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Expert teaching: what matters to expert teachers?

A cultural-historical perspective on relational expertise

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Abstract

Teacher expertise is commonly regarded as fast and fluent pedagogical decision-making. Research in this area has predominantly applied models of expertise based on the notions of deliberate practice or a novice to expert continuum to the practice of teachers. Expert teachers' perceptions of what matters to them in their own practice has been under-researched. Drawing on cultural-historical theory, this study considers teachers' own understandings of expert teaching, and how their motives relate to their teaching actions. The study focuses on 9 expert secondary school teachers in one secondary school in England to discern how they work with pupils and the curriculum. The analysis explores the different elements of the teachers' activities, identified as: (i) the kinds of teaching actions used in their work; (ii) the relational space between the pupil and the subject-matter of the curriculum and (iii) the concepts that mediated expert teachers' practice.

The Vygotskyian perspective taken by this study entailed an inquiry into the teachers' intentional actions in everyday teaching. School-based fieldwork was bookended before and after by interviews with each teacher, exploring their beliefs on expert teaching and what matters to them about their own teaching. In between these interviews each teacher was observed in 3 lessons and undertook up to 5 structured reflections. The data were analysed deploying concepts from cultural-historical theory, particularly two sets of concepts within the approach. One was an adaptation of the analytical model developed by Edwards (2010) in her work on the relational expertise of multi-agency professionals. The other was from the research of Hedegaard (2005) into development and learning: the 'double move' (between situated activity and subject matter).

The findings indicate that teachers work relationally with pupils and the subject-matter of the curriculum. Two key aspects of expertise surfaced: subject agency, where the teachers aim to develop pupil agency in relation with the subject-matter of the curriculum, and future

agency where the teachers intend that the subject they teach will shape their pupils in terms of the way they interpret the world. Both were enacted through a teaching process in the form of teacher talk: metacommentary. The concept of teacher expertise as relational has implications for the professional learning of teachers, in terms of ‘know-why’: how to develop professional judgement through an emphasis on higher order knowledge made explicit to the pupils.

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*‘Everything is connected in life; the point is to know it and to unerstand [*sic*] it.’*

Gillian Wearing, Signs That Say…1992-3

Chapter 1 Introduction

1.0 Context of Study

Approaches to educational policy demonstrate how research into teacher expertise has been applied and how the role of the teacher interpreted. How one gets better as a teacher 'has consistently been a significant site of social and political struggle' (Menter, 2010, p. 13) and how one acquires teaching expertise a 'public policy problem' (Cochran-Smith, 2005, p. 4). Through the 90s, the individual teacher was seen as key to raising educational standards (Furlong, 2013). By 2010, the role had elements of a technician. Her Majesty's Chief Inspector (HMCI), Amanda Spielman, explained, 'Teaching has undoubtedly become more technical in recent years because of the greater professional understanding about the most effective techniques to help every child and young person progress in their learning' (HMCI, 2010, p. 143). The then Secretary of State for Education, Michael Gove declared, 'Teaching is a craft and it is best learned as an apprentice observing a master craftsman or woman. Watching others, and being rigorously observed yourself as you develop, is the best route to acquiring mastery in the classroom' (Gove, 2010, p. n.p.). Furlong (2013) in his historical analysis of what teachers have been required to know and be able to do identified that emphasis on practical forms of teacher knowledge led to educational policies that attempted to define teacher expertise and its development in reductive terms to make it routinisable and easily replicated.

Nearly a decade later, the Office for Standards in Education's (Ofsted) focus in its inspection reports is now on whether providers have delivered a mandated curriculum – the Core Content Framework (DfE, 2019b) – which defines what teachers need to know and be able to do in a series of 'learn that' and learn 'how to' statements. The theory underpinning current government policies of education was expressed by Ian Bauckham, Chair of the Initial Teacher Training (ITT) Market Review, which had the remit 'to create a truly world-class system of initial teacher preparation' (Gov.UK, 2021, p. 3). At a consultation event for the publication of the Review report, he asserted that, 'We know how children learn;

therefore we know how teachers should teach; and therefore we know how to train teachers' (TEAG, 2021, p. n.p.). This positivist epistemology currently operates across the education system in England along with the theory of learning adopted by Ofsted in its Education Inspection Framework (EIF) (Gov.UK, 2019). As expressed by Sean Harford, the HMI who was responsible for communicating with the teaching profession about how Ofsted works in schools: 'progress in learning is knowing more and remembering more' (Harford, 2019, p. 5). This definition has been further extended by Ofsted and applied to its inspection of ITE such that the current model of acquiring teacher expertise shared with ITE providers in an Ofsted webinar about the new framework was: 'knowing more, remembering more and doing more of the (ITE) curriculum' (Ofsted, 2021). In this way, developing teaching expertise is about remembering and practising, that is, the ability of the teacher to recall the underlying know-how and know-that stored in their schema of teaching.

However, such an approach overemphasises learning as acquisition (Sfrad, 1998) and neglects the part social understanding plays in something as complex as teaching. As Collins and Evans (2009) noted in their work on expertise, becoming expert via mimeomorphic action (copying fixed behaviours) might explain fast and efficient performance, but polymorphic action (requiring that behaviour fits changing social circumstances) turns on both social understanding and 'the relationship between the human body and mind in the acquisition of expertise' (p.27). As such, interpreting teaching expertise in terms of either the acquisition of knowledge or the performance of a skill may have constrained current understandings of expert teachers and their expertise.

1.1 Motivation for the study

The motivation for this study arises from my professional experience firstly as a headteacher responsible for teachers' expertise in the school, and secondly as a teacher educator responsible for the development of expertise by novice teachers. Teaching expertise as 'the knowledge teachers accessed and demonstrated through the pedagogical reasoning that

underpins decision-making' (Loughran, 2019, p. 523) and the focus on expert teaching as fast, fluent and correct decisions made in the moment of teaching (Phillipson, 2021) was not what I recognised from my professional experience. It seemed to me that the many attempts to capture and analyse the cognitive processes of teachers as a series of explicit, implicit or tacit decisions, did not access activity in the domain of teaching, but rather simulated or described an approximation of activity via observed behaviours.

For example, the cognitive processes of teachers form the basis of a hypothetical model to explain how teachers act in and adapt to the classroom, in a special issue of *Instructional Science: 'What makes an expert teacher?*':

> First, teachers need to retrieve appropriate curriculum scripts from long-term memory, to notice and interpret cues of classroom situations which are critical for teaching and learning. Second, these curriculum scripts provide the basis for the teacher's actions in the classroom. However, the transformation of the particular curriculum script into a teaching activity highly depends on the particular classroom situation. Hence, teachers need to re interpret their activated curriculum scripts, and adapt them to the situational context of the classroom before they act on it. Afterwards, teachers evaluate their resulting teaching activities and probably store them as a modification of the previously activated curriculum script (Lachner, 2016, p. 200).

This approach emphasises the activity of teaching and development of teaching expertise in terms of adapting to an environment by memorising and updating scripts. Such scripts are proposed as how teacher knowledge is structured to enable teachers to access it swiftly to facilitate fast and fluent pedagogical decision-making on the basis that such scripts enable teachers to recognise patterns in the classroom. Further, this notion of curriculum scripts is a metaphor used to describe how and what teachers think about when they teach developed from observation of teacher action with the aim of identifying the organisation of

teacher knowledge, rather than engaging with the teachers' intents and actions more directly.

In the same way, the professional tools available to me as a headteacher and now as a teacher educator (the Teachers' Standards (2012) and Ofsted Evaluation Criteria (2019)) did not enable me to identify teaching expertise, nor were they successful as models for taxonomies or checklists of mimeomorphic or polymorphic action so that teachers could develop expertise. That is, when teachers attempted to copy or replicate what is described in each of those tools as expert teaching it resulted only in the mimicking of external cues - for example, writing Learning Objectives on a board or ending the lesson with a plenary. The argument that such actions are routinisable and reductive did not seem to capture the higher order knowledge of expert teachers which I felt sure existed as an aspect of expertise in teaching.

I felt that it was important to undertake this study for two reasons: firstly, whilst know-how and know-that are clearly essential elements of teaching, my experience suggested that know-why is also a key facet of teaching expertise. By know-why, I mean judgement, which Alasdair MacIntyre characterises most helpfully, and in contrast to the notions at play in the current context, as, 'the capacity to do the right thing at the right time in the right way. The exercise is not routinisable application of rules' (MacIntyre, 1984, p. 150). In this way, know-why can be understood as higher order procedural knowledge, which demonstrates knowing why something works, represents know-how at a deeper level of specificity, and addresses its underlying principles (Garud, 1997). Secondly, it was important to investigate the experience of expert teachers, in particular in terms of their 'intents and actions' (Loughran, 2019, p. 523). These elements of Loughran's concept of pedagogical reasoning have been neglected in deference to the notion of decisions.

1.2 Aim and scope of the study

In using this study to focus on expert teachers, I wanted to engage with what has previously been assumed to be their tacit knowledge. Loughran (2019) and Kennedy (2005), for example, both argue that consideration of the reasons for (Loughran) or purposes of (Kennedy) teacher actions makes knowledge of practice explicit. Explicit knowledge of teaching arises because human action at this level is both self-conscious and culturally meaningful. However, investigating the reasons for the pedagogy of teaching activates information about 'the teaching procedure being used for a particular reason' (Loughran, 2019, p. 529), which I contend is concerned with the justification of the planning of intended teaching, rather than the activity in the act of teaching itself, and is therefore not quite the same. Taxonomies of teaching (such as Ofsted's criteria, the Teachers' Standards (2011), or those created by asking teachers to explain their decision making) result in rather 'idealised conceptions' (Kennedy, 2005, p. 43) of teaching. As I had found in my professional experience, teachers' lived experience does not neatly match up with these ready-made, routinisable or reductive taxonomies. However, as Edwards (2010b) has observed, teachers do not just enact teaching in terms of their know-how or know-that but rather,

> Use tools like lesson plans in a future-oriented 'why' or 'where to' way, teachers need object motives (the reasons for their activity) that stem from more than curriculum delivery (p.71).

My argument is that expertise in teaching draws upon higher order procedural knowledge in terms of interpretation of the motives and principles underpinning the actions teachers take in the activity of teaching. My aim in this study was to attend to the know-why of expert teachers through a consideration of their motives for their actions. In this way, by attempting to make explicit what matters to expert teachers about their teaching, my aim was to unearth the concepts that mediated their actions in the classroom.

This study of teacher expertise focussed on nine expert teachers from one school that had been graded as good by Ofsted for its last three inspections. In terms of the validity of this study, I was not seeking to describe these nine teachers as representatives of expert teachers more widely. Nor was I interested in the differences between the nine expert teachers. I was, however, interested in investigating what matters in expert teaching: 'the motives that shape and take forward the practice' (Edwards, 2017, p. 7). In other words, my aim was to explore a conception of expert teaching as a practice of motivated actions. As such, the study and the data collection procedures focussed on what was valued in their teaching by the teachers themselves.

1.3 Theoretical underpinnings of the study

To move beyond current assumptions and practices about teacher expertise, this research is located within the cultural-historical perspective on learning and development. My intention was to illuminate teaching actions rather than collect features of and about teaching as performance or easily observed behaviours.

Two important studies situated my approach to developing an understanding of teaching expertise. First was the work of Edwards **(**2010), who developed the analytical concepts of relational expertise (a form of expertise which makes it possible to work with others to expand understandings of the work problem as an object of joint activity), relational agency (recognising how others interpret and react to problems and aligning one's own interpretation and responses to theirs) and common knowledge (a conceptual resource from which activities and identities are negotiated in order to work agentically with others). In these terms, a relational perspective of expertise directly addresses the limitations of describing experts when compared with novices, or as a fixed end point in a process. It challenges the notion that the novice teacher acquires expertise by undergoing a predetermined process of working within rules about teaching and practising skills, which is the model for the current Core Content Framework (DfE,2019b) and Early Career

Framework (DfE, 2019a). Instead, it addresses as significant the higher order knowledge of expert teachers.

Secondly, my research is based on the contribution of the work of Hedegaard (2005) who developed the notion of the 'double move' (2005 p.70), which acknowledges how a teacher works from both the academic concepts of the subject-matter of the school curriculum and the everyday concepts that pupils bring with them to their lessons. The double move factors in the importance that teachers place on their pupils and the subject-matter of the curriculum they teach as a dual focus of their expertise, which I argue is specific to teaching and different from the knowledge and skills that are usually the focus of studies of expertise.

Some key concepts from Vygotsky's (1978) cultural-historical psychological theories of development and learning were important to my thesis in terms of the identification and acquisition of teaching expertise, which I discuss in further detail in the next chapter; in particular, the idea that the analysis of concepts and motives can be derived from the teaching actions of expert teachers. Vygotsky (1997) was concerned with the development of higher mental functions and his primary concern was with how a teacher helps pupils to develop higher order concepts that they would not have access to in everyday life. His concept of mediation - the recognition that we are both acted upon and act upon social reality - resonated with my experience of teaching, which is that teaching is not based solely on a view of learning as a cognitive process best facilitated by the teacher transmitting information but includes social construction. Vygotsky's (1997) perspective of the world was not dualistic: he argued that the learning process involves both internalisation and externalisation, and that the world is not understood in terms of recognising and naming separate subjects and objects, but by looking at the relation between them.

Cultural-historical theories are concerned with what happens in practices. In this tradition, Edwards (2010a p.7) describes practices as 'historically accumulated, knowledge laden, emotionally freighted and given direction by what is valued by those who inhabit them'. As

such, a cultural-historical understanding of motives recognises that motives are linked to aims over time. In this way, I was concerned to capture the teachers' motivated actions in the activities within the practice of expert teaching and in doing so, reveal the motives that gave shape to how 'expert teachers' interpreted and enacted the activity and practice of teaching expertise.

1.4 Overview of the study

In Chapter Two, I evaluate the theoretical framework I developed to investigate the key concepts of teaching expertise. I explain the contribution that a cultural-historical lens affords an analysis of expert teaching and evaluate as pertinent two concepts: the double move and relational expertise. Finally, I frame the research questions developed from the theoretical framework:

1. What teaching actions do expert teachers use in their work?
2. How do expert teachers work with the space in relation between their pupils and the curriculum they teach?
3. What concepts mediate the practice of expert teaching?

In Chapter Three, I review the literature of teaching expertise. I firstly consider how expertise has been described, and expert teaching analysed, typically conceptualising expertise as a form of knowledge or skill. Whilst use of the term expert teacher has increased in recent years (Gibb, 2018), teaching expertise itself has not often been directly researched. Instead, expert teaching has been described in terms of general accounts of expertise that have been applied to teaching. Secondly, I review recent arguments that have been advanced about expert teaching, including the ways teaching expertise has been distinguished and categorised. I analyse in particular the most influential studies of expert teachers by David Berliner (1988, 2001, 2004), and John Hattie (2003) , which draw upon general accounts of expertise.

In Chapter Four, I consider the way in which the research was approached. That the study was interpretive was important because the aim was to investigate meanings and relations. Also important was the development of a relational ontology to understand the dialectical nature of teaching and learning. I discuss elements of the epistemological underpinnings of the study and argue that motives are epistemologically distinct from reasons for action. In particular, I address: i) the role of know-why in contrast to know-how and know-that; ii) the significance of being explicit and operating at a second order level to generate a sense of meta-learning and meta-teaching, and iii) interpretation of what matters to pupils and about the subject-matter of the curriculum as a cognitive facet of higher order procedural knowledge. I then explain the nature of the data I collected which included interviews, observations, and field notes. I also explain the use of a research instrument - Action Activity Template - as a structured written reflection completed by the expert teachers to collect data that linked their aims, actions and activity. I then describe the process of data analysis. I used Template Analysis, which offered me the opportunity to analyse my data systematically within an interpretivist paradigm.

In Chapters Five, Six and Seven I present and discuss my findings. Each chapter is devoted to one of the three concepts that emerged from my analysis of 'what mattered' to the nine expert teachers. These concepts are subject agency, relational space and future agency. I discuss the ways in which teachers acted in their lessons to promote the agency of their pupils in relation to both the subject-matter of the curriculum, and also in terms of the pupils' future selves mediated by what the subject-matter affords the pupils. I identify a feature of teacher talk – the metacommentary – where teachers make explicit to pupils their know-why, that is, what matters to them about the tasks and activities which make up the lessons for the class.

In Chapter Eight, I discuss the findings in relation to the review of literature and I consider to what extent the research findings have implications for teacher expertise as relational in

terms of teaching actions and reframing current understandings of teaching expertise. I discuss the implications for the professional learning of teachers in terms of how to develop professional judgement through an emphasis on higher order knowledge made explicit. I suggest opportunities for further research including investigation into the prevalence and impact of the metacommentary in teacher talk and the possible benefits of explicitly teaching this aspect of teacher talk to novice teachers. I also consider the possible benefits of the use of Action Activity Templates to research wider aspects of teaching and suggest that future research into relational expertise and the relational aspect of teaching has the potential to deepen understanding of the nature of expertise.

