they can impact the wider world. Through an understanding of the physical and human features of the world and how they coexist, children can make positive changes that will affect our future planet sustainably* (**T-33**).

This was coded as containing reference to DK-GeoSk-Eval in relation to the sub-themes of: 'clarifying one's own values, moral stance, and ethical stance'; 'positionality'; 'recognising possible courses of action for oneself'; and 'recognising possible courses of action for others'.

By far the most prevalent code emerging from participants' responses to Q23 was that of DK-A. 23 of the participant responses made reference to at least one of the sub-themes of DK-A (spatial data, real-world issues, careers and employability). Six of the participants – all from the **teacher** community– used terms relating to global citizenship (either 'citizen',

'citizens' or 'citizenship', usually but not exclusively accompanied by the word 'global') in their description of what they believe the school geography curriculum should be or do for young people. Another common feature of the responses coded as DK-A was a focus on the sub-themes of 'real world issues' and 'problem-solving'. Largely absent from participant responses was any element of careers, employability or entrepreneurship as aspects of DK-A; only one participant (**T-35**) referenced these sub-themes, stating that the school geography curriculum should:

> *…enable all students to learn about geography with awe and wonder whilst supporting students for the world of work and later life* (**T-35**).

Other sub-themes of DK-A that were absent from participant responses were 'predicting' and 'thinking creatively', and 'knowledge production' and 'designing alternative models'. One participant referred to GIS – '*…put more of an emphasis on GIS*' (**T-37**) – but no participants used the term GISci in their responses to any of the survey questions.

Therefore although DK-A was the most frequently occurring code in the analysis of participant responses to Q23, it seems that many participants hold a very specific – and potentially narrow – view of how they expect young people to apply their geographical knowledge, focusing predominantly and fairly explicitly on the sub-themes of 'real-world challenges and issues', 'ensuring our future on the planet', 'problem-solving', and 'learners as global citizens'. Some sub-themes were more implicitly referenced, with some participants alluding to the role a geographical education can play in helping young people 'live peacefully and productively with others', for example *'…Be interesting, current and have*

*a special consideration for equality, diversity and inclusion, to create globalised citizens, who are empathetic*' (**T-04**). Although three participants made reference to the future in the context of sustainability and our future on the planet (**S-39**, **T-33**, **T-51**), none of the participants used the term 'education for sustainable development' (ESD), which remains – in the data collected and analysed for this research – an aspect of DK-A only referenced explicitly in the QAA Subject Benchmark Statements for ES3 (QAA, 2022a) and Geography (2022b).

There were some references to progression found within the participants' views of what the school geography curriculum should be and do for young people. One participant response was coded as P-CU:

> *…be based on our local immediate environment and as the child grown [sic] extend outwards beginning with England and moving further afield as the child grows. It should be based on lots of fieldwork where children get to link previous learning to build new learning on. It is based on learning new vocabulary and using these words in the correct context* (**T-16**).

It was the reference to linking previous learning and building new learning that led to the decision to code this response partially as P-CU, although there are also elements of DK-GeoSk-Fwk and DK-OC-Sc in evidence in this statement. This is a good example of a response that can be viewed not only through the lens of the community to which the participant belongs – the **teacher** community – but also in the context of the individual participant and their phase and subject specialism. **T-16** identified themselves as a qualified Early Years specialist teacher, and this context is evident in elements of their response. Owens *et al.* (2022, p. 19) identify the Early Years as 'a vitally important developmental stage in which

pupils begin a lifelong journey of discovery' and this is echoed by **T-16** in their suggestion that the school geography curriculum should enable children to make links between prior and new learning, a form of progression in conceptual understanding (P-CU). Owens *et al*. (2022) seem to share this belief that an Early Years geographical education can contribution to P-CU, and also understand the role of geography in the Early Years in building the foundations on which subsequent phases of geographical learning can be built:

> Identifying and grasping geography's key concepts in the Early Years in accessible ways ensure secure foundations for later geographical learning. These early conceptual underpinnings can then lead to the wider understanding of geographical concepts (Owens *et al.*, 2022, p.19).