Chapter Two
Theoretical Framework: a cultural-historical analysis of expert teaching

2.0 Introduction

The theoretical framework for this thesis draws heavily on the cultural-historical theory of learning and development initially developed by Vygotsky (1978), but with a focus on what happens in practice (Edwards, 2010a). Although the contribution of Vygotsky's methods for a social, historical approach to understanding the human mind has been profound in terms of its implications for teaching, for this thesis I wanted to consider teaching actions in detail and attempt to explain what it means to expert teachers to teach. Rather than considering the actions of teaching in terms of the practical operationalisation of Vygotsky's concepts of cultural tools, mediation and internalisation, instead I address the 'operationalised design' of teaching as 'an orienting activity' (Engeness, 2020, p. 3). In other words, adopting such a cultural-historical perspective enabled an examination of how the teacher takes part in and approaches teaching through analysis of how and why they act when teaching. As Khan (2020) has argued, teachers develop their expertise by engaging in pedagogical actions and these actions provide the conditions by means of which teachers engage with their own teaching: ' in this way, teachers become the object of their own action' (p.281). As such, the way in which teachers examine how they take part in teaching, approach the different actions of teaching and take particular actions when tackling different teaching activities suggests motives that can afford analytical foci (Edwards, 2019).

2.1 Motive: relating the how and why of teaching

Leont'ev, Vygotsky's colleague, acknowledged the significance of the foundations laid by Vygotsky, but shifted focus from the deployment of conceptual tools to what was being worked on or 'the object of activity' (Leont'ev, 1978). In this way the relation between the person and their actions is addressed: 'a cultural-historical explanation of learning and development is premised in the dialectical intertwining of person and the practices they inhabit' (Chan, 2019, p. 203).

Leont'ev (1978) explains that human activity unfolds at three levels: the individual level; a social institutional level where, from generation to generation, what is learned is internalised as a result of interaction with others, and the historical level where society and the environment shape the behaviours of its members. The object motive identifies when individuals employ concepts that matter to them and engage with the object of activity in ways that reflect that interpretation of human activity. As such, the object of activity is what a person is oriented towards at the level at which actions become self-conscious, but also culturally meaningful. For Leont'ev, (1978) activity, in terms of motive, is the main means of human development (Barrs, 2022). Motive orientation is used to describe how the demands encountered in an activity are negotiated: 'in brief, when aligning their motive orientations to the affordances and constraints of new demands, practitioners orient towards and learn how to operate within the practice (of teaching or learning)' (Chan, 2019, p. 202). The object of activity is important for this thesis because of its relation to motive orientations. By analysing the relationship between the object and activity and motive orientation – in other words, how expert teachers respond to the demands of teaching and what matters to the teacher about their own practice - concepts about what is meaningful about expert teaching as a practice might emerge.

Leont'ev (1978) connects activity with purpose and motive but offers a very different view of motivation from that talked about in most school staffrooms. Typically, motivation is seen by teachers as the dynamic in the relationship, that is, how teachers develop intrinsic, rather than extrinsic motivation in their pupils: 'when pupils do what they (teachers) want them to do; that is when the phenomena (the thing that teachers want the pupils to do) becomes an internalisation of the external locus of control' (Roth, 2007, p. 214). For example, a teacher might say, 'I want my pupils to learn their French verbs not just because I have told them to, or because they will be punished if they don't'. By contrast, a cultural-historical approach suggests that motives have goals that characterise the actions of a person in different activities over an extended period of time (Hedegaard, 2002).

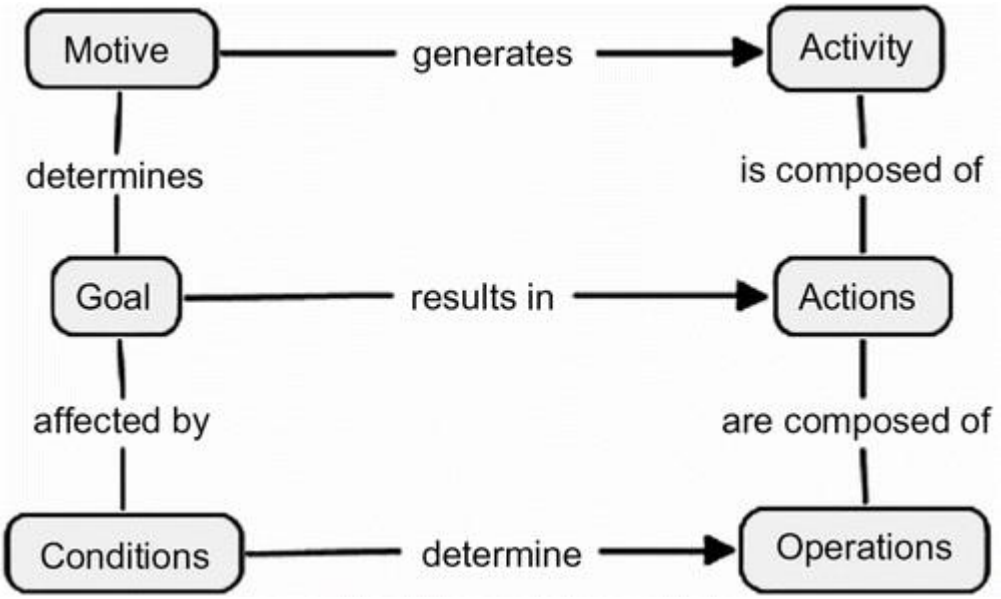

Figure 3.1 : Activity, actions and operations (Nussbaumer, 2012)

As illustrated in Figure 3.1, Nussbaumer (2012) explained Leont'ev's (1978) theory in terms of activity as driven by motive, action by conscious goal, and automatic operations as influenced by conditions and tools. Interpreting motive in such a relation is relevant to developing an understanding of teacher expertise for, as suggested by Edwards (2010a), identification and engagement with motives appears to be an important aspect of expert work. In this way, Edwards (2010a) offers a different perspective on the apparent ease and fluency of experts. Rather than the view that, as a teacher becomes more expert in activities they become less of a rule follower, as in a novice to expert continuum (which I discuss in detail as part of my review of the literature in the next chapter), instead an expert teacher identifies more with the practice of teaching and its deeper and longer-term purposes. In other words, motive is not simply located internally or externally in a practice but, 'it arises in people's activities in practices' (Edwards, 2010a, p. 25).

The object motive relates the know-how to the know-why of teacher action in the process of teaching and connects this to their pupils and the curriculum: 'The object motive for teachers and the reason they design classroom activities are to enable their pupils' learning trajectories' (Tatto et al, 2019 p.33). When teaching, the teacher acts to enable the pupil to

accomplish the task designed by the teacher to bring the pupils into relation to the curriculum. In this way both the teacher and pupils might be interpreted as sharing the same motive in relation to learning: for the pupil to learn in the lesson (Wardekker, 2011). It follows that exploration of the object motive of expert teachers, as a unit of analysis, is a means to analyse what is important to them, in their work.

2.2 Expert teaching: cultural-historical concepts

So far, I have argued that the expertise of a teacher is operationalised in their work with pupils and a school curriculum. In this section I will consider the nature of those teaching actions, drawing heavily upon the work of Hedegaard (2005) and her development of Vygotsky (1978).

Vygotsky's (1978) work is deeply rooted in a conception of teaching drawn from what children are to learn and how they benefit from learning (Barrs, 2022). Cultural-historical theory references the conceptual framework underpinning Vygotsky's (1978) theory of the development of higher mental processes (Meshcheryakiv, 2015) whereby such processes are acquired as a result of learning in a setting such as a school and through the subject-matter of the school curriculum as opposed to development in terms of maturation. Although Vygotsky did not use the term cultural-historical to describe his own theoretical work, it is used as an umbrella term to cover a historical mix of related ideas initially developed by a community of researchers located in Moscow, Leningrad, and Kharkov in the 1930s and then by the subsequent generations educated in this community. Vygotsky's (1978) primary concern was with how a teacher could help pupils to develop the higher order concepts that they would not have access to in their everyday lives. As a more knowledgeable other, a secondary schoolteacher is required to have considerable understanding of the subject they teach in the form of subject knowledge, curriculum progression and conceptual understanding (Karpov, 2014). Vygotsky (1987) differentiated between two kinds of concepts – the scientific (academic) concepts and the spontaneous (everyday). This idea lies at the

heart of his interpretation of both teaching and the curriculum. According to Vygotsky (1987), the role of the teacher is to provide pupils with access to theoretical concepts in all their different forms as they appear in the school curriculum.

Mercer (2007) developed a powerful metaphor of crossing a bridge for how teachers work in relation to their pupils:

> Teachers have to organise, energise and maintain a local mini-community of enquiry. Teachers are expected to help their pupils develop ways of thinking that will enable them to travel on intellectual journeys, so they understand and are understood in wider communities of discourse. However, teachers have to start from where the pupils are, to use what the pupils already know and help them to go back and forth across the bridge between everyday and educated ways of thinking (p.19).

This metaphor offers a way of thinking about the dual focus of the teacher on both the children in the class (as the mini-community of enquiry) and the subject-matter of the curriculum and the process of teaching as moving back and forth across the bridge in relational as opposed to transactional terms. Those who, like Vygotsky, believe that teaching is relational, understand the activities of teaching in school in the following ways: the teacher works with pupils to assist pupils to develop self-regulation and autonomy (Bliss, 1996; Diaz, 1990; Mortimer, 2003); and verbal and written tasks are designed by the teacher to assist pupils to develop understanding (James, 2012; Prain, 2018; Mercer, 2007). That is, the teacher talks *in* the subject (using the language of the subject in order that pupils learn the subject). At the same time, the teacher is also working with the curriculum in terms of how the knowledge embedded in the school curriculum is represented to pupils in activities and tasks (Young, 2014). In doing so, the teacher assists pupils to develop and use higher-level thinking and cognitive strategies (Shulman, 2000). As such, the teacher talks *about* the learning of the subject to their pupils. Winch (2017) addressed this in terms of the concept of

epistemic ascent: ‘an understanding of the structure of systematic knowledge from the point of view of the learner rather than the expert’ (p.81).

In other words, teaching is not as simple as transmission, where the teacher talks to pupils and they learn what they have been told (Daniels, 2005). On the contrary, Shulman describes the process of teaching in terms of pupils’ relation with the content of the curriculum as ‘making the internal external; working on it together while it is out and then putting the outside back in’ (Shulman, 2000, p. 133). A cultural-historical approach to teaching emphasises that the activities of teaching take the form of a social practice because as Bruner (1975) suggests, it is the activity between the teacher and their pupils that enables learning by pupils in the lesson to proceed. Burn (2007) argues that the expertise of the teacher is reworked and renegotiated in relation to pupils: ‘being able to sustain a strong sense of one's own expertise and professional identity at the same time as being able to take on the perspective of others in order to work fruitfully with them on tasks’ (p.397).

A cultural-historical approach uses talk to uncover what has been prioritised in the tasks and what material and conceptual tools have been used by those talking (Edwards, 2011). As such, a cultural-historical analysis focuses attention upon what the teacher brings to the process of teaching, which affects how they engage in their role and relates to what is prioritised by the teacher when they teach. Vygotsky (1978) also recognised that learning happens as an outcome of the tasks designed by the teacher to enable the pupil to integrate subject concepts with their everyday knowledge. Defining what a teacher prioritises in the process of teaching contributed to my thematic analysis of the data in this research study, which I evaluate in Chapter Four.

A cultural-historical approach regards demands and motives as ‘central analytical tools in the conceptualisation of learning and development’ (Edwards, 2019, p.188). Further, this approach recognises that concepts are ‘tools that enable us to work in and on the world and engage with societal problems: they help us explain phenomena and in doing so may be

refined to address new problems' (Edwards, 2019, p.2), and frames development as a 'dialectical process' (p.3) between the demands of the situation and the responses of those involved. A cultural-historical perspective offers a more pertinent analysis of expert teaching because it is able to incorporate the difference between expertise in an activity, such as chess, and teaching expertise, which is the dual focus of the teacher on the pupils and the subject-matter of the curriculum in terms of helping someone else acquire expertise. Teaching is not simply about imparting knowledge, but about bringing pupils into a particular relationship with that knowledge. I now consider some important concepts developed by cultural-historical researchers to explain teaching and learning.

2.3 Double move: a relational process of teaching

In this section, I consider several important concepts derived from cultural-historical theory that hitherto have not been used to describe teaching expertise nor to analyse expert teachers. Hedegaard (2002) has set out a way of interpreting classroom teaching and learning as integrated and in relation with one another. She terms this approach the 'double move'. The double move is a teaching process where the teacher is working to advance the subject-matter towards the child's everyday knowledge and to extend the child's everyday knowledge towards the concepts in the subject-matter so that they are integrated. Hedegaard's (2002) approach to the double move in teaching and developmental learning is built on two basic assumptions about children's functioning:

- 'That the child appropriates cultural knowledge, skills, and motives through social interactions with other participants of a cultural practice, usually more skilled adults and older children
- That the child's own intentional activity is one of the conditions for his or her development of concepts, skills and motives' (Hedegaard, 2002, p. 17).

The double move approach has its theoretical roots in the work of Vygotsky (Hardman, 2019; van Oers, 2019). The double move assumes that teaching is a complex process by

which the pupils' everyday knowledge is extended and transformed by the concepts as they exist in the school curriculum. Therefore, in the terms that Vygotsky (1978) used, teachers distinguish the everyday, spontaneous concepts that a child learns through engaging with the world from the scientific, abstract concepts that need to be taught to the child. Use of language is a major element of teaching actions because teacher talk leads to the development of scientific concepts by the pupil:

> Scientific and everyday concepts are dialectically entailed: a scientific concept in the absence of an everyday concept is merely a verbal definition and has no meaning; similarly an everyday concept in the absence of the scientific concept remains hidden from the consciousness. (Hardman, 2019, p. 138)

'Scientific' refers to academic concepts introduced by a teacher in school, whereas an 'everyday' concept is regarded by Vygotsky (1978) as not requiring an explicit teaching process in order to develop it (Barrs, 2022). The social interactions between the teacher and pupils and the task designed by the teacher have the function of moving the pupil to the next level of development in terms of their conceptual understanding of the subject matter. The process of teaching enables the pupil to move to a relationship with the new theoretical knowledge such that they are able to use and employ it in their own local practice as both a learner in a classroom, and in their everyday existence. In this way, the process of teaching requires that teachers have knowledge and expertise in the subject-matter of what is taught. In addition, teachers also need to develop a good knowledge of the children they teach and have expertise in creating social interactions and practical activities that draw the knowledge of pupils and of subject together whilst creating a culture in the classroom and a relationship with pupils that enables all to enact the subject and everyday knowledge.

The application of the double move in terms of relational teaching actions has three elements: firstly, analysis of the subject-matter so that the teaching is based on the scientific concepts; secondly, knowledge of the children's interests and background, and thirdly,

creation of tasks and activities to illuminate the scientific concepts (Hedegaard, 2002). In other words, the double move provides a way to interpret the process of teaching: the integration of scientific concepts in subject-matter with the pupil's personal concepts so that they might take this understanding forward in their lives, and as learners. As such, the social practice of teaching has the long-term aim of offering pupils an understanding of the links between scientific concepts within the subject in order that pupils might gain an understanding of the subject as a coherent, conceptual, model system to be used by them at some future time and independently (Hedegaard, 2002).

So far, I have argued that examination of the teachers' object motive might illuminate the concepts that are important to expert teachers in their work. Hedegaard (2002, 2012) developed her concepts from empirical research in childcare and school settings and Edwards (2010) in the professional settings of multi-agency workers, but the relevance of their concepts in the setting of secondary school classrooms has not been extensively tested. In the next section, I discuss a perspective on expertise that has arisen from cultural-historical theory. I suggest that cultural-historical theory makes an important contribution to understanding teacher expertise in terms of explaining actions in the activities in the practice of teaching. Finally, I discuss relational pedagogy and then relational expertise in terms of my chief interest: what is important to expert teachers about their own teaching activities.

2.4 Teacher expertise

Relational expertise (a form of expertise which makes it possible to work with others to expand understandings of the work problem as an object of joint activity), common knowledge (conceptual resources from which activities and identities are negotiated in order to work agentically with others) and relational agency (recognising how others interpret and react to problems and aligning one's own interpretations and responses to theirs), were initially developed by Edwards (2010) to explore how multi-agency professionals work together on complex problems held in common. However, they have now been applied to

the work of teachers and pupils in a secondary school classroom. An important question raised by the previous studies of expert teachers and the theories of expertise that I discuss in Chapter Three is that they have not sufficiently addressed the actions of teaching within the social and relational context of a school classroom, which is how teachers operate in the domain of teaching. In other words, they have not addressed how expert teachers make use of their expertise when planning, teaching and reflecting upon their teaching.

In the previous chapter (section 1.1), I described the limitations I had experienced when using professional tools to develop expertise as a headteacher and teacher educator. I suggested that they operated as taxonomies, which are appealing to hard-pressed teachers and senior leaders because such checklists seem an efficient way to develop teaching expertise, but they often only resulted in reductive or easily routinisable or observable behaviours. Similarly, Winch (2017) identifies that 'actually' teaching as opposed to seeming to teach by 'going through the motions of teaching' (p.50) illuminates the difference between teaching as a performance and teaching as a practice. This distinction suggests that there is a gap between the conceptual understanding of teaching expertise as something complex, polymorphous and involving higher order knowledge and with teaching as replicated rules and routines. Further, it might also be concluded that the study of teaching expertise to date has not been sufficiently practical so as to address how expertise can be developed by teachers in ways that might be used by teachers and school leaders at a complex and polymorphic level and in terms of higher order knowledge.