This distinct view of the importance of progression, and specifically P-CU, expressed by **T-16** as the only Early Years specialist in the sample prompted a review of the responses of the other participants working in a primary setting (whether General Primary, or primary with a subject specialism) to ascertain if there were any distinct, shared conceptions of what the school geography curriculum should be or do in the primary phase. The small population of Early Years and primary specialists in the survey sample presents a barrier to generalisation, but does also enable a more in-depth review of the contributions of this population of participants, as presented below in Table 5.4.

| **Participant Identifier** | **Phase/ Specialism** | **The school geography curriculum should…** | **Code(s)** |
|---|---|---|---|
| **T-05** | General Primary | …encourage children to be interested and eager to learn about Geography | DI-LA |
| **T-07** | Primary with science | …be practical and interesting | DK-GeoSk<br>DI-LA |
| **T-14** | General Primary | …make them [*learners?*] more aware of the world around them | DK-A-Iss |

| | | | |
|---|---|---|---|
| **T-16** | Early Years | …be based on our local immediate environment and as the child grown [*sic*] extend outwards beginning with England and moving further afield as the child grows. It should be based on lots of fieldwork where children get to link previous learning to build new learning on. It is based on learning new vocabulary and using these words in the correct context | DK-OC-Sc<br>DK-GeoSk-Fwk<br>P-CU |
| **T-33** | General Primary | …allow children to become curious about themselves, aspire to improve their community and strive to make a difference in the world. It gives pupils an understanding of who they are, where they are, and how they can impact the wider world. Through an understanding of the physical and human features of the world and how they coexist, children can make positive changes that will affect our future planet sustainably | DK-OC-IntC<br>DK-GeoSk-Eval<br>DK-A<br>DI-LA |
| **T-41** | General Primary | promote curiosity about the world and equip the children with the skills and knowledge to learn about the local area, wider community, country and the world | DK-OC-Sc<br>DK-GeoSk<br>DI-LA |
| **T-63** | Primary with geography and history | …include much more about the nature of, reasons for, and outcomes of climate change | DK-KC-Env |

Table 5.4: 'The school geography curriculum should…' – The views of participants from the Early Years and primary phases.

Two references were found to P-CE in responses to Q23; these were both in responses from participants in the **teacher** community. **T-48**, a secondary geography specialist, suggested that the school geography curriculum should "…*be taught in every school especially in pimary [sic] were [sic] it isnt* [*sic*]" (**T-48**); this is in contrast to the evidence from the seven **teacher** participants working in the Early Years or primary phase, who were all able to propose a view of what the school geography curriculum should be or do, presumably informed at least in part by their own experiences in their respective phase and setting. **T-49**, also a secondary geography specialist, suggested that the school geography curriculum

should "…*creatively interpret the national curriculum or examination specification and turn it into a coherent, challenging and engaging sequence of teaching and learning*" (**T-49**). This speaks to curriculum enactment and the role of the individual teacher in curriculum development; the GACF highlights the importance of this curriculum development and planning at the classroom teacher level (GA, 2022, p. 3). Only one participant, **T-18**, considered the school geography curriculum in relation to P-O, suggesting that it should:

> *…ensure that students leave KS3 with the ability to understand development, cultures and differences in wealth across the globe along with understanding the physical processes involved the natural world. It is imperative that students become global citizen [sic].*

The responses of both **T-18** and **T-48**, although referring to other elements of progression in their responses (P-O and P-CE respectively), seemed to allude to transition as a form of progression (P-T), as did one of the **student** participants. **S-32** suggested that the school geography curriculum should "…*include more about the geographies of the world that young people may need in the future if they are to finish studying geography at year 8/9 level*." The overall lack of focus on any aspect of progression in the majority of participants' views (only 8.5%, or 5 of the 59 participants who answered Q23, referenced any type of progression) might suggest a restricted temporal view of what the school geography curriculum should be or do – a 'snapshot' response, perhaps dictated or driven by the time available to participants to consider and record their response to this question, or perhaps alluding to a bigger query around whether participants place enough emphasis on progression over time. The latter would also indicate reduced opportunities to consider the transitions in the geography education journey, including the connection between school geography and academic geography.