It is possible, however, to question whether teachers can be, and therefore historically have ever been regarded as experts. This argument is made on the basis that the teaching in everyday life, for example that of parents or others, is no different from school teaching. Seen in these terms school teaching is not an expert action (Montero, 2016). This point raises questions of how school-teaching and teaching expertise has been identified and developed. Whilst teaching and learning takes place in all aspects of everyday life and as

such can be interpreted as commonplace, teaching in a school is a regulated profession with constraints of formality and scale and therefore, I suggest, does not take the same form as teaching in everyday contexts. Similarly, Bereiter (1993) suggested that expertise should be interpreted in ways characteristic of a career such as teaching, rather than ascribed to an individual's everyday life. Husbands (2013) adopted this perspective when he argued that actions arising from the 2010 White Paper (Gov.UK, 2010), designed to address ongoing governmental concerns about the low standards in the English education system when compared internationally, conflated the individual performance of teachers with the quality of teaching at the level of a school and system. Such descriptors of teaching deployed at system level were then used to create models of different levels of teaching performance in order to evaluate the performance of individual teachers (McVeigh, 2016; McVeigh, 2020). Conferring the status of expert on the teaching profession was intended to address school planning issues rather than recognition of the highly skilled performance or superior knowledge of the profession (Goodwyn, 2017). In other words, consideration of teaching expertise in terms of teaching actions has been overlooked in preference to other educational policy priorities. In sum, teaching expertise appears to have been regarded as a commodity to solve problems in the school system.

Important questions arise from the ways in which expert teaching has been interpreted. Whilst there may be value in seeking to infer the quality of a teacher from observable behaviours interpreted from descriptors of teacher knowledge and skill, this is most beneficial if the concept of expertise applies both to knowledge of how to do things and knowledge of subject matter, that is, if 'knowing how to do something is manifested in what we can do with it' (Winch, 2013, p. 131). This leads me to consider that any study of teaching expertise needs to ensure sufficient focus upon the knowledge teachers have about how to teach, and the actions taken when teaching. The work of Edwards (2010b), for example, helps to clarify how teachers operationalise their expertise when working with both the pupils they teach and the curriculum. As such, I now consider the ways in which teachers

work with pupils, and the ways in which their work with the subject-matter of the curriculum has been described.

2.5 Relational pedagogy

A key word search for the term 'relational' identifies the word as referring to the qualities needed for good relationships between teachers and pupils, rather than in terms of its cultural-historical implications of how one works with others pedagogically. Hinsdale (2016) suggests that whilst the pedagogy of relation is not a new concept, it is now being taken up as a response to a view of education that focuses upon the teaching of content, 'where relationships are secondary to content' (p.1). The purpose of relational pedagogy is described as to facilitate thinking about the personal qualities a teacher may need in order to teach (Bingham, 2004). In other words, relational pedagogy offers an interpretation of teaching that happens in and through human relationships. Several perspectives have interpreted pedagogy through the concept of relations: for example, how a teacher cares for their pupils so as to challenge a status quo and thus to address power imbalances in society, or the relation between a teacher and their pupils, and between the knowledge of the pupils and the knowledge outlined by a given curriculum (Boyd, 2006; Hinsdale, 2016; Crownover, 2018).

My argument is that relational pedagogy interprets the difference between the teacher and the pupils as problematic, which needs to be overcome by seeking to develop equality in the relationship between them. Biesta (2004) suggests that education necessarily takes place as relation and in relation between teacher and the class *because of* the gap in terms of knowledge and power (the space in relation): 'This helps us to see that there is no relation in education without the separation brought about by the gap' (p.21). As such, relational pedagogy only focuses on one aspect of teaching, which is the personal qualities needed of a teacher, and does not adequately address the role and the actions of teaching when working with both pupils and the subject-matter of the curriculum. Crownover (2018) frames

teaching as a connection between teacher and pupils but interprets this as education occurring in the relational space connecting the minds of the pupils with the actions of the teacher. Similarly, Childs (2015) suggests that the act of teaching operates in relation to learning because the teacher needs to take account of all elements of learning: including internalisation of higher mental function; external use of tools (Barrs, 2022) and the pupils' transformed capacity to act in the world because of what they have learned (Engestrom, 2009). In this way, recognising the relational aspects of teaching interprets teaching and learning as integrated with each other (Daniels, 2005; Daniels, 2016; Hedegaard, 2002). By contrast, other models of teaching expertise have focussed on either relationships, such as relational pedagogy, or content, such as the EIF (2019), as of paramount consideration, which raises the question as to whether expert teachers conceptualise teaching in this way. In other words, whether expert teachers enact teaching actions that avoid the dichotomy of relationship or curriculum through the development of a relational space *between* pupils and the curriculum.

Subject-matter content - the subject knowledge - of the teacher is typically seen as the core expertise of a secondary school teacher and as such can be regarded as the foundational knowledge of teaching (Edwards, 2010). Discussions about the importance of a teacher's subject knowledge, have centred around debates about the role of the curriculum, and thereby the role of the teacher in society, in terms of what knowledge is selected to be taught and for what purpose (Young, 2014). In other words, debate about subject knowledge and the curriculum has examined the role of the teacher in terms of how the teacher represents their subject as concepts for example, authority and equality, by virtue of whose version of knowledge is taught (Warnock, 1993). Whilst the implication behind recognising the importance of subject knowledge lies with the view that teachers with poor subject knowledge are unlikely to inspire and engage pupils, subject knowledge alone may not be sufficient for expert teaching of the subject-matter of the curriculum (Childs, 2015).

Doyle (2012) suggests that a teacher is also in a relationship with the curriculum through the activity of curriculum enactment. In that sense when the teacher seeks to create learning opportunities in the classroom, the tasks devised by the teacher are part of the process of teaching. The activity of teachers in terms of task design and other processes of teaching are examples of the teacher enacting the curriculum. Further, Barad (2007) argues that agency is a matter of enactment rather than something a person possesses. In other words, teacher agency is a process of enacting iterative changes – Barad's (2007) ontological notion of intra-acting. Intra-action can be thought of where, rather than understanding an activity through the separateness of those involved in the activity, agents in the activity emerge and are preceded *through* their relation. For example, we can see teaching as relational when a teacher works with the curriculum through task design on behalf of their pupils.

2.6 Relational expertise

Relational expertise can be understood as a form of expertise that makes it possible to work with others to expand understandings of the problem or situation as an object of joint activity. As such, teachers are concerned with both the curriculum and their pupils. Identifying what is meant by relational expertise through a cultural-historical perspective suggests that it is possible to include in the processes of teaching how a teacher relates to: the everyday conceptual knowledge of the pupils they teach; the cultural and historical context of the child's family background; the school's background and the context of the society in which the school operates. As such, relational expertise relates the motives of the child in the role of learner with teaching enacted by the teacher through task design, and this recognises that the pupil in the class is not a novice with nothing to contribute to the lesson. In other words, teacher expertise is relational in terms of what, as well as how, a teacher teaches the pupils in their lessons (Hedegaard, 2002).

Recognising that teaching involves processes of working with pupils and with the curriculum and bringing the two into relation with one another raises the question as to whether it is possible to examine teacher expertise in terms of these processes. Edwards (2017) suggests relational expertise is an under-recognised form of expertise. She describes it as the capacity to work relationally with others on complex problems involving each party's interpretation of the work problem – that is, the reason for working together (for teaching this might be the curriculum) - as well as the joint response (for teaching this might be teacher or pupil assessment of what has been learned). Her research indicated that there is value in exploring the relational expertise of teachers - as opposed to subject knowledge as expertise - while teachers work with pupils on the complex joint endeavour of learning through lessons at school: 'Relational expertise is therefore an additional form of expertise which augments specialist expertise and makes fluid and responsive collaborations (between both parties or agents) possible' (Edwards, 2017, p. 7).

Interestingly, Kneebone (2020), a surgeon and academic at Imperial College has also developed the same concept, but he has termed it 'reciprocal illumination'. His emphasis is on the interaction between highly skilled individuals (for example, tailors and surgeons) who can learn from the skills that the other highly skilled individuals bring and through which they develop the skills of each other (Kneebone, 2020). This seems to suggest that the notion of how people work together can increase expertise and as such, an examination of those processes might further illuminate how expertise is developed and acquired. One outcome of Kneebone's (2020) research has been to create a context for professional development within the Royal College of Music and the Centre for Performance Science, where skilled individuals in a range of fields instruct and learn from each other.

In sum, relational expertise has potential as a lens through which to analyse key elements of the actions of teaching: how teachers work with pupils and the curriculum, and how the teacher works to bring the pupil in relation to the curriculum as a form of learning by the

pupil. Significant too is the question as to whether the concept of relational expertise might enable me to illuminate what teachers say and do in their lessons with pupils as a social and relational practice as something a teacher does in the domain of teaching. Thus, relational expertise offers a different approach from previous studies that interpreted expertise in terms that are about the domain of teaching. And finally, I have discussed whether the concepts that shape how expert teachers go about teaching can be illuminated by addressing the role motives play in the relational expertise of expert teachers.

2.5 Conclusion

Influenced by cultural-historical theory, I have argued that examination of the teachers' object motive might illuminate the concepts that are important to expert teachers in their work. I have suggested that the concept of relational expertise makes an important contribution to understanding teacher expertise in terms of explaining actions in the practice of teaching. As such, the theoretical framework outlined in this chapter generated the following research questions:

- What teaching actions do expert teachers use in their work?
- How do expert teachers work with the relational space between their pupils and the curriculum they teach?
- What concepts mediate the practice of expert teaching?

In the next chapter, I review the literature on expertise and teaching expertise in particular and suggest that the analytical concept of relational expertise sheds new light on both.

Chapter Three Literature Review

3.0 Introduction

In the previous chapter, I explored the way that aspects of a cultural-historical theoretical framework illuminate teacher expertise because they address some of the limitations of previous and current approaches. In this chapter, I summarise theories about and research on teacher expertise from the existing literature. In this review and beginning in section 3.1, I explore previous and current approaches to expertise by drawing upon the dominant accounts in terms of their philosophical and conceptual basis. Many of these accounts of teacher expertise originate from the United States of America (USA), where the study of expertise was first developed in order to consider its cognitive aspects. In section 3.2, I consider how teaching expertise has been analysed and note the influence of general accounts of expertise in mediating understanding of teacher expertise in terms of knowledge, skill and the cognitive processes of teachers. I then move on, in section 3.3, to consider the influence of the work of David Berliner, based in the USA, and John Hattie, based in New Zealand and Australia, on the current interpretation of teaching expertise in England. I argue that descriptions of expertise and analyses of expert teaching have not adequately addressed the expertise of teachers. This is because teachers work with both pupils and the school curriculum. In other words, expert teaching works as a relational practice between the pupil and the curriculum.

3.1 How has expertise been described?

Three conceptual distinctions – definitional, methodological and process-focussed - have shaped the study of expertise (Watson, 2021). In this section I consider these three approaches and the two general accounts of expertise which are still dominant today: the 5-stage model of skill acquisition developed by Dreyfus and Dreyfus (1986) and Ericsson's (1993) concept of deliberate practice, which offers an explanation of how expertise can be acquired. I then consider what distinguishes each of these five accounts and address how they have influenced research about expert teaching. Finally, I question whether teacher

expertise has been sufficiently theorised in its own terms rather than inferred from other activities.

3.1.1 Definitional and Methodological Accounts of Expertise

Research into the nature of expertise has tended to consider the cognitive processes of the expert and the extent to which such processes play a part in their skill, or to account for the role of knowledge associated with that skill. Watson (2021), in his interdisciplinary review of the nature of expertise, suggests that expertise is a concept rooted in ordinary language and that its meaning is widely known in general terms: 'We use it conversationally without any trouble…we know that some people stand consistently in a better position than we do with respect to some types of information or abilities' (p.ix).

The study of expertise is generally accepted as beginning with definitional accounts of the study of chess players by de Groot (1966) and Chase and Simon (1973). These seminal studies into expertise were influenced by developments in artificial intelligence and cognitive psychology and concentrated on the basic information-processing capabilities deployed by humans in situations in which they lacked knowledge or skill. Developed from these initial studies into cognitive processing Chi, a cognitive and learning scientist, and Glaser, an educational psychologist, differentiated two approaches to the study of expertise: absolute and relative. Chi and Glaser (1988) suggested that both these approaches yielded characteristics of experts that they considered were generalisable. This is because, in their view, absolute approaches to expertise - the study of exceptional individuals - and relative approaches - comparisons of experts and novices – both produced the same characteristics of experts: superior memory for information in their domain, better awareness of what they do and do not know, faster and more accurate solutions, greater pattern recognition and deeper and more highly structured knowledge (Chi and Glaser, 1988).

Ericsson et al (2006), whose work in cognitive psychology culminated in the publication of the first handbook of expertise, provided a relative approach that emphasised the difference between experts and novices. They conceptualised expert performance as superior reproducible performance, and an expert as someone recognised as a reliable source of knowledge or skill and whose judgment is accorded authority by others. Both the absolute and the relative approaches to expertise have led to the following being identified as the 'big questions in expertise studies' (Watson, 2021, p. xiii):

1. What is an expert?
2. How does someone become an expert?

However, Scholz (2018) argues for a methodological approach whereby the identification of expertise should not be attempted in terms of a 'classical analysis or reductive analysis' (p.29) but rather in terms of what he defines as symptoms (or features) of expertise. Scholz' (2018) discussion of how one can identify an expert rests upon some important underlying philosophical questions. Firstly, he argues against attempting to reduce the concept of an expert to a single definition. This is because he suggests that definition is itself a human activity that serves different aims and purposes. Secondly, he argues that concepts are interpreted in relation to other conditions and that trying to seek a singular definition does not reflect how we make meaning from concepts in practice. In other words, that we draw upon connected concepts to understand any single concept, such as expertise. Scholz (2018) suggests that expertise can be identified firstly through the use of weighted checklists (which orders elements of expertise against details and expectations from the particular domain in the form of a list), and secondly through the use of ideal expert criteria (from which models of expertise can be constructed for social use).

3.1.2 Process Accounts of Expertise

The accounts of expertise discussed up until this point might all be categorised as fixed criteria accounts in that they set a minimum threshold for who can be identified as an expert and then define as expert anyone who meets or surpasses that threshold (Watson, 2021).

By contrast, process accounts explain expertise in terms of the environments and methods necessary for acquiring expertise. As such, process accounts allow for a continuum of competence from novice to superior performance and can help to explain varying degrees of competence amongst experts. I now evaluate the works of Dreyfus and Dreyfus (1986), and Ericsson (1993) which are seminal process accounts of expertise.

3.1.3 Process: novice to expert continuum

The oldest taxonomy of expertise separates expertise into theoretical or cognitive expertise - having knowledge in a domain - and practical or performance-based expertise - the ability to do something well in a domain (Watson, 2021). Outside of philosophical contexts, discussion of expertise focusses almost exclusively upon expertise as performance. This is derived from phenomenology and has been conceptualised as a process of moving through five stages of increasingly improved performance from novice to expert (Dreyfus and Dreyfus, 1986). The Dreyfus brothers conceptualise expertise as the largely subconscious ability to perform at a high level of competence that emerges over time through extensive practice. Their widely applied descriptors of novice to expert performance were developed by a method of self-reported recollection of an experience, that is, through dozens of observations of novices becoming expert. In this thesis, I am going to focus on the 5-stage model because I will argue that this has been the model that has been applied to both studies of teacher expertise and models of professional development. In his later works that address the developing role of computers and the virtual world in education, Hubert Dreyfus (2001; 2009) added two further stages: mastery and wisdom, the significance of which I address later in this chapter.

The catalyst for the work of Dreyfus and Dreyfus (1986) was the extent to which the sort of learning necessary in the later stages of their 5-stage novice to expert continuum - proficiency and expertise - is possible for humans and not possible for computers. Their taxonomy focusses upon rule following, that is the extent to which novices, advanced

beginners, competence, proficiency, and expertise are shaped by the nature of the use of rules. Their argument is that expertise is inherently embodied because at the stage of expertise the experts' performance has moved beyond the level of following rules. As such, when muscle memory, know-how and conscious intention come together to perform a task the result is expert performance. In this way expertise is a matter of know-how: tacit knowledge that becomes part of one's body in performing a set of tasks, rather than a set of cognitive abilities. In subsequent years, when Hubert Dreyfus developed this work as part of his philosophy of the internet (2001, 2009) as part of challenging attempts to use computers to replicate the full range of human skills, advancement of human skill moved from expertise to further include mastery and wisdom. He argued that human beings need judgement to function in contrast to the calculative reason of rule following and that humans flourish by building embodied skills and direct relationships in learning (as opposed to virtual or distanced learning via a computer), not just in terms of recall of information or rule following in tasks.

Performance-based accounts of expertise recognise that extensive knowledge is essential to expertise, but Dreyfus and Dreyfus (1986) argue that the relevant knowledge is know-how, rather than know-that. In contrast, Ericsson (2016) takes the view that propositional knowledge is a by-product of expertise, by which he means that experts learn the propositional knowledge necessary for their domain as they practise it, whether in order to make improvement or through the practice itself.

This raises the question as to whether the notion of embodiment adequately accounts for expertise. Whilst embodied expertise captures the ease with which experts appear to act and the continuum captures the notion of progress that happens with practice, this approach does not appear to capture other important aspects of expertise, such as that experts might regard their apparent ease as extremely effortful and that many experts might indeed be able to express conscious thoughts before, during and after their expert activity. Further,

Mathers (2021) in her work with 104 teachers (as part of a wider randomised control trial research study for the Education Endowment Foundation) demonstrated that expertise in teaching was most strongly predicted when teacher know-how was developed alongside the development of a rationale for action, that is combining know-how with know-why.

Whilst single model explanations of expertise such as Dreyfus and Dreyfus' (1986) 5 stages of skill acquisition might be appealing because they make the elite and aspirational social aspects of the concept of expertise more accessible, it seems likely that the complexity and dynamism of teaching requires more than the one construct of rule following suggested by the Dreyfus' most commonly applied model. Britzman (2003) in her ethnographic study of two novice teachers suggests that application of the novice to expert continuum in the form of how one acquires the skills and becomes an expert teacher, 'objectifies experience as a map. In this discourse everything is already organised and complete; all that is left to do is follow preordained paths' (p.29). In other words, such a model presents the experience of learning how to become an expert as given and implicitly requires the teacher who wishes to develop expertise to accept preordained meanings as both natural and self-evident. The development of expertise is then both standard and linear with teaching conceptualised as an easily replicated sequence of activities.