Substantive knowledge was not a particularly prominent feature of participants' views of what the school geography curriculum should be or do. **T-01**'s use of the terms 'disciplinary' and 'substantive' in relation to knowledge might indicate some engagement with forms of knowledge that were not necessarily evident in other participants' responses. Similarly, **T-36** demonstrates a good understanding of the kinds of substantive knowledge articulated in the GNC – locational and place knowledge, human and physical processes, and geographical skills – but which are also used by other relevant organisations such as Ofsted (2021) in their research review for geography, and the Geographical Association, not least in the GACF (GA, 2022a) but also extensively throughout the online and print materials used to support the geography teaching community. More specific references to substantive knowledge in the participants' responses to Q23 included a consideration of locational knowledge (n=1) and place knowledge (n=4), but no explicit references to substantive knowledge of human, physical, or environmental processes.

During the document analysis an additional six broad themes were generated iteratively, all relating to aspects of disciplinary identity (Appendix 11). Of these six additional broad themes, reference was made by participants to all except DI-Comm. There was no evidence that participants saw the school geography curriculum as having explicit links to the subject community. That lack of explicit reference does not necessarily mean that participants do not consider the subject community as having importance or having an impact on the school geography curriculum, but that DI-Comm was not a feature of participants' responses to Q23

is something to note, given the prominence of themes related to the subject community described elsewhere in this chapter.

There were 15 references to DI-Geo in the participant responses to Q23; in fact, in addition to being the participants' chosen wording to complete the sentence '*The school geography curriculum should…'*, the responses to Q23 can also potentially be read as participants' definitions of the subject itself. DI-Geo was most evident in a small number of participant responses, some brief and some more detailed, that seemed to allude to the 'essence' of geography as a subject, for example '*…provide a broad understanding of each area of geography to provide a basic understanding of earth [sic]'* (**S-27**) and '*…ensure that all students have an understanding of the key concepts of time, scale, place, space, processes and consequence, in both human and physical regards; in conjunction with an understanding of their own individual role in these as well as their role in larger scaled processes*' (**T-43**). DI-Geo was also the chosen code for a participant response which was more challenging to interpret – '*…Inspire and equip students to be useful geographers*' (**T-65**) – although it is recognised that this coding decision is somewhat subjective and that, had there been an opportunity, the participant may themselves have elaborated on this in ways that could lead to a different interpretation and coding.

Five of the participant responses used the phrase 'the world around them' in relation to the children and young people learning the school geography curriculum. In some instances, the response included content that was easily coded. For example, the response of **T-44** – '*Encourage young people to learn about the world around them and to be inquisitive global*

*citizens*' – was coded as featuring DK-A, as it included a reference to 'global citizens', and also as DI-LA, as it included 'inquisitive' as a desirable learner attribute. Four of the five responses (80%) that included the phrase 'the world around them' contained no other clear codes, suggesting that these participants see this phrase as capturing something essential, characteristic, and defining about the subject; therefore, after careful consideration and having revisited the GACF, it was decided that the following view from the GA (2022, p. 3) should be applied to any responses including the phrase 'the world around them':

> Geography speaks directly to young people's curiosity, wonder and concern for the world around them.

This can be taken as a very broad statement of the aim of geography as a subject; therefore the five responses which made reference to 'the world around them' were coded as DI-Geo, and this was also added to the coding structure as an additional sub-theme of DI-Geo. It is possible that other geography specialists may interpret and code the phrase 'the world around them' differently; consultation with CF2, however, suggested that coding these responses as DI-Geo was a satisfactory interpretation of what participants might mean.

The most frequently referenced aspect of disciplinary identity in participants' responses to Q23 was that of DI-LA (n=19). Learner attributes (although not always grammatically formatted as such) that **teacher** participants believe should be developed by the school geography curriculum included 'inspiration' or 'inspiring' (n=10) and 'curiosity' or 'curious' (n=4). Other recurring terms included 'awe' and 'wonder' (**T-35** and **T-36**), each occurring exclusively with the other, and terms that Hawley (2020, p. 26) suggests are 'endemic in geography teacher-speak'. Learner diversity (DI-LD) was less commonly referred to by

participants as having a central role in their conception of the school geography curriculum. Two participants referred explicitly to inclusion or inclusive (**A-31** and **T-04**) and two participants implicitly referenced DI-LD by stating that the school geography curriculum should '…*enable* all *students to learn about geography*…' (**T-35**, emphasis added) and '…*empower and inspire* all *students to become enquiring global citizens*' (**T-57**, emphasis added). Two of the participants used the word 'empower', including **TE-51** who stated that the school geography curriculum should:

> *…develop students [sic] knowledges and skills so that they can be informed and empowered in making decisions today and in their futures. It should engage with disciplinary debates and shifts in geography, but also meaningfully engage with different knowledges and the world as experienced*.

It was this sense of empowerment, along with the recognition of 'the world as experienced' that seemed to imply that learner diversity was integral to **TE-51**'s view of what the school geography curriculum should be or do for young people. The response from **TE-51** was also coded as DI-Pow, one of five references to this broad theme in responses to Q23. The code DI-Pow was applied to the responses of both **T-64** – ' …*promote compassion and sustainability without enforcing stereotypes*' – and **T-66** – '…*be balanced to provide students with a understanding of the world around them which encourages curiosity and breaks down stereotypes*…' – both of who use the term 'stereotypes'. These responses were therefore coded as DI-Pow in relation to the sub-theme of 'representation'. **S-38**, a **student** participant, explicitly referenced the sub-themes of 'anti-racism' and 'de/colonialism' in their statement that the school geography curriculum should '…*make the colonial legacy and racism apparent in geography more clear and make it clear that people experience geography and places differently*' (**S-38**). The remaining instance of DI-Pow occurs in the response of **T-11** who suggested that the school geography curriculum should '…*inspire students to learn*

*more about the world they live in, develop a passion for places of geographical significance, appreciate their own environment and how it compares to the rest of the world*'. The sub-theme of 'significance' is in evidence here, although it is not clear from their response the extent to which **T-11** recognises the concept of 'significance' as contested.

The final aspect of disciplinary identity that emerged from participants' responses to Q23 was that of interdisciplinarity (DI-Int). **S-46** stated that the school geography curriculum should '*…focus more on interdisciplinary skills'*. **T-50** referenced **DI-Int** in a more implicit way, suggesting that the school geography curriculum should *'…inspire students to seek out the why and how behind all of the other subjects across the curriculum. It should be the solid foundation for which everything else is built upon*'.

# Appendix 23: Participant responses that might contribute to classroom-level recommendations.

Participant responses are shown by community group. Student (S), Teacher (T), Teacher Educator (TE), Academic (A).

| Q26: If you have obtained, or are currently completing, a degree (undergraduate or postgraduate) in geography or a geography related discipline, what aspect of academic geography do you find most inspirational?<br><br>n=43 (65%) of participants responded to this question<br>n=4 (6%) of participants responded n/a |
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| S-09: How it can be used to create policies to help the real world, eg climate change<br>S-10: Working with human geography concepts about people's attachment to place<br>S-20: Social geographies<br>S-26: Children's geographies and urban geographies<br>S-27: The coverage it provides<br>S-29: The breadth of the subject which allows a great understanding of the world around you and the way in which systems work from physical systems to political systems.<br>S-30: Political and Social Geographies<br>S-32: How the earth has changed physically over time and how this is being influenced more now by humans<br>S-38: Cultural geographies of development/decolonial development geographies on the human side and river restoration on the physical side<br>S-39: Looking at the past to improve the present<br>S-45: Environmental and Societal Challenges<br>S-46: Looking at globally relevant concepts and knowing that people halfway across the world are learning similar stuff that resonates with their everyday<br>S-59: Most prominently areas around sustainability and developing circular economies within cities to reduce waste and promote recycling. For my dissertation also I have been learning about the importance of emotional geographies and the role this plays in many aspects of children's and young people's lives. |
| T-02: Physical geography<br>T-03: Hazard management<br>T-04: Fieldwork/research |