One criticism of Dreyfus and Dreyfus' (1986) phenomenologically based theory of expertise is that it was not first developed out of their lived experiences of expertise; engineering and philosophy, but extrapolated from observation of novices (Montero, 2016). I would agree that observation of novices in the act of learning is a qualitatively very different source of data when compared with analysis of experts in action. This is because the data itself is perceptual (that is summarised from the observed behaviour of novices) rather than phenomenological (drawn from their lived experience). Further, I would argue that research into education is a domain that has a philosophical context as well as being an investigation into the teacher's lived experience, and in this way analysis of teaching only in terms of its

performative elements is in danger of ignoring key aspects of teaching. Certainly, the role of a teacher as an epistemic agent appears to be overlooked in that a novice to expert continuum of skill acquisition does not appear to explain expertise as grounded in propositional knowledge, which itself is a key aspect of the knowledge base of teachers. Nonetheless, the novice to expert continuum has been an influential construct in research studies of teaching expertise, and professional learning programmes for teachers (ARK, 2019).

3.1.4 Process: deliberate practice

In this section, I consider what Ericsson termed deliberate practice (1993; 2006; 2016). This process account has proved powerful across a number of domains, including teaching, and it is arguably ‘ the current dominant psychological theory of expertise’ (Watson, 2021, p. 109).

The concept of deliberate practice initially developed from Ericsson’s (1980) argument, arising from his earliest experiments into memorising numbers, that viewing expertise as a natural talent was mistaken. He suspected that with the right kind of training superior performance was always attainable and could be continued throughout one’s life. His study into the practice of violinists was conducted with a slightly vague definition of superior performance (1993), but in his subsequent experiments Ericsson (1994) had settled on a precise definition of superior performance as two standard deviations above the mean, in other words, less than the top 1% of performance in any domain. These findings and his subsequent work were so influential that the concept of deliberate practice broke through the world of academic research to be taken up as the ’10,000’ hour rule by Malcolm Gladwell in his book *Outliers* (2008). Ericsson and Pool later (2016) corrected Gladwell’s (2008) interpretation of their idea, arguing that it is the specific type of practice rather than the amount of practice that develops expertise. They maintain that deliberate practice is different from more general purposeful practice. They define deliberate practice as only applicable when the domain is well developed, with a clear history where some have excelled, and

some have not. In addition, performance in the domain must be able to be taught in terms of techniques for improvement by a teacher or coach.

Although the Dreyfus and Dreyfus (1986) account of performance-based expertise is grounded in the phenomenology of expert performance and Ericsson (1994) offers a psychological account, both have similar explanations. For example, the Dreyfus and Dreyfus (1986) concept of embodiment has similarities with the theory that deliberate practice encourages the brain to form mental representations - related information that is meaningful in the course of an activity. All share the view that mental representations (for Dreyfus and Dreyfus in 1986 they take the form of rules to follow) accumulate over time and become accessible at speeds faster than conscious reflection. Mental representations not only allow experts to perform better, but also to plan and avoid obstacles better. Hubert Dreyfus (2001,2009) later argued that speedy following of rules was not sufficient for mastery or professional wisdom but that reflection, common sense, judgement and discrimination were also required and it is these elements which seem more relevant to an explanation of what contributes to the practice of expert teachers.

There are a number of limitations identified in relation to deliberate practice, but I focus here on one limitation, which is the narrow set of domains to which it can be applied. This is important because whilst deliberate practice is a key concept underpinning current approaches to the development of teaching expertise in England (Deans for Impact, 2016; Mccrea, 2018), this particular limitation is typically not addressed or acknowledged in relation to teaching. As Gore (2019) argued, deliberate practice applied to teaching conceptualises teaching as a set of basic, discrete skills which can be ‘drilled’ and as such this approach does not reflect classroom practice, which is not just a practice of specific classroom techniques, but turns on the social understanding of the teacher. Ericsson and Pool (2016) admit that the majority of benefits of deliberate practice are limited to a narrow set of domains – ones which have a tightly defined body of knowledge and skills and in which a

teacher or coach could help an aspiring expert to excel (which is how the Core Content Framework (CCF) and Early Career Framework (ECF) (DfE 2019a, DfE, 2019b) are seeking to reframe the practice and performance of teaching). However, as Ericsson and Pool (2016) themselves make clear, in domains that require complex judgements (such as teaching) the theory of deliberate practice cannot be strictly followed.

Process accounts of expertise raise an issue for me, in terms of both my professional experience and the theoretical framework for this thesis, which concerns the dual and relational activity of a teacher: a teacher is both teaching a subject, and teaching pupils. This is an argument Kirschner (2010) makes when he suggests that the debates about expert teaching have confused the epistemology of a domain with a pedagogy for teaching in that domain. In other words, knowing a subject is not the same as expert teaching of the subject to pupils. It may be that the prevalence of the idea of deliberate practice as a means for developing teaching expertise has confused the domain of teaching with the domain of the subject-matter of the curriculum and with the pupils' performance in examinations of knowledge and skill. Deliberate practice may be of use to teachers in terms of how they design activities and tasks for their pupils to undertake, but is less relevant in the development of their own complex judgement – in this way, deliberate practice is a teaching strategy for teachers to use in their teaching rather than a means to improve their teaching.

A further limitation of deliberate practice is that it seeks to define expertise solely in terms of performance, which is then extrapolated to a wide range of human activity. In my view, not all human activity, including teaching, can be conceptualised in terms of a performance to be practised, with observable behaviours separately rehearsed in readiness for the performance. Fadde and Jalaeian (2020) reviewed research in teacher education, sport, and medicine/surgery in terms of the difference between domains that have a culture of practice versus a culture of study or experience. They argue that there was a very weak correlation between the impact of deliberate practice and expertise in teaching because teaching has a

culture of study and experience, rather than of practising a skill. Further, they noted that those in professional roles, such as teachers, typically have little time to practise when undertaking their role. In this way, it can be questioned as to whether process accounts of expertise sufficiently incorporate the elements of teaching which are both social and relational. Unlike single concept models, multifactorial models of expertise, have been developed to take into account social factors as well as focussing on the behaviour and environment of an individual, and as such offer a more realistic account. For example, Sternberg (2018) developed a four-factor model of expertise where knowledge and passion are the prerequisites for four kinds of expertise: analytical, creative, practical, and wisdom-based.

Although deliberate practice and the novice to expert continuum have been widely applied to a range of activities, Smith (2004) suggests that both of these approaches to expertise are of limited value. This is because they have not *sufficiently* addressed a frequently asked question about experts and one which is relevant to the methodology of this thesis: how might we identify an expert? In my view, the limitations of the methodologies underpinning these two theories undermine their value when applying them more widely to other activities, including teaching.

This review has so far examined theories of expertise which have focussed upon the processes, knowledge or skill that define expertise. However, this raises the further question as to whether teacher expertise has been sufficiently theorised in its own terms rather than inferred from other activities such as chess or memory tests. In other words, are the two most commonly adopted theories of expertise - deliberate practice and the stage model of novice to expert - sufficient to illuminate the particular context of the classroom? Both theories have been useful in suggesting that expertise is not just a matter of natural ability but something that can be developed, and that expertise can exist in a range of activities. However, the actions of teaching are less likely to take the form of an individual

performance, and more likely to take the form of a social and relational practice. By focussing attention on expertise as knowledge or skill and in terms of cognitive processes some specific aspects of teaching have not been fully addressed.

3.2. How has expert teaching been analysed?

Having considered expertise in general, I now explore teaching expertise more specifically. Seeking to establish the conditions a teacher needed to meet in order to be identified as expert, Palmer et al (2005) evaluated the indicators by which previous researchers had constructed their samples of expert teachers. This review of 27 articles on expert teachers published between 1983 and 2000 was seeking to define expert teachers. Palmer et al (2005) generated four identification markers of expert teachers: years of experience; social recognition or nomination; professional group membership and performance criteria (normative and criterion based) and analysed how these indicators were deployed within each of the 27 research studies. They also established substantial variability in how researchers identified expert teachers, including whether they had used experts *per se* in their sample (for example, they suggest that some 'experts' ought actually to have been identified as 'advanced beginners' (Palmer et al, 2005 p.14)). The construct of expertise they used to mediate their four indicators was drawn from research into the cognitive construct of expertise, which regarded the knowledge of experts and novices as differently structured. They linked teacher expertise to identifying markers of underlying cognitive traits. As a consequence, they offer an identification procedure to be used when constructing samples of expert teachers in subsequent research: i) three-five years' experience, ii) relevant certification with recognition by multiple constituencies, (for example, from the other teachers or school leaders with whom they work), iii) based on teacher effectiveness indicators and iv) confirmed by documentary evidence of impact on pupil outcomes (which they do not define further).

Palmer et al's (2005) definitional approach, by means of a review of indicators of expertise, makes a useful contribution to clarifying the complex concept of expertise. However, in their discussion, they do not evaluate the impact of their indicators being drawn from a range of different philosophical conceptual distinctions in addition to their conceptualisation of expertise in terms of cognitive information processing. In particular, they do not address that some of their indicators are drawn from social recognition and group membership; these are derived from an approach to interpreting expertise in terms of an expert's social role in an epistemic community. In their use of normative-based performance criteria they do not acknowledge the extensive literature that questions the efficacy of value-added measures to judge teaching expertise. Further, the way in which they use social recognition of expertise as an indicator is additionally complicated because in their use of it they have incorporated another type of measure altogether – the use of effectiveness indicators. As Watson (2021) suggested, the use of effectiveness indicators is a different type of approach to teaching expertise - methodological rather than definitional. However, I adopted these identifiers to help to construct my sample of expert teachers for this research study because whilst I was aware of their inconsistencies, they nevertheless provided a clear set of criteria to the teacher participants themselves and to me. By adopting these criteria, I was able to define and justify the definition of an expert teacher that made sense to teachers themselves and to the University Research Ethics Committee about how an expert teacher can be identified. In this way, such clear criteria are of course very appealing because they are practical to use and appear to answer one of the big questions of expertise studies – who is an expert? I now consider how teaching has been analysed methodologically.

3.2.1 Methodological Accounts of Teaching Expertise

A methodological approach (as first described in section 3.1.1) seeks to explain expertise in terms of its features (Watson, 2021). Scholz (2018) suggested two methodological strategies for identifying an expert in social epistemological terms: weighted checklists, which provide a means to understand the extent of the expertise of an individual and the use of the ideal

expert, which offers up a model of how society interprets a particular form of expertise. He regards these strategies as important because they enable identification of an expert within the context of the view of society about the field of expertise. I now explore the use of such strategies in identifying expert teachers, and teacher acquisition of expertise in the context of England. I outline such use, which is widespread, and evaluate the nature of their practical value. Further, I question whether Scholz' (2018) methodological strategies explain any limitations of recent policy.

The last 30 years has seen an increase by school leaders of observation of individual teachers in order to grade levels of teaching performance against a model of teaching shaped by the criteria adapted from the current Ofsted Evaluation Schedule (McVeigh, 2016; McVeigh, 2020). A methodological approach to expertise has informed the introduction and subsequent reviews of Teachers' Standards in 1998, 2007 and 2011 (DfE, 2011a). It has informed the approach taken by Ofsted to judge teaching quality in its use of research into teacher effectiveness (the measurement of teacher performance in terms of the achievement of targets) (Muijs, 2018), the outcome of which is a checklist of features of effective teaching. Furthermore, two recent and influential research reviews of teaching expertise (Coe, 2014; Coe, 2020) are also methodological in approach. A methodological approach emphasises technical aspects of teaching, arguably more than it emphasises how teachers employ their own judgement enacted in their own practice. In other words, when effectiveness is the foundation concept for understanding teaching, it shapes expertise in practice as interpreted in terms of the achievement of targets or goals. In this way, the judgement and values that are features of complex activity appear to have been marginalised from the public policy models of teaching expertise (Reynolds, 1999).

Ofsted's inspection approach during the 1990s and 2000s was a significant factor in creating a culture of quantifying teacher expertise against checklists in schools (Kington, 2014). Further, the Teachers' Standards (first introduced as competences) were introduced on the

basis that they prescribed and proceduralised best practice (Reynolds, 1999). The Teachers' Standards also described the different stages of a teacher's career and as such the expected trajectory of the acquisition of expertise by teachers. The Teachers' Standards remain the standards against which Qualified Teacher Status is awarded and against which performance is assessed for performance-related pay (Tatto, 2019). In defining teacher expertise, school leaders looked for ways to replicate Ofsted descriptors in their own schools, thus teacher expertise was directly shaped by the inspection evaluation criteria – although the research basis for the criteria has not been clear (Goodwyn, 2011; McVeigh, 2016; Muijs, 2018). Similarly, the Teachers' Standards were last reviewed by a group of 14 individuals selected by the Department for Education and the evidence underpinning the standards as features of what teachers know and are able to do has not been made available (Coates, 2011). What these checklists of features have in common is that they describe what a teacher should know and be able to do, on the basis that teaching expertise can be judged in terms of the causal link between teaching and learning, that is, by measuring the difference individual teachers make in terms of outcomes when pupils are assessed (Kington, 2014; Day, 2007; Muijs, 2014). In other words, for the Department for Education in England, the most effective measure of teacher expertise is a list of features of knowledge and skills that lead to high pupil outcomes, and this has been used by teachers and senior leaders as the 'ideal' teacher against which other teachers can be evaluated.

The significance of the expert teacher as the ideal teacher in these terms of measured impact upon pupil outcomes was further institutionalised in 2011. The Sutton Trust published a report which came to be cited as definitive evidence of the impact an expert teacher (as opposed to a poor teacher) has on the outcomes of pupils (The Sutton Trust, 2011). However, analysis of the research basis for the claim that for poor pupils the difference between a good teacher and a bad teacher is a whole year's learning (which has now become widely accepted in England as a truism for the ideal teacher) suggests that this is an unsubstantiated claim (Shires, 2017) not least because the research was originally devised

to measure the cost-effectiveness of a universal welfare benefit in the USA in the early 1970s in a piece of work ultimately unpublished because of its methodological weaknesses.

It appears that the policy landscape from the 1990s to the present day has quantified teacher expertise based on the impact of the teacher on pupil outcomes and in terms of value-added measures. As such, it can be argued that the use of checklists of features of teacher effectiveness to achieve pupil outcomes has now led to a fixed set of descriptors of the expert teacher in terms of the ideal teacher – that is, their expertise can be measured by the difference of the amount of impact they have on pupils' learning over other less expert teachers. Moreover, it can be argued that the use of checklists of features and the introduction of the notion that excellence can be measured in terms of impact on the extent of pupils' learning were designed to create measurable outcomes to facilitate international comparison (Goodwyn, 2017). Such international comparisons appear to have taken precedence over concepts of expertise as a social and relational practice, that incorporate the complexity of classroom actions and teaching approaches that have been developed to suit the school, class and pupil context (Kington, 2014).

Britzman (2003) frames such checklists as an attempt to normalise the acquisition of expertise. She argues that such discourse of dominant practice does not engage with the attempt of an individual to take up the identity of an expert teacher. Such checklists of features 'limit the potential for the pedagogical work by the individual necessary to realise their possibilities as a teacher' (p.123). In other words, the use of checklists of features of expert teaching is an attempt to orchestrate the ways in which developing teaching expertise is a lived experience of the individual teacher. Her second point is that such approaches also make the acquisition of expertise look easy rather than addressing the *apparent* ease of the expert because they focus on observable behaviours, and in this way also negate what she argues is the lived experience of acquiring expertise.

However, it is interesting to note that a recent and significant shift in the approach to evaluating the quality of teaching in English schools has resulted from Ofsted's own research into lesson observation. As part of its consultation for the 2019 Education Inspection Framework, Ofsted recognised the need to move away from grading the performance of individual teachers to assessing teaching in terms of the curriculum taught to pupils. Ofsted's Head of Research at the time, Professor Daniel Muijs, recognised that Ofsted had an effect on how schools have been led and managed in relation to the ways in which the quality of teaching has been evaluated (Muijs, 2018). Consequently, the current version of the Inspection framework has moved away from a focus on the use of data in terms of the measurement of pupil outcomes as the basis for forming its judgements. It no longer operates from the assumption that there is a causal relationship between a teacher's observable behaviours and pupil outcomes, recognising that the quality of an individual teacher cannot be directly measured in terms of an assessment of pupil learning in an individual lesson. Instead, the current Ofsted framework now assesses pupil progress and the quality of teaching in terms designed to address coverage of the school curriculum each year. Thus, in England the quality of teaching is currently inspected in terms of direct observation of the teaching of a curriculum, as such, how well the subject-matter of the curriculum has been sequenced and presented to pupils and how much they have learned and remembered. Ofsted based the assumption that this is an effective way to assess teaching quality on research into teaching effectiveness (Ofsted, 2018b). However, a criticism of this approach to defining teaching expertise and the current operationalisation of the concept of teacher expertise in English schools has been its lack of development of a theoretical understanding in terms of classroom teaching actions (Stones, 1992; Reynolds, 1997), something to which I hope this thesis might contribute.