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| T-06: Sustainability<br>T-13: Urban geography<br>T-15: Solutions to climate change<br>T-18: Human and developmental Geography<br>T-19: Module in 3rd year of undergraduate study, titled Nature-Society relations. Conceptually stimulating looking at the paradigm shift of the 20th century as being the first Ecological century.<br>T-25: Urban planning and design<br>T-28: The inter-relationships between the natural world and the human world and the effect that geopolitics has on this relationship.<br>T-35: Human<br>T-36: Independent study- dissertation applying theory and analysing data to draw my own conclusions<br>T-37: Fieldwork<br>T-42: Quaternary Science<br>T-43: The relationship between the aesthetic landscape and human creative representations, based on the psychological response to dramatic landscapes<br>T-44: GIS<br>T-47: Natural hazards<br>T-49: Application to the real world through research<br>T-50: Climatology<br>T-54: Space and Place<br>T-55: Geopolitical geography - factors that lead to the growth and decline of superpowers<br>T-60: Analysing the place of geography in moulding student's personalities and beliefs about the world around them.<br>T-61: Human Geography topics in particular childhood geographies and space and place as it helps us to understand many themes within the human population and how we interact with both other people and places.<br>T-63: The ethical, moral aspects of making decisions<br>T-64: Sustainability<br>T-66: Place based identities and concepts around community |
| TE-51: Urban geography and children's geographies<br>TE-52: The combination of discipline synopticity, and the ability to specialise deeply. Geography brings these things together, and makes them a stronger whole than the sum of the parts - and that's what's so exciting!<br>TE-58: Very difficult question! Most things! I'm particularly drawn to tectonics, ecosystems and development. |
| A-56: Carceral geography |

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| Q30: If you have obtained, or are currently completing, a degree in geography or a geography related discipline, what aspect(s) of academic geography did you feel least prepared for when you began your degree?<br><br>n=42 (64%) of participants responded to this question<br>n=2 (3%) of participants responded with none (1) and n/a (1) |
| S-09: Using statistical and GIS skills<br>S-10: Physical geography - lack of science a level subjects set me back hugely<br>S-17: GIS<br>S-20: Technical skills such as coding and GIS<br>S-23: Academic writing and assessments<br>S-26: academic writing, using software<br>S-27: the more biological understanding behind parts of physical geography<br>S-29: Technical skills using a computer such as GIS<br>S-30: I felt least prepared for the quantity of essays at university level as well as the lack of academic skills guidance given at both A-level and university in order to help me with said essays.<br>S-32: The broad span of new topic areas that class as geography in academic terms but not school terms<br>S-38: I found thinking academically challenging at first as I did not feel equipped to think critically and challenge everything<br>S-39: The literature reviews and large amount of reading.<br>S-45: GIS<br>S-46: The breadth of the subject and not knowing how much can be studied within geography - emotional geographies!!<br>S-59: I was least prepared for how geography broadens from university from learning about more philosophical and topical debates about ideas e.g. the power relations between children and adults or the conflicts and inequalities in cities surrounding power relations. |
| T-01: Carrying out a robust investigation in order to complete a dissertation<br>T-03: GIS<br>T-04: Oceanography<br>T-06: Meteorology<br>T-13: Gis<br>T-18: Knowing how to write in an academic manner to achieve higher grades.<br>T-19: GIS lack of exposure to it in 2013/14 academic year when I was applying.<br>T-25: Investigations |

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| T-28: The lab elements of geology and geochemistry<br>T-35: The range of topics that I was expected to study.<br>T-37: Academic writing<br>T-43: GIS, physical analysis of materials, lack of statistics<br>T-44: Academic reading/writing<br>T-47: Palaeontology<br>T-48: no careers support<br>T-49: Academic research and writing<br>T-50: GIS<br>T-54: The importance of learning different opinions on a similar topic. Often taught the “right answer” at school<br>T-55: Cultural geography; concepts of place<br>T-60: Human geography related topics, such as urbanisation and economics.<br>T-61: One key area was glacial research as glaciers across A level and GCSE are within the optional sections for topics and are rarely taught meaning my knowledge was from KS3 and then straight to degree level<br>T-63: Fieldwork; using technology to best advantage<br>T-65: Being equipped to learn independently.<br>T-66: The overlap between sociology and economics in human geography. Place and identity were not concepts that I was as familiar with when I was studying in 6th form |
| TE-51: Geology and meteorology!<br>TE-52: Plurality of opinions and the extent to which it was "debated" - understanding the contested and created nature of the discipline, rather than 'the answers' as our A Level textbooks had them.<br>TE-58: Data analysis and research |
| [no responses from academic community group] |
| Q27: Are there any notable ‘geographers’ (including those working in a geography related field) of whom you believe children and young people should be aware? Please list their name(s) here.<br><br>n=31 (47%) of participants responded to this question<br>n=3 (4.5%) of participants responded with n/a (1), not sure (1) and no (1) |
| S-09: Doreen Massey, Heather Viles |

S-20: David Attenborough, Tim Marshall, Charles Darwin
S-30: David Attenborough, Tim Marshall, Simon Reeves
S-32: Doreen Massey, Ye Fu Tuan, Krebbs
S-45: Rachel Carson, Theodore Roosevelt
S-59: Andy Hargreaves - He focuses on the emotional geographies of teachers and their interactions with students and relationships with colleagues
S-60: Greta Thumberg [sic]

T-03: Simon Reeve
T-04: David Attenborough, Iain Stewart, Tim Marshall
T-06: David Attenborough, Simon Reeve
T-18: Dominique Moran
T-19: von Humboldt, Ritter, Mackinder. Foundations of geography as a subject. Mercator and Peters for map projections. Contemporary writer- Danny Dorling
T-25: Hans Rosling - statistician (deceased but inspiring videos and positive outcomes for the world), David Attenborough's views positively on what humans need to do.
T-28: Prof Danny Dorling, Author -Tim Marshall, Joseph Stiglitz, Jared Diamond
T-36: David Attenborough, Harry Hess, Darwin
T-43: Hans Rosling, Tim Marshall
T-48: Jack Dangermond, Dawn Wright, too many to mention
T-49: Eleanor Rawlings, The RGS geography superheros
T-50: Ben Fogle, Sir Michael Palin
T-53: David Attenborough, Hans Rosling, Darshini David, Greta Thunberg
T-54: Sir David Attenborough
T-55: Margaret Roberts
T-61: Peter Knight, Richard Waller, David Attenborough, Doreen Massey, Carl Ritter, Yi-Fu Tuan, Hans Rosling, David Harvey
T-63: Mary Anning, David Attenborough
T-64: Danny Dorling
T-65: James Lovelock
T-66: Edward Said, Massey

TE-51 : Peter Kraftl, Johanna Waters, Doreen Massey, David Harvey, Catherine Walker, Ash Amin, Peter Hopkins, David Lambert, Noel Castree, Margaret Roberts
TE-52 : Prof Chris Jackson, Prof Iain Stewart, Prof Katherine Hayhoe, The Roslings!