Professor Robert Coe from Durham University's Centre for Evaluation and Monitoring has been the academic lead on two recent influential reviews of 'great teaching' (Coe, 2014; Coe, 2020) frequently cited as evidence in policy-oriented documents. The first, *What makes*

great teaching? Review of the underpinning research' was widely reported on publication because of the six common components teachers were advised to consider when identifying teaching expertise, but perhaps even more so for his suggestion of seven ineffective practices. The subsequent publication in 2020 of the *Great Teaching Toolkit Evidence Review* suggests a model of teaching expertise comprised of four overarching dimensions and 17 elements and is also shaped by research into teacher effectiveness.

These two reviews, the Teachers' Standards and the Ofsted Evaluation criteria are widely read and used by teachers and school leaders (Kington, 2014). Perhaps this is because they are descriptions suggesting an ideal (which is an appealing construct). Perhaps too, because of their checklist format, they seem to offer a way of making something complex simpler to understand and provide practical approaches to the identification and acquisition of expertise. However, even though such a way of explaining teaching expertise has been widely adopted by schools, in my professional experience, they do not provide sufficiently practical tools for professional development and learning. In other words, teachers are not able to enact such checklists in order to acquire expertise and become an expert. In Scholz' (2018) terms, using such checklists is problematic because these checklists conflate expert teaching with expert performance of a skill.

Further, expertise in teaching necessarily needs to incorporate moral and ethical dimensions into the activity of teaching because it involves the teaching of children as a trusted adult in a trusted profession (DfE, 2011a). In this sense, the place of a teacher's professional judgement, which includes moral, ethical and critical dimensions might be explained in terms of MacIntyre's (1984) judgement as a moral virtue: 'such choices demand judgment and the exercise of the virtues requires a capacity to judge and to do the right thing in the right place at the right time in the right way' (p.150). Such a view contrasts with the conceptualisation of teaching expertise solely in terms of the performance of what one knows and is able to do and neglects the moral virtue deployed when teaching. Further, the deployment of

judgement suggests the importance of what matters to teachers and their pupils about their shared experience of teaching and being taught at school.

Sternberg and Horvath (1995) developed a prototype view of expert teaching in their call for a 'reconceptualisation of expertise' (p.9) in which teaching expertise is viewed as a category. They explain that a category is structured by the similarity of expert teachers to one another, rather than by a set of necessary and sufficient features. They further argue that a prototype of teacher expertise can be represented by the central tendencies of teachers in this category. As such, this prototype can serve as the summary representation of a similarity-based category. This work was grounded in a psychological understanding of how experts differ from non-experts and how people think about expertise in real-world settings. This proposal of a prototype view of teaching expertise was taken up by Smith (1999, 2001). Interestingly, the literature review from Smith's (1999) thesis forms the basis of the literature review in the 2000 study of the National Board for Professional Teaching Standards (NBPTS) in the USA. I discuss later how this validity study came to be globally influential in shaping current understandings of teaching expertise through its citation by David Berliner and John Hattie.

Smith's (1999) work was a case study limited to three teachers from North Carolina, USA in 1998-1999. The qualitative data yielded rich descriptions of similarities between teachers in terms of their teaching behaviours, practices and attitudes, and she organised her findings into six 'central tendencies' (2001, p. 365). The tendencies were: confidence in themselves; regard classrooms as communities of learners; maximise the importance of relationships; adopt a pupil-centred approach to teaching; contribute to the profession, and 'show evidence that they are masters of their content areas' (p.368). Whilst the tendencies described a range of knowledge, skills, and values they do not distinguish and identify expert teachers from other teachers more generally nor do they inform how a teacher might acquire expertise. As such, these features are not practical tools for professional learning nor actions

to implement in the practice of teaching. In other words, despite its widespread influence I suggest that the prototype as a methodological approach does not appear to illuminate sufficiently standards of expertise, nor is it able to distinguish teaching expertise in any practical sense such as the teaching actions used which can inform expertise in terms of what an expert does in their work.

So far, I have suggested that teaching expertise has not been sufficiently explained when general approaches of expertise have been applied. By this, I mean that teaching is different from the areas of expertise typically studied like chess and memory games. Teaching, like other forms of *social* understanding, 'needs an object' (Scholz, 2018, p. 34). This point about the distinctive nature of teaching was also made by Hirst (1974) in his seminal essay, *What is teaching?* when he argues that classroom teaching involves teaching a group of children (that is, class teaching is not a 1:1 activity, though teaching activity may sometimes include that), and teachers have consideration of the learning of the class group. Crucially, he makes the point that teaching operates in relation to two demands made upon it: 'It is necessarily the case that A teaches B, X, there is one necessary demand on the activities in relation to the particular X that is being taught, and there is the second necessary demand in relation to the particular person B concerned' (p.109). In the same way, Alexander (2000) suggests a lesson might be seen, at its simplest level, as the act of teaching x to y in the context of a school. As such, Scholz' (2018) paradigm suggests that expertise can be explicated in terms of its features, one of which is social understanding. This gives rise to the question: what is the extent to which teaching expertise might be interpreted in terms that emphasise social understanding and, consequently, as relational between the pupils and the subject-matter of the curriculum? In Scholz' (2018) terms, firstly, is authority (the expertise of the expert) a relation? Secondly is it a triadic relation between the expert, the person for whom the expert is an expert i.e., a teacher for their pupils, and the domain of the expertise?

3.2.2 Novice teachers and expert teachers

Research studies seeking to understand teaching expertise as the difference between novice and expert teachers have been influential in shaping current definitions of expert teachers. The application of this construct has appeared to offer a useful approach in addressing questions about how to identify expert teachers and how teaching expertise can be acquired. Five American articles (Borko, 1989a; Borko, 1989b; Westerman, 1991; Hogan, 2003; Wolff, 2014) are most cited in current influential professional publications directed at teachers and school leaders in England (Deans for Impact, 2016; Mcrea, 2017; Mccrea, 2018; ARK, 2019) as justification for interpreting teaching expertise as an outcome of mental representations or schema leading to fluency of practice. The novice to expert continuum has been applied to teaching expertise and informed approaches to teacher development programmes, including the CCF (DfE 2019a) and ECF (DfE, 2019b). Given their impact, I now consider the methodologies of the five American research studies cited.

Both articles by Borko and Livingstone (1989a; 1989b) reference the same data set: four student mathematics teachers (novices) and their mentors (experts) on a pre-service teacher education programme in Maryland, USA in 1987. The eight participants were each observed teaching for an hour a day for one week, and after each lesson the observer expanded their field notes ‘to ensure as complete and accurate a record as possible of the teachers’ actions in the classroom’ (Borko, 1989a, p. 478). Semi-structured interviews with the student teachers and with their mentors about lesson planning took place before each observation and then again afterwards about their reflections on their teaching. From the analysis of the data, Borko and Livingstone (1989a; 1989b) developed a taxonomy of items which they then summarised into a description of each participant’s planning, teaching and reflections. They then analysed these for similarities and differences in terms of thinking and action.

They suggest there are several differences between these student teachers and their mentors: planning by student teachers is time consuming and less efficient; student teachers

are less able to improvise and adapt their teaching in response to pupils' questions and comments and their reflections lack focus. Borko and Livingstone (1989a; 1989b) suggest that defining teaching as a complex cognitive skill explains these differences because the cognitive schemata of the novices are less elaborate, inter-connected and accessible and on this basis they offer recommendations for teacher development programmes. They suggest limiting the amount of teaching and planning student teachers are asked to do; that preservice programmes should focus on developing pedagogical content knowledge rather than subject knowledge and that novices should have the chance to teach and then re-teach lessons. I now briefly consider the methodology underpinning the articles by Westerman (1991); Hogan and Robinowitz (2003) and Wolff et al (2014) and then suggest some common limitations that should be considered when the findings from these works are suggested as informative of expertise in teaching.

Westerman's article (1991) cites Borko and Livingstone (1989) as influential in the justification and design of her empirical study into the decision-making of novice and expert teachers. The participants were five mentors from five schools with their five student teachers in Washington DC who were interviewed about their planning; were observed teaching, followed immediately by stimulus recall interviews and then, several months later, took part in a self-report interview when a visual-only recording of the lessons was played whilst the teacher talked continuously about the lesson. The purpose of this final phase of data collection was 'to capture any decision-making that had not been reported during the stimulus recall interview as well as any changes in thinking on the part of the teacher' (1991, p. 295). As a result, Westerman (1991) offers models that she argues map the pre-active, interactive, and post-active decision making of the expert and novice teachers. Her conclusions are similar to those of Borko and Livingstone (1989): experts are more adaptive, dynamic and take into account more factors when teaching, planning and reflecting than novices and she suggests that, as a result, teacher development programmes should focus on certain teaching skills in relation to planning, teaching and assessing. She recommends

that student teachers should be taught to plan lessons using curriculum overviews rather than lesson objectives and that they should be taught to assess prior learning so that they can build lessons that help pupils integrate new information with 'old' knowledge. Interestingly, her findings are echoed in the more recent moves by Ofsted (2019) to assess the quality of teaching in terms of curriculum coverage rather than the impact on learning measured by pupil progress (McVeigh, 2020).

Twelve years later, Hogan and Rabinowitz (2003) reviewed research examining the differences between expert and novice teachers in terms of cognition to establish how the features of the classroom are mentally represented. From this work, they inferred the ways in which teachers represent activities such as planning, teaching, classroom management and communication. Although they do not state the number of studies they reviewed (they referenced 17) they do define the criteria for inclusion: those written after Berliner's (1986) presidential lecture to members of the American Education Research Association in which he highlighted the need for deeper understanding of teacher expertise, explicitly mentioning expert-novice comparisons and expertise defined in terms of teachers' pedagogical content knowledge as opposed to subject content knowledge.

Hogan and Rabinowitz' (2003) concluded that making explicit the cognitive components of teaching explains to novices the apparent ease and fluency of expert teachers. They argue that central to such an approach is pedagogical content knowledge because it illuminates the performance of teaching. To justify this claim they cite the validity research into the professional standards used in the USA, National Board for Professional Teaching Standards (NBPTS). The national board asserted that it was possible to identify expert teachers using these professional standards and that board-certified teachers were more effective teachers than those without their certification. Interestingly, Hogan and Rabinowitz (2003) cite Goldman (1986) who has previously argued that there can be constraints on mental representation in relation to particular specialised domains such as in this case of

expert representations of teaching. However, Hogan and Rabinowitz (2003) justify their approach arguing that, in lieu of further research able to ascertain any such specialised constraints of representations, cognitive components are most relevant for exploring teaching expertise.

Wolff et al's more recent (2014) study of 20 expert and 19 novice teachers was designed to update the shared characteristics of experts from a teacher-centred, practice-focussed methodology. Their view was that the research of the 1980s and 1990s was out of touch with the 'reality of 21st century classrooms' (p.1), although they do not make clear what their view of the reality of classrooms was in the 1980s and 1990s nor how it now differs in the 21st century. They also assume that focussing their study on classroom management was a sufficient domain as a proxy of teaching expertise because, 'classroom management can be considered fundamental practical knowledge of teaching' (p.3). Such a proxy addresses the role of the teacher in working with pupils, but does not address the need of the teacher to ensure that pupils learn the subject-matter of the curriculum. Their three research questions focus upon differences in representation when describing classroom scenes; the aspects focussed upon from the scenes and the cognitive processing involved. A limitation of this study was that by replicating previous research questions to design their methodology the possibility of a fresh paradigm and new insights into teacher expertise was reduced. Although this study involved more participants than the earlier works and there were clear statements of the basis on which the participants were designated expert (nominated by school; appropriate qualifications and more than 10 years' experience) or novice (pupil teacher in first or second year of teacher training with between 10-40 hours direct teaching experience) the data collection was laboratory rather than classroom based. Instead of direct observation of teaching, participants were asked for their views of very short (1 – 2 minute) edited clips from commercial videos of classroom practice. Wolff et al (2014) suggest that expert teachers can make more predictions about classroom management events; that they focussed on modifying lessons on the basis of learning rather than discipline; and that,

‘representations of experts repeatedly expressed multiple points of views and conveyed integrated perspectives’ (p.14). On this basis they argue that their findings confirm experts as having a ‘richer store of knowledge and deeper understanding of the myriad possible outcomes and consequences associated with events observed in their videos’ (p.13).

Wolff et al’s (2014) view was that the fundamental difference between the expert and novice participants was that novices linked classroom management to issues of behaviour and discipline, rather than pedagogical choices to create and sustain learning. Whilst I recognise from my professional life that students and inexperienced teachers are concerned about establishing their control over a class, expert teachers, although they do not take it for granted that classes will immediately behave well, assume that good behaviour by pupils has to be established by them through their classroom routines. As such, Wolff et al (2014) appeared to overlook the need for expert teachers to establish good behaviour.

In sum, understanding teaching expertise through methods which develop a picture of it in contrast to the skill and knowledge of novices is a very appealing approach because it appears to offer explanations for the apparent fluency of experts and to account for the acquisition of expertise. However, the methodology of the particular teacher expertise research studies I have summarised share some features with other, more general, novice to expert studies already critiqued. First, these studies drew their data from post-rationalisation of experience, which distances participants’ views about expertise from their practice of teaching. Secondly, the use of categories to explain differences in representation as well as the categorisation of expert and novice raises questions as to whether such rigid definitions reflect the complexity of lived experience.

These studies left unanswered important questions about how to identify expert teachers and how expertise in teaching might be acquired. They did not address how teachers worked with both their pupils and the subject-matter of the curriculum, nor did application of the novice to expert continuum illuminate the teaching actions used by the teachers. Rather

the findings gave rise to general descriptions. Such general descriptions of teaching are of limited use when developing the practice and teaching skill of other teachers. They are also of limited practical value in terms of informing other teachers' pedagogical approaches - that is, knowledge used *in* rather than *abo*ut the domain of teaching.

3.3. Teaching Expertise in Policy Frameworks: Professional Standards

Having addressed the use of professional standards as a methodological account of expertise, I now consider how they have been used in practice to identify the categories that make up teaching expertise. The introduction of professional standards into teaching is a global phenomenon (Goodwyn, 2017). It can be seen as evidence of a trend to define what good teaching looks like in practice; however, it is problematic if a set of standards 'is really driven by attempts to both measure (in simplistic ways) and control effective teaching' (Goodwyn, 2017, p.49). In this section I consider professional standards and I investigate to what extent the term 'professional' can be synonymous with 'expert', and then I review the normative aspects of such an approach to expert teachers and teaching expertise.

A policy focus on national standards in England first emerged at a time when teachers and schools were subject to criticism and reform during the premiership of Margaret Thatcher. The Teachers' Standards were developed after a succession of education policies which appeared to constrain teachers' professional practice: the introduction of the National Curriculum (1988); teacher appraisal (1991) and the introduction of standards for Initial Teacher Training (1999). This policy approach was mirrored by the introduction of professional standards in the USA. I now offer an account of professional standards in the USA because it was this particular set of standards that were used by Berliner and Hattie to justify their definitions of expert teachers and teaching expertise, and which have acquired influence in England.

The National Board for Professional Teaching Standards (NBPTS) was founded in 1987 as a direct response to three events in the USA in the early 1980s. In 1983, a federal report, *A*

Nation at Risk: The Imperative of Educational Reform argued that the education system of the USA was failing to keep pace with the needs of society and that this would have dire economic and social consequences. In response, the Carnegie Forum established a Task Force to critically examine teaching as a profession and in 1986 it published, *A Nation Prepared: teachers for the 21st century* in which it recommended the establishment of the NBPTS to develop high standards for what teachers need to know and be able to do. The belief was that for teaching to be seen as a trusted profession in the eyes of the public, the knowledge and specific expertise required by teachers needed to be codified and, as a consequence, teachers who demonstrated such expertise could be recognised (Harman, 2001). *What Teachers Should Know and Be Able to Do* - the five core propositions and the professional standards - was first published in 1989 and revised in 2016 (NBPTS, 2016). Hattie et al's (2000) validity study was regarded as critical by the NBPTS because, in planning to expand the certification process to 95% of teachers in the USA, it sought to locate demonstrable differences between teachers who were and were not National Board-Certified Teachers (NBCTs). As such, the standards have come to be regarded as valid in that the claim is that the NBPTS assessments 'identify teachers who are significantly more expert in their teaching practices' (Harman, 2001, p. 5).

There are further similarities between the professional standards in the USA and those of England beyond the reasons behind their initial implementation. The initial professional standards implemented in England during the 1990s by the TTA were replaced in 2007 by *Core Professional Standards for Teachers,* introduced by the Teacher Development Agency (TDA), and then the current model, *The Teachers' Standards,* were created (Coates, 2011) and came into effect from the 1st September 2012. These standards still remain the progression model by which the practice of teachers should be measured for initial qualification and career progression (DfE, 2011b). However, the more recent *Core Content Framework for ITT* (DfE, 2019a) and the *Early Career Framework* (DfE, 2019b) were

introduced by Nick Gibb, School Standards Minister as seeking ‘to codify the core knowledge and skills required to develop into an expert teacher’ (Gibb, 2018, p. 3).

The use of professional standards as models of expertise raises the question as to whether the classroom, as the place of an expert teacher, is conceptualised as somehow maintained in a state of rigid stasis by skilful manipulation of the tricks of the trade, with the status of expert as a kind of endpoint. This implies, as Britzman (1991) suggests that, ‘The teacher as expert … is in actuality a normalising fiction that serves to protect the status quo, heighten the power of knowledge to normalise, and deny the more significant problems of how we know, how we learn and how we are taught’ (p.230). This raises the further question as to whether professional standards are always of their time and likely to be ideologically influenced (Goodwyn, 2017). Indeed, Britzman (2003) goes so far as to suggest that such use of professional standards for entry and progression through the teaching profession can be equated with centralised control of the acquisition of expertise. The expertise of teachers is managed by the regulated processes of recruitment to and pay progression within the profession to ensure that teachers adhere to a set of common standards.