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| TE-58: Sir David Attenborough |
| A-31: Carl Ritter |
| Q33: To the extent that you are able to comment, what aspects of academic geography do you feel are 'missing' from school geography and from which, were they included, young people could benefit learning about? |
| S-09: Abstract theories about human geography, eg feminism, poststructuralism, etc, and stats skills<br>S-10: GIS, graphical interpretation (only really done through independent revision at the moment - not taught but it should be), geographical context for theories (e.g. taught through case studies)<br>S-20: The sub-disciplines within human and physical geography aren't mentioned<br>S-30: GIS and other geographical technologies. A greater understanding of the fact that there often multiple theories and points of view about aspects of human geography. A greater quantity and variety of real-life fieldwork that gives young geographers a better understanding of what geography careers entail.<br>S-32: Cultural geography in particular but the majority of human geography courses are not covered in enough detail at school level and therefore people don't even realise they are classed as geography<br>S-38: I feel that most of what I learnt at GCSE and at A-level (although to a lesser extent) was on relevant topics but the information was outdated so the curriculum should be more regularly overhauled<br>S-45: Physical geography other than natural disasters, Climatology, Societal challenges rather than population focused human geography<br>S-46: The context of knowledge production - I only ever touched on the idea of certain concepts being western-centric, and this was never prioritised at any stage of my school learning<br>S-59: There should be more discussion on the geographies of children and young people as this is an area that they can emotionally relate to at that point in their life time. They can also gain more knowledge surrounding the concepts of space and place as a result |
| T-03: The complexities of resource management and the economic impacts of such<br>T-04: Spatial awareness, GIS knowledge and understanding (not just for students but staff too)<br>T-11: Not much! [non-specialist teacher]<br>T-14: N/A [gen primary]<br>T-18: Social geography, e.g. nudge theory. Carceral geography - how construction of buildings/prisons and the justice system impacts rehabilitation<br>T-19: Geography as a discipline. Notable geographers through time, developing the subject and moving it forward.<br>T-25: Links to careers throughout all key stages |

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| T-42: None. I am a physical geography specialist and think my current A Level specification would prepare students well. We cannot cover every aspect of academic geography (e.g. glaciation) due to time constraints. The topics we cover lay the foundations for further study. If you were to increase the content to be covered at A Level you would lose the depth and therefore the academic rigor.<br>T-43: I believe that the current curriculum could include more focus on changing cultures and the presence of the virtual space<br>T-44: GIS<br>T-48: uni are only bothered about their research profile and not teaching so students are always at a disadvantage<br>T-50: The format and depth seen at an undergraduate level. Students often struggle to make the jump from GCSE and during longer lecture style lessons often lose focus and need constant support. This is impossible at university and would result in then falling behind. A closer link between academic providers would allow students to see their end goal and prioritise skills needed to reach it. Most students I teach have never stepped foot in a university and are often overwhelmed by the thought.<br>T-54: Too far out of contemporary academic education to feel confident in commenting<br>T-60: Geographies of gender<br>T-61: More glacial research, greater depth of human geography<br>T-63: The ability to conduct individual research on topics.<br>T-64: More contemporary issues and concepts<br>T-65: A greater emphasis on synopticity and the skills required to practise it.<br>T-66: I feel very able to comment as a curriculum leader/lead practitioner of Geography in a secondary school setting. I feel young people can learn more about the breadth of knowledge in Geography and be given time to explore aspects of Geography outside of the requirement for examination. I feel this would only be possible if prescribed examined content were reduced as it is there is too much and I feel it discourages and overwhelms students in A Level study. |
| TE-51: I think space is undertheorised in school geography. I rarely see lessons on rural geography and think urban geography is taught poorly. Students often would like more independent inquiries and I think there should be more of a focus on the relationships between humans and more-than-humans<br>TE-52: For most, the resource provision is very different - access to labs, computer rooms etc. to do work in some of those spaces is most critical in terms of provision. But in reality, I think the biggest difference is the ratio of taught course to study time - and there's already a lot of content packed in to GCSE and A Level, and students/teachers simply don't have the time to think and do the deeper/wider explorations in any detail. That would make the biggest difference!<br>TE-58: School geography could include more of the latest geographical research and teach students to engage with it |
| [no responses from academic community group] |