Equating expert with professional through the definition and use of professional standards effectively undermines the distinction between basic and more advanced knowledge and skills. If what counts as expertise is artificially determined by however a profession is defined then the implication is that expertise can be defined in terms of the ability to perform a prescribed set of tasks. As such, identifying expert teachers and how expertise is acquired is little more than defining a domain of those tasks. Certainly, the recent change of focus of Ofsted inspections of ITE to curriculum design rather than collecting performance outcomes was justified on this basis (Ofsted, 2020). This could be interpreted as recognition that their previous methodology was not able to distinguish between individual levels of teaching expertise or between expert and non-expert teachers.

The use of professional standards to codify and quantify expert teachers and expertise in teaching, raises the question as to whether membership of the teaching profession equates to expert status. In these terms, Watson (2021) argues,

> Instead of giving up (trying to identify experts and the acquisition of expertise), we are forced to do the hard work of explaining real differences in competence in a messy world where normative ideals proved too optimistic and impractical and where overly narrow operational definitions like deliberate practice, do not fare well outside their research programmes (p.164).

In sum, the role and use of professional standards as professional tools in relation to teacher expertise; whether the terms 'professional' and 'expert' can be used synonymously, and how such approaches make normative demands on others to accept the description of expertise contained within a set of professional standards have not satisfactorily identified expert teachers nor the acquisition of teaching expertise

In the next section, I move from a more general discussion of teacher expertise to focus on two influential thinkers whose work has defined how expert teaching is currently being interpreted. The first, David C. Berliner, Regents' Professor Emeritus of Education at Arizona State University is widely credited with initiating the study of teaching expertise in 1986 with his Presidential Address to the American Educational Research Association (AERA) in San Francisco, *In Pursuit of the Expert Pedagogue.* The second is Professor John Hattie of the University of Melbourne, Australia. His conference paper of 2003 to the Australian Council for Educational Research (ACER), *Teachers Make a Difference, What is the research evidence?* draws upon an earlier validity study of the National Board for Professional Teaching Standards (NBPTS). His paper proposed five major dimensions of an expert teacher, leading to 16 prototypic attributes of teaching expertise and has subsequently been widely adopted as the current operational definition of an expert teacher. I consider the analysis in these two conference presentations in the light of the underpinning philosophical

aspects of general accounts of expertise and the specific application and influence upon research methods in studies of teaching expertise to gather evidence to explain teaching expertise.

3.3.1 In Pursuit of the Expert Pedagogue

Berliner (1986) was the first to make the case for research into expert teachers. Using a study from that year by Leinhardt and Greeno (1986), an observational analysis of an expert and a novice teacher in terms of their management of collecting in homework from a class, he offers ten reasons why researchers should engage with articulating the practice of expert teachers in simulated and laboratory settings. This presidential address came just one year after Shulman (1986) gave his Presidential Address in 1985 to AERA, *Those Who Understand: Knowledge Growth in Teaching,* where he first made the case for Pedagogical Content Knowledge (PCK) as a particular form of teacher knowledge.

Berliner (1986) argued for research into the knowledge systems used in pedagogy which he suggested consisted of just two domains: subject-matter knowledge and classroom management. In his argument that teaching is the integration of these two domains he too was making the case for the study of PCK at a time when the concept was not as established as it has now become. The remainder of the address offers assertions about expert teachers drawn solely from evidence derived from simulations of tasks unrelated to the actual act of teaching: for example, the time it took an expert and a novice teacher to read and write about a scenario concerning a particular child. Nonetheless, his intention to argue that the study of expert teachers was possible, defensible and useful was clearly successful in drawing attention to this field. I now consider his subsequent influential contribution to this body of knowledge.

Berliner (1988a) gave a lecture to the Annual Meeting of the American Association of Colleges for Teacher Education and another that same year (Berliner, 1988b) at Princeton University and in both he outlined the same account of expertise in teaching. It was in these

two lectures that the application of Dreyfus and Dreyfus' (1986) novice to expert five stage model of skill acquisition was first applied to teaching (Berliner, 1988a, 1988b). He argued that the stage model 'makes sense' (1988a, p.6); and was supported by data he had collected from the comments made by novice, expert, and non-subject specialist teachers as they watched a video recording of a lesson. He believed his findings offered a useful and practical conceptualisation of teaching expertise.

In 2001, Berliner offered a review of the state of research on expert teachers at that time. His articulation of teacher expertise had incorporated additional concepts of expertise, not solely the work of Dreyfus and Dreyfus (1986). He cited the work of Glaser and Chi (1988) and their defensible propositions about expertise; he also considered the work of Ericsson and Charness (1994) to address the place of talent and practice in terms of teaching, and he addressed and rejected the demands of politicians for objective definitions of teaching expertise by highlighting the difference between successful and good teaching:

> Good teaching is judged through reliance on standards applied to the tasks of teaching and related to the norms for professional behaviour, including moral considerations. Successful teaching is about whether intended learning is achieved. Judgements of successful teaching are concerned not with the tasks of teaching or professional behaviour, but with the achievement of ends (Berliner, 2001, p.468).

His distinction between good teaching and successful teaching is an important one in terms of expertise because it implies that expertise is success on its own terms rather than as defined in terms of adherence to professional standards. However the purpose of the context to expertise with which he begins this paper was to introduce and endorse one particular contemporaneous study of teacher expertise: a validity study of the National Board of Professional Teacher Standards (NBPTS), which itself drew upon the literature of Berliner (1994), Shulman (1987) and Sternberg and Horvarth (1995). I consider this study in detail in the next section because its use by both Berliner and Hattie as evidence of the nature of

teacher expertise has arguably resulted in it being adopted as the current definitive explanation of teacher expertise. Yet consideration of its methodology raises questions as to whether the model should be used when attempting to consider how best to identify an expert teacher and how teaching expertise can be acquired.

Berliner's article, *Describing the Behavior and Documenting the Accomplishments of Expert Teachers* (2004a, 2004b) also published as a book chapter that year with the different title of '*Expert Teachers: Their Characteristics, Development and Accomplishments'* (2004c) covered identical ground, effectively repeating his work of 2001. He concluded that the search for expert pedagogues had been successful and that, 'from a disparate and unconnected set of investigations of expertise in teaching has come a set of propositions about expert teachers that are similar to propositions about expertise in the general literature on expertise' (p.26). He further stated that he was correct when he described the development of teaching expertise in terms derived from that of Dreyfus and Dreyfus (1986) to be of practical value. He suggested that it helped teacher educators to plan the professional learning of novice teachers (although he offered no evidence for this claim), and he finally concluded that Hattie et al's (2000) validity study was evidence that expert teachers behave in classrooms as he had described earlier (1988) and had learned the skills required to increase pupil test scores. He ended by claiming that research into teaching expertise had now added to the body of knowledge about expertise in more general psychological terms, rather than teaching expertise being extrapolated from general accounts of expertise.

The work of Berliner has shaped the current professional learning models for teachers in England (Mcrea, 2017; Mccrea, 2018), and also definitions of what it is an expert teacher knows and can do. However, the fact that his work on teaching expertise is based upon adaptions of the general accounts of expertise discussed earlier in this review raised important questions for me about their efficacy as professional tools for teachers and school

leaders. Further, the fact that he cites the 2000 validity study as definitive proof of how to identify an expert teacher and how to acquire teacher expertise led me to consider Hattie's work and its implications, which I now move on to address.

3.3.2 Teachers Make a Difference, what is the research evidence?

The work of Hattie (2008) developed from a version of his PhD, taken in 1981 at the University of Toronto, into the book, *Visible Learning*. In the book he describes a synthesis of 800+ meta-analyses of the effects of various influences and interventions on pupil achievement, an analysis which has acquired global influence. In this section I suggest that a great deal of his earlier work on expert teachers and the subsequent adoption of his definition of teaching expertise is based upon a hypothetical construct of teaching expertise first developed for the 2000 validity study, but which was not initially published.

In 2003, Hattie presented his paper, *Teachers Make a Difference, What is the research evidence?* at the annual conference of the Austrialian Council for Educational Research (ACER). This paper drew heavily on the same methodology as his book (2008), and justified his position on the definition of an expert teacher which was based on a single paper (Hattie, 1996) in which he first suggested five dimensions of an expert teacher and 13 (later revised to 16 in 2003) attributes of teaching expertise. He also drew upon the construct and validity study of the National Board for Professional Teaching Standards (NTPBS) – the system of certification used in the USA since 1987 - published in 2000. It is this 2000 study which is cited by both Berliner (2004a) and Hattie (2003) to provide evidence of the claim to have positively identified the profile of an expert teacher in terms of five dimensions of an expert teacher and 13 prototype attributes of teaching expertise. This construct was hypothetical in the first instance. It is this construct which was used as the validity model by which to test whether the NPBTS could distinguish highly accomplished teachers.

In this conference paper (2003) and his later book, *Visible Learning* (2008a), it can be difficult to see the connection between his claims about the signficance of his work and the

precise research from which it is drawn. For example, in the 2003 paper he framed his argument with reference to his synthesis of various meta analyses which together made up over 500 000 studies upon which his study was based, and he stated that this 2003 model of teaching expertise was based on a subsample (in fact this was the complete sample) of 65 teachers from the 2000 study - 31 board-certified and 34 non-board-certified teachers. The 2000 construct and validity study was commissioned by the US Department for Education in order to assess the validity of the NBPTS in accurately identifying highly accomplished teachers (Hattie, 2000). The study involved extensive empirical research and was significant for American educational policy because of its finding that the NBPTS could identify expert teachers. Its methodology was centred upon the model of expert teaching made up of five dimensions and 13 attributes initially hypothesised by Hattie and Jaeger (cited but unpublished version, 1996; published version, 1998) In this way, their original hypothetical construct became the definition against which to test other effectiveness measures. A range of data was gathered on the 65 teachers but the key data collected were in the form of blind scored observations of the teachers to ascertain if the certified teachers displayed the same dimensions and attributes as the construct. For example, the five dimensions were: 1) can identify essential representations of their subject; 2) can guide learning through classroom interactions; 3) can monitor learning and provide feedback; 4) can attend to affective attributes and 5) can influence pupil outcomes. The findings were that the NBPTS was able to identify expert teachers in that the certified teachers in the sample were observed to successfully demonstrate the dimensions and attributes of the construct. However, there was no evidence of their impact on the learning outcomes of their pupils, which was the other research question investigated in the study.

The construct and validity study (2000) was produced for and was subsequently published by Greensboro, the University of North Carolina, which had been commissioned to undertake this work. They specialised in an educational research methodology of programme evaluation, which they define on their website as a ‘socio-political process

related to decisions about societal prioirites and resource allocations, as decisions are made concerning program worth and merit' (Greensboro, 2021). A further article based upon this work was subsequently published as a book chapter (Hattie, 2008b) in a volume which evaluated the teaching certification process in the USA, on the basis that it 'acknowledges that the individual who gains this certification is demonstrably at the highest levels in our profession' (p.21). As such, the main purpose of the book and Hattie's chapter within it appeared to be to justify the costs and impact of the certification programme.

Hattie (2003) claimed that his work enables education systems to identify expert teachers and also to shape professional development such that teaching expertise can be acquired because he has provided a 'deeper representation of excellence in teachers… and a coherent, integrated, high level of deep understanding about teacher expertise' (p.16). However, it is helpful to recognise that his methodology is rooted in an evaluation of a definitional account of expertise in relation to fixed criteria: a set of professional standards and a particular process of certification of expertise. As such, attempts to develop definitional accounts raise questions because they tend to be restrictive and inconsistent with the way concepts work in the real world (Watson, 2021).

In my analysis of Hattie's (2003) highly influential account of expert teachers and teaching expertise I found an inconsistency between how Hattie describes the evolution of his work and the discussion of his findings. It was quite difficult to obtain original sources of the work that formed the basis of the model which he argues identifies expert teachers. Hattie's influential conference paper (2003) adopts the earlier model developed by Hattie and Jaegar as justified true belief (cited but unpublished version 1996/98 published version) but it could be argued that there was little justification for the 2000 validity study to adopt this model as the construct model of expert teaching. Whilst in Hattie's introduction to his findings in the 2003 lecture he adopted a wider perspective by discussing general issues about teaching (for example, he argues that recent USA educational policy has been an attempt to 'devise

‘idiot-proof solutions’ (2003, p.1), he then presented his findings as justified true beliefs and as a truth-based account of expertise, that is, that he has provided us with ‘reliable access to true propositions’ (Watson, 2021, p. 54). The claims for the validity of the NBPTS based on the investigation of 65 teachers, which was itself based upon an hypothetical construct, might be critiqued for insufficient subsequent tests of replication. Further, the NBPTS professional standards have been subject to other evaluations, (Stone, 2004; Gitomer, 2007; Goldhaber, 2007; Knoeppel, 2008) which suggested that the effects are modest for the costs; that the process does not increase teacher effectiveness; that there is little evidence in terms of impact on the system in terms of outcomes, and that the impact at classroom level is under-researched. Neverthless that the standards in the NBPTS have been evaluated marks them apart from the Teachers’ Standards adopted in England, which whilst having been reviewed and updated (Coates, 2011) have never been formally evaluated, nor had similar questions asked of them.

3.4 Conclusion

In this chapter I have attempted to summarise teacher expertise from the existing literature drawn from models of novice to expert stage development and in terms of the practice needed to acquire expertise. I have suggested that such approaches have not adequately addressed the difference between teaching and the other human activity on which studies of expertise are typically based, that is, information-processing or problem-solving activities, because they do not address the social understanding of the teacher. In terms of my theoretical framework, I suggested that previous analyses have not sufficiently addressed the actions of teaching within the social and relational context of a school classroom: how teachers operate in the domain of teaching. Extant literature has not addressed how expert teachers make use of their expertise when planning, teaching, and reflecting upon their teaching and when teachers work with both pupils and the school curriculum to achieve learning. In the next chapter, I consider how I designed a research study to address these

questions and in particular address the paradigm, ontology, epistemology, and methodology I developed. I evaluate the methods used and the subsequent data collection and analysis.

Chapter Four Research Approach

4.0 Introduction

Because the expertise I wanted to investigate was located in the social and relational practice of secondary school teaching, it was appropriate to adopt an overall paradigmatic stance that was interpretivist. Developed as an alternative to positivism, with its pursuit of objective truths, instead an interpretive paradigm focusses primarily on recognising and narrating the meaning of human experiences and actions (Levers, 2013). An interpretive paradigm can be defined in the following terms, 'knowledge is relative to particular circumstances – historical, temporal, cultural , subjective – and exists in multiple forms as representations of reality (interpretations by individuals)' (Benoliel, 1996, p. 407). Such an interpretive approach would afford a means to address and analyse the meanings and relations made through the motives and actions of secondary school teachers as they worked relationally with pupils to teach a subject on the English school curriculum. I decided to focus on this aspect of the role of a teacher and not include other more general aspects such as being a form tutor or working with parents because the day-to-day teaching of a curriculum to pupils is the prime task of teachers.

Adopting an overall interpretivist stance was also congruent with my role as a researcher, which in this study was to interpret teacher expertise. This was the case because in contrast to much of the previous research, I was not conceptualising teaching expertise in terms of measurement of effectiveness outcomes or in terms of fluency of performance of simulated tasks. Rather, as a researcher of teacher expertise and as someone with expertise in teaching, I was actively seeking to make meaning and relations from and between my evaluation of the literature and the development of a theoretical framework - as discussed in the previous two chapters - with my research approach, which I explain and evaluate in this chapter.

Such a research approach was complex for two reasons, both of which also had ethical implications. Firstly, I was aiming to investigate and interpret the motives of the teachers. This is an intensely private aspect of public practice and it was important that the integrity of research ensured the teachers could come to no harm and that their anonymity was protected. Secondly my intention was to interpret the underlying principles of the teachers' practice in terms of their 'know-why'. This had ethical implications because an analysis of the motives for their actions in terms of their beliefs and sense of their professional role related directly to the teachers' sense of self and the moral aspects of their role. As the context and motivation for this study arose initially from my previous knowledge and experience, it was important to be explicit about my assumptions and potential bias. By acknowledging what I brought to the research design and approach in terms of my particular assumptions, I aimed to manage my awareness of my knowledge and experience through reflexive processes so as to be aware of, and address, how such assumptions and potential bias might impact on the rigour of the study.

The aim of this chapter is to provide the rationale for the research approach I developed and to indicate its contribution and limitations. I consider the significance of an interpretivist paradigm in terms of higher order procedural knowledge. I also analyse the significance of a relational ontology to address 1) the dialectical nature of teaching, 2) the epistemological nature of motives and 3) what underpins judgement as know-why. Finally, I address the significance of making know-why explicit in order to investigate teaching expertise as second order procedural knowledge. I then explain my methodology before describing the methods of data collection and analysis I developed. I also describe the way that I addressed the ethical issues outlined above.

4.1 Interpretivist Paradigm

As I have described in the literature review, accounts of expertise that offer positivist, reductive or single constructs (Watson, 2021) might explain elements of expertise in certain

situations, but are perhaps more limited in situations as complex as a school classroom. From my theoretical framework, my account of expertise needed to act as a lens to the social reality of a secondary school classroom and the dialectical nature of teaching and learning. Cultural-historical theory is rooted in a particular view of human development arising from a worldview of nature that does not regard the universe as, 'composed of separate entities that exist and can be studied in isolation from each other, just as a clock or any other machine can be studied by looking at its parts' (Stetsenko, 2017, p. 132). Interpretivism affords a way of investigating reality looking not at the causal relations between subject and object in search of one meaning or to justify a truth, but how the meanings are made in relation to each other. As such, the interpretivist paradigm I developed mediated all aspects of this study, which I go on to demonstrate in the following sections of the chapter.

When undertaking research, it is important to acknowledge the nature of the paradigm one adopts because of its impact on the analysis of the phenomena being researched. In this study, I was not seeking to investigate teaching expertise in terms which defined it by measurement of outcomes nor to infer the associated cognitive processes of the decision-making of the expert. My position as a researcher was not to define expertise either in terms of a single construct, nor by its features. Neither was I seeking to develop a methodological account of expertise by attempting to describe the features that lead to certain outcomes or to the achievement of a certain standard by a teacher. In these terms, I was not looking to identify and name the cause and effect between the subject and objects of this study, but rather to investigate the relation between teachers, pupils, and the curriculum to be taught, and how that related to what mattered to expert secondary school teachers. In other words, I was looking to consider dialectical interactions in the classroom in terms of the expert teachers' motives and actions. In this way, my position as a researcher was to interpret the meanings and relations made by the participant teachers in their classrooms. As such, the paradigm adopted needed to address not what teaching expertise is, but rather how and in

what relations teaching expertise emerges. The process of interpretation - both by me as a researcher and by the teachers as participants - makes explicit higher order procedural knowledge. Whereas procedural knowledge can be explained as know-how, the act of interpretation is higher order because it involves accessing, activating and using such knowledge to filter out what is irrelevant and to focus on what is salient in the interactions in the classroom and in the study (Mathers, 2021). In other words, interpretation involves analysing the know-how associated with actions, making explicit the judgement used – the know-why of the teachers and the researcher. In this way, interpreting intention and the effects of those intentions informs analysis of the judgements associated with motives and actions when working with others in a classroom.

My research was mediated by a paradigmatic stance that was concerned to gain knowledge and understand the world derived from the subjective experience of the individual expert teachers. I wanted to use research methods that enabled me to understand the meaning expert teachers attached to their actions and the ways in which they interpreted and interacted with their social environment, which for this inquiry I considered to be their classrooms when teaching.

Having related the interpretivist paradigm that underpins this thesis to the key human processes of teaching and learning and suggested its relevance to teaching expertise, I now consider my ontological beliefs and in particular the significance and relevance of developing a relational ontology to investigate expertise in the context of a secondary school classroom.

4.2 Relational Ontology

An interpretivist paradigm mediated this investigation of teacher expertise and as such, data, in the form of the teachers' subjective views, opinions, emotion and values, were collected in order that I could interpret what mattered to the participant teachers about their teaching in relational terms. Typically, ontology is explained as the 'nature of our beliefs about reality' (Richards, 2003, p. 33). In contrast to a positivist ontology, which focusses upon expertise

as expressed in a subject-object relationship, I developed a relational ontology that 'works with the relational and processual nature of social reality' (Desmond, 2014, p. 547).

I did not adopt the relativist ontology usually aligned with an interpretivist paradigm, which addresses the subjective experience of reality and multiple truths because reality is seen as the subjective experience of it (Levers, 2013). Instead I adopted what Barad (2007) explains as a relational ontology which focuses on intra-actions as becoming, rather than inter-actions, in a reworking of the traditional notion of causality. In her terms, intra-action of practices of the social and natural worlds come to matter and knowledge in an ongoing flow of agency as one part of the world makes itself intelligible to another part of the world demonstrating aspects of reality as substance and significance.

For this study, I interpreted expertise in relational terms because I wanted to address one of the prime tasks of teaching, which is to enable the pupils to learn the subject-matter of the curriculum in order that pupils are able to understand or apply what they have learned. Barad (2007) starts from the point that physical matter and meaning are, in her terms, 'entangled' (p.33) in the process of becoming. This concept of 'becoming' mediated some of the assumptions I developed from my experience, my reading of the literature and my theoretical framework. The relational concept of becoming illuminates how, through relation, expertise leads to something new. As I go on to show in this study, my investigation of what mattered to the teachers about their pupils and the curriculum they taught to them identified that the something new which mattered, and which mediated their teaching expertise as relational, was the agency of their pupils. However, whilst such an approach can open up a new perspective on a topic as extensively studied as teaching, it is also possible to recognise the incompleteness of the approach. By emphasising this particular combination of practices, others are excluded. As such, rather than opening up a comprehensive account of teaching expertise I am aware that this approach might only illuminate aspects of expertise from a particular perspective.

The fundamental concept that underpins the nature of my beliefs about reality is a rejection of dualistic conceptions of the self as an isolated individual separate from their environment (which might include their social world, subject matter, or others, for example, colleagues, pupils or parents, school leaders). I operate from the belief that human development and learning is the purpose that lies at the heart of the actions of teaching and the practice of teachers. In a school context, a positivist ontology would conceive teacher expertise as being imposed upon the individual pupil in the form of a replicable cause-and-effect action, in which teaching expertise, 'simply becomes the means for delivering subject-matter with technocratic precision, without attempting to reflect and come to understand the mutual dependency and the power relationships that shape classroom life' (Roderiquez, 1992, p. 220). In contrast, two concepts formed the basis of my ontological beliefs: that there exists a mutual dependence between teachers and their pupils, and that the processes of teaching and learning operate in relation.

The first concept, as Desmond (2014) has argued, is that a relational approach has two actors 'occupying positions within the social space and bound together in a relationship of mutual dependence' (p.554). A relational approach recognises that teachers and pupils are, to differing extents, mutually dependent, rather than the control of content-knowledge existing in the teacher-as-expert, and the pupil-as-object to whom the curriculum is delivered or transmitted and assessed. This is because the purpose of education is not solely achieved in terms of effective transmission of knowledge from the teacher to the pupil that can then be quantified. The acquisition of knowledge marks transformation of the pupil (because they now have an expanded capacity by virtue of learning, that is, the 'becoming') and in this way the focus of the object of the activity (the shared enterprise) of teaching and learning is such transformation: the expanded capacity (Engestrom, 2009) or becoming (Barad, 2007) of pupils and as such an aim of teachers in their teaching.

In this way the practice of teaching is both the object of practice as well as the social relationships it inscribes. Britzman (2003) argues that learning is not merely the matter of applying decontextualised skills or of mirroring predetermined behaviours but that, 'it is a time when one's past, present and future are set in dynamic tensions: a time of formation and transformation and who one can become' (p.31). In relational terms, this reconfigures what happens in teaching and learning. It does not define nor limit teaching by the naming of teaching and learning and teacher and pupils as separate objects, but rather it is through the intra-actions of teacher, pupil, and subject-matter where meaning of expert teaching comes into being. In this way the processes of teaching and learning are not conceptualised as two separate entities with the aim of achieving endpoints defined by or in terms of fixed criteria. However, it is also important to recognise that not all learning experiences can be idealised as transformative in this way because individuals can diminish their own possibilities despite intending to do otherwise (Britzman, 2003).

Britzman's (2003) concept of teacher practice was influential in shaping my relational ontology in terms of my inquiry into teacher expertise because she recognised that classrooms are not places with a 'rigid state of stasis' (p.229) where the expert is in control and the pupils receive learning. She argues that such conceptions of the reality of classroom life 'deny how we learn and how we are taught' (p.229) because they focus on learning and teaching as individual problems of behaviour of both the pupil and the novice teacher, rather than recognising the social processes of negotiation between teachers and pupils. One of my basic beliefs is that the way in which teachers and pupils share the social reality of teacher expertise is relational because teaching and learning in schools function as a joint ongoing endeavour.

Relational actions are in Barad's (2007) term the intra-actions between teaching and learning. Stetsenko (2017) similarly sees reality with a focus upon flow of relations rather than the influence separate beings have upon one another. She calls for the ontological

primacy of the coming together of individuals rather than their separateness. In the school context, this addresses the focus of the actions in teaching rather than a focus on the outcomes of teaching as in methodological accounts of expertise and teaching.

Equally, I think a relational ontology addresses the limitations of process accounts of expertise and teaching expertise in terms of their focus on the separateness and deficiencies of novices compared to experts to explain expertise. My belief is that relational expertise offers a better chance of addressing the expertise of teachers because the ontology from which it is drawn acknowledges the expertise of the so-called novice (or what matters to the novice) and makes use of it rather than only seeing it in terms of what deficiencies they need to address to become an expert (as in studies of teacher expertise discussed in the previous chapter). As Stetsenko (2017) explains, practices are seen as dependent in how they relate to each other. Similarly, Stengel (2004a) developed the concept of teaching as relational between the pupil, the subject-matter, and a phenomenon or an idea, 'in any educative relation, the 'teacher's' simultaneous interaction with the 'subject matter' and the 'pupil' opens space for the pupil's interaction with and connection to that subject matter' (p.146). In terms of the school curriculum and the agency of pupils, a relational ontology acknowledges pupils can be shaped by what they now know or can do. Further, I found Slife's (2004) conceptions of relationality in terms of two main categories – weak and strong – particularly helpful for conceptualising expertise as relational. He argues that weak relationality is manifested when persons, places, things and practices 'begin and end as self-contained individualities that take in information from outside' (Slife, 2004, p. 158). By contrast, his explanation of strong relationality in terms of practice goes to the heart of my ontological beliefs. Relations permeate both practices and people: 'Their very qualities, properties, and identities cannot stem completely from what is inherent or 'inside' them but must depend on how they are related to each other' (Slife, 2004, p. 159). Hence, in this study such a perspective is a means to interpret the dialectical nature of teaching.

My ontological beliefs then are based upon the relationality and the relational space that make knowing and becoming a knower possible. In this way Biesta (2004) configures what it means to teach and learn in school as not existing 'in the heads or bodies of individuals who make up the social practice, but rather is located in between them'(p.15). For the school context, a relational ontology offers an alternative approach to identifying teaching expertise and its acquisition instead of in terms of its features. My belief is that teacher expertise takes place as actions of teaching and learning not in parallel, but rather as integrated, responsive, and relational actions. This means that I understand teacher expertise as relation between pupil and the curriculum. In this sense relationality also mediated my interpretation of the epistemology underpinning the research design and analysis, which I now describe.

4.3 Epistemology as know-why

Expertise in school teaching has implications for what it means to know; what we know and how we know what we know. What it means to acquire expertise as a teacher in England is currently defined in terms of a series of statements of what teachers need to know and be able to do (DfE, 2019a). The model used in England of know-how and know-that defines teacher knowledge as either declarative or procedural in an attempt to codify and prescribe teacher knowledge. The notion that there are two types of knowledge has a direct relation to the two most frequent similes for learning i) as acquisition in which 'objectifying (knowledge) means treating something as a well-defined entity that can be considered independently of human beings' (Sfrad, 1998, p.7) or ii) via participation - which focusses not upon knowledge transfer but that, 'learning a subject is now conceived as the ability to communicate in the language of this community and act according to its particular norms' (Sfrad, 1998, p.6) . In this way, teacher knowledge is explained as know-that constructed cognitively or know-how constructed socially (Phillipson, 2021).

Both Sfard (1998) and more recently Lum (2019) emphasise the limits of this dual approach. Sfard (1998) argues that whilst each separate simile has advantages that make them difficult to give up, both together hold aspects which explain elements of becoming a knower, but are used as opposites rather than together. Lum (2019) takes this view further and suggests that a dichotomous conception of knowledge in matters of education and the curriculum 'simply does not square with reality. It risks grossly misrepresenting the nature and extent both of the knowledge required and of the enterprise needed to provide that knowledge. The longstanding assumption that there are two kinds of knowledge, a 'knowing-how' and a 'knowing-that' is not only epistemologically incoherent but potentially of profound detriment to education' (p.134). His argument turns on the point that specifying the nature of knowledge in the school curriculum leads to priority being given to one form of knowledge over another – as we have in our education system at the moment, where progress in learning is defined and thus pursued in terms of knowing more and remembering more facts (Harford, 2019).

By extension, the current epistemological basis of teacher knowledge and skill is derived from an explanation of expertise that defines experts as having extensive knowledge schematically organised as the basis for other abilities (NAS, 2021). In other words expertise is associated with a special kind of knowledge: experts can be defined by knowing a lot about their area of expertise or having knowledge of a particular range of facts (McGiven, 2016). However, research drawn from a limited range of cognitive science researchers is an attempt to prescribe what the cognitive processes of teaching and learning should be, rather than arising from investigations into what teachers have to say about what they know and how they act, as first noted by Brown and McIntyre (1993). Further, the situated and embodied aspects of cognition as lived are not addressed – rather expertise is seen to exist solely in the mind (or indeed just the brain as a neurological process) of an individual (Simpson, 2016)

Secondly, the current policy representation of teacher expertise implies that an expert teacher is someone whose expertise is seen in terms of the speed and fluency of their recall of the codified know-how and know-that statements of the CCF (DfE, 2019a). In particular, such cognitive views of expertise can be traced back to the earliest studies of expertise in chess whereby the concept of expertise as effective decision-making draws upon analysis of problem-solving in chess or memory tests as the basis for the expertise (Campitelli, 2018). As such, teacher knowledge is represented in terms of its cognitive architecture and structures from which learning as the construction of knowledge has been inferred. In this sense, the epistemological basis for teaching expertise is actually a 'feeling of knowing' (Koriat, 1998, p. 23) defined primarily in terms of accessibility to knowledge (Gobet, 2018). Further, defining knowing as remembering from the stores of either the short term or the working memory, as Campitelli (2018) argues, limits our understanding of the multiplicity of ways in which we might be said to know.

Whilst an investigation into a full explanation of the structures and representations of knowledge is beyond the scope of this study, examination of the epistemological basis of teaching expertise in terms of know-how and know-that suggests a third element not fully addressed to date: know-why as an epistemological relation with knowledge-in-action. Keestra (2019) argues that know-how and know-that frame expertise in terms only of the cognitive. In other words, such representation of knowledge leads to a conceptualisation of expertise in terms of rigid responses and lack of agency on the part of the expert. However, by considering the task of teaching as also including reasoning, perception and moral judgement then the epistemological underpinning of expertise needs to be conceptualised as a contribution to adaptive and flexible responses to specific contexts. Keestra (2019) acknowledges the benefits of automatisation (to allow cognitive space for other activities) but argues conflating expertise with automation neglects the purpose of teaching which is primarily to improve the performance of the person being taught rather than the performance of the teacher. Therefore Keestra (2019) proposed 'a sculptured space of actions' (p.79) of

three dimensions of knowledge-in-action: skill, situation but importantly for this study ‘distal intention: future-directed intentions, decisions or plans for actions somewhere in the future’ (p.82). As such, part of the expertise of teachers is in deploying knowledge-in-action in terms of what is about to or yet to happen.

In this sense, my epistemological position encompasses the teacher and their pupils as knowers, but also includes relation with the third element – the subject-matter of the curriculum as what is to be known (Stengel, 2004). The significance of the relational to my epistemology is that it recognises that in teaching, a teacher does not simply or directly input knowledge into the mind of the pupil via a series of memorised techniques. Rather, knowing and becoming a knower, exists as relation and in relation and via various communicative interactions where the teacher is engaged in interpreting meaning and relations on the basis of their intentions for the future – their know-why.

Loughran (2019) has addressed the issue of expert teacher knowledge as pedagogical reasoning. This more accurately reflects the reality of how expert teachers think as they construct the knowledge that underpins their practice. Loughran (2019) argues that pedagogical reasoning ‘offers a window into the complex and sophisticated knowledge of practice that influences what they do, how and why’ (p.523). His view of the epistemological basis of teaching expertise is developed from the work of Schön (1987) to address the theory-practice divide and his concept of knowing-in-action as tacit knowledge; Cochran-Smith (1999) and her work on knowledge of, in or for practice, and Shulman (1987) who suggested that a teacher’s practice is informed by a knowledge base and responsive to the needs inherent in any given teaching experience. However, Loughran (2019) argues that teachers do not think of their teaching and its underlying influences in terms of know-how or know-that, but ‘they see their knowledge through the window of their practice - what they do and how they do it. Therefore, to interpret the ‘what and how’ of teaching as professional knowledge, the ‘why’ is crucially important and often intersects with other aspects of

knowledge such as the curriculum and its subject matter' (p.526). In this sense, the reality of teaching is that it is experienced as a sense of knowing rather than as a codified knowledge base. However, whilst Loughran (2019) frames pedagogical reasoning as the relation of decisions, intents, and actions, the epistemological basis of teacher expertise he develops has focussed on the process of teacher decision-making rather more than it does on the other two aspects of pedagogical reasoning he proposed: the role and nature of teacher intent and action, which is the focus of this thesis.

In sum, my view is that it is reasonable to represent expertise in teaching as including know-why as a form of teacher judgement. After MacIntyre (1984), know-why as judgement affords the relation between knowledge and action; acknowledges both the moral purpose and lived realities of classroom teaching and addresses the intent to ensure agency for both the teacher and their pupils. Significantly, incorporating know-why as a facet of the epistemological underpinning of expertise is a nod to the very nature of teaching: that it has an object and that what matters to the teacher, their pupils and the subject-matter of the curriculum are in relation. As such the concept of know-why, as it connects to the object and motives of teaching, underpins the methodology and research methods I developed. However, attempting to investigate and interpret the judgement of the participants raised important ethical issues because a teacher's judgement goes to the heart of how they interpret and undertake their role. I address ethics later in this chapter.

4.4 Methodology

What follows in this section of the chapter is an explanation of the qualitative methodology developed throughout the research process reflecting my ontological and epistemological assumptions as set out in the previous two sections. The resulting procedures can be summarised as inductive, emerging, and shaped by my experience in the collection and analysis of the data. The methodology was influenced by two important and connected processes. The first was that participants were taken through practices of reflection in the

research methods which took the form of active and careful consideration of their knowledge and beliefs about their teaching (Barrett, 2020). The second process related to my reflexivity, which I operated in the following terms: awareness of my role in the practice of research and of the way this was influenced by the object of my research, so as to enable me to acknowledge the way in which I affected both the research processes and outcomes (Haynes, 2012).

I was interested in examining what expert teachers described as being important to them when they are involved in the activity of teaching, as surfaced by their responses to the demands made of their work and the teaching actions within their work. As such, this is a study of the specific phenomenon of teaching expertise. I focussed my approach upon the elements of practice as conceptualised by Edwards (2010a): 'historically accumulated, knowledge laden, emotionally freighted and given direction by what is valued by those who inhabit them' (p.7). Lamberg (2009) suggests that educational research differs from research conducted in laboratory settings because it deals with, 'messy situations and contains multiple dependent variables' (p.233). Educational research into effective teaching has been criticised for developing its findings away from the naturalistic settings of the context of the teachers' work (Cochran-Smith, 2019; Coe, 2014; Edwards, 2010b; Loughran, 2010).It was important to me that my research into the practice of teachers took place in the naturalistic and messy situation of the school and the teachers' classrooms. The methodology was designed around the reflections of the teachers because, firstly, I wanted to use research methods that encouraged the teachers to articulate their tacit understanding of their experience of teaching by making sense of it. And secondly because I intended that such reflections were developed in relation to the activity of and context in which their teaching took place. The methodological challenge this posed for my qualitative study was how to design in quality, rigour and trustworthiness (Golafshani, 2003).

Marshall and Rossman (1999) suggest that qualitative methodology has three major purposes for research: to explore, explain or describe the phenomenon of interest. The specific phenomena with which I was concerned were the teaching actions used by expert teachers to teach the subject-matter of the school curriculum to children. By collecting qualitative data, my aim was to be able to show the relationships the teachers perceived between their expert activity and the meaning they ascribed to it. In order to do this, I developed a qualitative methodological approach that involved interviews and structured written reflections as a series of opportunities for the teachers to reflect upon and tease out the complexity of their practice and to address its history, knowledge, affective and conative dimensions. I was aware that my sample of 9 teachers would not be extensive enough for me to claim that a representative sample of teachers had been identified, however the selection of the school and the participants was 'purposive' (Denzin and Lincoln, 1994, p.20) in that I sought out individuals 'where the processes being studied were most likely to occur'. In terms of my qualitative methodology, I was not seeking a representative sample of expert teachers and nor was I was seeking to investigate the differences between the nine expert teachers in an attempt to categorise them, although their different experiences were of interest. Rather, I was interested as the object of the research, in Edwards' (2017, p. 7) phrase, in 'what matters' to expert teachers: 'made up of what matters in each practice, the motives that shape and take forward the practice'.

Unlike quantitative researchers who seek causal determination, prediction, and generalisation of findings, qualitative researchers seek instead illumination, understanding, and extrapolation to similar situations (Golafshani, 2003). Patton (2002) argues that whilst credibility in quantitative research depends on instrument construction, in qualitative research, 'the researcher is the instrument' (p14). Credibility, transferability and, trustworthiness are conceptualised as a methodology deployed by the researcher as a well-considered, thorough and reflexive process. Furthermore, articulating the analytical

approach is important because it clarifies the process by which, and on what basis, the raw data were reduced (Smagorinsky, 2008).

An important part of the process of establishing the credibility of this research was through the selection of the site and sample for data collection. I aimed to be both transparent and rigorous in the process itself and in my explanation of it. I decided to limit the scope of the data collection to one secondary school because I wanted to reduce contextual variables that might limit my ability to focus on the details of the expertise of the teachers. I chose to focus on a secondary school because that had been the age phase of my own teaching experience. For the past 5 years Ofsted has judged between 65-67% of secondary schools as good. It was important that the fieldwork site was a typical school rather than a school at either end of the judgement norms (10% are judged outstanding and 14% are judged as requiring improvement or inadequate) (Gov.UK., 2020) so I chose a secondary school which was rated 'good' by Ofsted in its most recent inspection.

The process of researcher reflexivity required two sets of activities by me: first to be aware that my interpretation of the data would be influenced by my assumptions and second that I paid attention to such interpretation as a form of reflection: 'The process of researcher reflexivity involves thinking about how our thinking came to be, how pre-existing understanding is constantly revised in the light of new understandings, and how this in turn affects our research' (Haynes, 2012, p. 72). I was aware that I undertook this research with four assumptions: 1) that teachers could be explicit about their practice, 2) that expertise in teaching existed, 3) that teachers' views about their practice were underrepresented. Fourthly, and perhaps most significantly because it formed the basis of my relational ontology, that teachers were concerned with both their pupils and the tasks they designed to support learning in the classroom. Although the curriculum and pedagogy can be defined and considered separately, my view was that it is only in their relations that they can be fully understood. The process I adopted to ensure I was reflexive and that my understanding and

interpretation were being constantly revised was through the use of a journal at key times in the process of this study: research design; data collection; data analysis and final write up. The journal process took the same format each of the four times I used it: in the morning immediately upon waking I would write in longhand 3-4 pages of A4 in a notebook that I kept by my bed. I found this process enabled me to record all the thoughts that had been churning around in my head overnight and enabled me to process them. This was a disciplined process as I looked to see where I was constructing the complex relationships between my epistemology, methodology and ontology. These four journals enabled me to be open to change and adaptive in response to the various layers of my reflection.

Identifying the teachers who participated was a critical element of my research. Even though I was looking to develop a relational account of expertise I ensured that each of the participants met the following pre-determined criteria of 'expert teacher' taken from the research literature (Palmer, 2005). I acknowledge that the use of such criteria and the quantitative nature of measurement of pupil outcomes is an aspect of expertise I have critiqued in the previous chapter, but nevertheless these descriptors offered conditions for recruitment of participants to the participants themselves, which may have gone some way to address the modest nature of many teachers to downplay their own expertise:

- have been teaching for a minimum of 5 years
- well regarded in their school community
- achieved above school average pupil outcomes in subject residuals for the previous three years.

Participants who worked at the field site school were asked to volunteer on the basis that they met the requirements. The nine participants constituted 15% of the school's teaching staff. The advantage of selecting teachers who met an accepted standard of teaching expertise was that I could fully explore what was important to them when they were teaching their subjects to the pupils in their lessons, without needing to focus on whether they were effective in their teaching.

In this study I have not directly addressed nor interpreted my findings in terms of the different subjects taught by the teacher participants. I have argued that the focus is on the pedagogical knowledge of the teachers and also their relational expertise. I note that their subject knowledge is a core expertise, but I did not analyse my findings to understand to what extent their subject knowledge mediates any of the concepts that matter to them about their subject. As a result, I did not seek a representative range of subjects. The sample consists of one English teacher, one art teacher, two modern foreign languages teachers, two science teachers and three history teachers. The school is an 11-16 school so no sixth form teaching was included. Although it could be argued that the sample over-represents one subject (history) and has no representation of others, I chose to prioritise expertise rather than a range of subjects. It may be that the specific nature and structures of their subject did or did not impact on the way in which they taught, but this is not an issue that I was able to directly address and in Chapter Eight, I suggest that this is a useful area for further research.

4.5 Ethics

Consideration of my ethical conduct throughout the study was paramount. This is because the integrity of the research in terms of participants from whom I collected the data and all aspects of my subsequent use of their data rested upon it. Because the research was designed to collect what mattered to them about their practice and because their role was as part of a regulated profession, the ethics procedures were designed around two principles: that no harm was caused to the participants and that their anonymity was protected. Informed consent was gained from each teacher after they had been given a Participant Information Form (see Appendix 7). They were assured that they could withdraw at any time and without giving a reason and the fieldwork was managed to avoid undue intrusion into their working lives. Their good reputation, dignity and autonomy were paramount in my approach and the processes used. Clear safeguarding procedures in terms of the pupils in

each class were agreed and in section 4.8 I explain the procedures by which I managed the presence of pupils during lesson observations and as I moved about the school from lesson to lesson. Clear boundaries were agreed with the gatekeeper to the research - the headteacher - to protect the confidentiality of each teacher because the headteacher was aware who was participating. I attended a staff meeting and explained the purpose and nature of the research study and the role of participants. I explained the criteria for the sample (mentioned in section 3.2) and left staff with the Participant Information Sheet. Teachers who wished to participate then contacted me via my university email address. In this way my intention was to provide clear information about what participation involved but with no pressure applied to individuals to participate. I used pseudonyms for each of the participants to provide a degree of anonymity outside of their school community and each participant signed a Consent Form (see Appendix 6) before their participation in the research commenced.

The data were stored behind the heavily encrypted Google drive of the university, for which the university has a security agreement. The laptop on which the data were collected was encrypted. The University Research Ethics Committee, after a stringent review, approved the ethical conduct of the research before it began.

4.6 Methods

In this section, I explain the methods I used to collect data from the 9 expert teachers. I then explain how I went about analysing the data by and across concepts and through use of a process called template analysis. I conclude by explaining how I report and discuss my findings, which I do in the following three chapters: subject agency, relational space and future agency.

Three considerations influenced my research design. First I wanted to develop a detailed understanding of a classic cultural-historical research focus: the motives for the actions

taken by expert teachers. This focus affords the researcher an approach by which, 'to analyse people's motive orientation by examining how demands are interpreted and agency enacted through addressing or navigating the demands around them' (Edwards, 2020, p. 5). This focus was also useful to explore the long-term aims of the expert teacher participants and how they addressed these in their teaching actions as represented through their structured written reflections. I used three methods: interviews; lesson observations with field notes and structured written reflections because using several methods of data collection enhances trustworthiness through triangulation, in other words: 'where researchers search for convergence among multiple and different sources of information to form themes or categories in a study' (Creswell, 2000, p. 126). The reflections asked the teachers to consider their actions; their teaching activity and the long-term aims behind both. Given that my interest was in what the teachers valued and prioritised when they were teaching, it was important to interview each teacher twice and observe them teach several times.

My second consideration was to be in a position to triangulate data in order to compare what the teachers said with what they actually did in the lessons. Thirdly, I needed to use methods which were practical to implement and which used my time efficiently. Using my visits to the school to observe lessons and interview teachers during an intensive and defined fieldwork period worked well. My researcher 'stance' could be characterised as that of traveller (Kvale, 1996) in that I was trying to keep an open mind whilst exploring the area of teacher expertise and also accepting that there are multiple truths. I now go onto describe the three methods of data collection I employed in more detail: interviews; lesson observations and field notes, and teacher reflections.

4.7 Interviews with teachers

Part of the rationale for this research was to hear what teachers themselves had to say about what was important to them about their teaching expertise. A feature of previous

studies has been that teaching expertise has been described in terms of what researchers had to say about how teachers performed in simulated tasks or against predetermined criteria as, for example, in Wolff et al's (2014) study which was based on teachers commenting upon very short video clips of commercial videos of classroom teaching. As Thomas (2006) has suggested, one reason for favouring interviewing as a qualitative method lies in hearing from teachers themselves directly about their work.

Patton (1980) outlines three types of interview in qualitative research: 1) the informal conversational interview (where questions arise from the immediate context and there is no predetermination of question topic); 2) interview guide approach (also known as the semi-structured interview), where topics and issues are specified in outline form in advance and the sequence and exact wording are decided during the interview, and 3) a standardised interview (a structured interview where the exact sequence and wording have been worked out in advance of the interview so that the same questions are asked in the same order). I interviewed each teacher twice: once, in the form of a structured interview, before the series of three lesson observations and again, in the form of a semi-structured interview, at the end of the fieldwork period. The purpose of both interviews is summarised in Table 4.1.

Table 4.1 The purposes of each interview with the teachers

Interview	**Purpose**
One (before the fieldwork)	To ask interviewees about: a) Their career history and motivation for teaching b) Their views about good teaching in general c) The teachers' views about their own strengths in teaching
Two (after the fieldwork)	To ask interviewees about: a) Their views about the role of tasks in their lessons b) Their views about how they enact the curriculum c) Their views about their pupils' feelings about lessons

The questions of the initial structured interview addressed aspects of the teachers' practice in terms of their previous experience; their knowledge; how they felt about teaching and in terms of their long-term aims (see Appendix 1 for the interview schedule for the first

interview). By such a pre-scripted approach, I aimed to ensure that I had a complete set of data for each teacher and to reduce the effects I might have had as an interviewer (which I explain in the following paragraph). In the second semi-structured interview, I composed questions which addressed the concepts and relationships that had informed my theoretical framework whilst at the same time allowing the teachers to express themselves in their own terms. The questions were designed to gather insights from the teachers in relation to their work with pupils and the curriculum. In the second interview the initial prompts and the order of the questions were planned in advance in outline form, but the follow up questions and further prompts were not predetermined. In this way, I aimed to achieve comprehensiveness and a systematic approach to the data by enabling the interviews to be both conversational and focussed upon what mattered to the teachers about their teaching. See Appendix 2 for the interview schedule for the second interview.

It was important that the teachers had time and space to talk through how they made sense of their own teaching. Both interview 1 and 2 lasted an hour. Each interview was audio recorded and subsequently transcribed. I did not take notes because I wanted to establish and maintain eye contact with the interviewees and be fully present throughout. My aim was to convey to the teachers that I was not judging their teaching or assessing their effectiveness but was curious to hear about why their work was successful. I put the teachers at ease by ensuring that my manner was warm and interested and I was able to build rapport with each of the teachers quite quickly. This was especially the case in the final interviews because I had spent time in their lessons and so it appeared that there was a bond of shared experience between us. The teachers seemed to appreciate having their work valued and being asked their opinions.

The important concept of motive in the theoretical framework links to the phrase *what matters* that I used in some of the questions in the final interview. I adopted this term from Edwards' (2010) work on her three cultural-historical concepts of relational expertise,

relational agency, and common knowledge (summarised in Chapter Two), which I later used as themes to analyse the data I collected. The benefits of using that term in the interviews were two-fold: firstly, that the words did not represent any form of educational or research jargon and thereby cause confusion or a sense of exclusion in the participants, but instead were *quotidian* in use and meaning. Secondly the phrase has a cultural-historical etymology which recognises what matters in terms of individual need with a sense of authenticity in one's action and identity.

'What matters' was a focus of the second interviews and the teacher reflections that I discuss later in this chapter. A cultural-historical approach to motive is based in a collective notion of what matters to others as well as oneself within a particular practice. Its roots lie in the work of Leont'ev (1978) who offered a way of thinking about motive linked to action and activity. The terminology he uses when discussing motive, object of activity and object motive, were important elements in his efforts to overcome what he saw as a dualistic psychology that separated motives and societal conditions. His dialectical premise was that 'society produces the activity of the individuals forming it' (Leont'ev, 1978 p.7). The phrase 'what matters' helped me as a researcher to operationalise the relational dynamic when working in the field. In this way, the key to the dialectic between teachers and their teaching was what Leont'ev (1978) termed the object of activity, what it is people are working on.

The interview as a research method is not without its critics. Hammersley (2003) suggested that there may be an over-dependence on the interview method as a source of qualitative data and as a method to access the minds of the interviewees. The advantages of interviews can also lead to the challenges they pose: interviews need to be well executed in order that the complexity, detail and perspective of the interviewees is allowed to surface and that the intersubjectivity between the interviewer and interviewee is bridged (Ravitch, 2016). As a researcher the challenge then is to undertake the interviews well as an instrument tool and not to get so immersed in the process that the focus on its purpose - to collect good quality

data - is diluted in the moment. I decided to share the first interview outline with the teachers at the start of the interview to reassure them that the content to be covered would be familiar and in order to be open with them. Once the interview was underway very few even glanced at the sheet. I did not plan to share the second interview outline with them unless they requested it (none of them did so) because I did not want them to prepare anything for the second interview in terms of their thinking about the lessons that I had observed. This was because I felt that this might seem to be a practice similar to management monitoring of lessons in a school and I wanted them to approach their thoughts on their teaching with a mindset of their own choosing, that is, not to have to conform to expectations about how they should teach. I did not make any notes during the interviews but relied on audio recording to enable a full transcription to be made afterwards.

The most significant challenge to my methodology, however, lay with the content of the interviews themselves. The questions asked in the interviews might be interpreted as my espoused theory of teacher expertise, albeit drawn from theoretical concepts about teaching as a relational practice. An example of this is the question, 'How were tasks designed to make the curriculum meaningful for your pupils?' as part of the second interview where I was seeking to elicit their motives in teaching their subject. The question contained three important elements based upon my reading of the literature: firstly, from Doyle (2015) that 'tasks embody a teacher's understanding of the content as an educative experience. Task design and enactment, then, are at the core of the work of teaching' (p.xiii). Secondly, from Shulman (2000) that teachers are motivated by the 'social manifestation of the understanding' (Shulman, 2000, p. 132) and guard against illusory understanding and thirdly, that 'teaching is not something you do to people but with them' (McCulloch, 2020, p. 8). In responding to the interview questions, the interviewees and I may have assumed their answers were drawing upon their practice in terms of theories-in-use, defined as the theory that actually governs actions, whereas their responses may actually have been their espoused theory, that is, what they believe they ought to be saying in their school or wider

context. Argyris (1974) suggests that a theory-in-use cannot be learned by asking someone about it: 'We must construct his theory-in-use from observations of his behaviour' (p.7). As I have already explained, it was important that I both observed the teachers and interviewed them about their work in order to ascertain their theories-in-use. The observations enabled me to see the teachers' actions in the classroom so that I could identify whether or not the teachers put their espoused theories into practice. In this way my data analysis would reflect where there was convergence of theme and category across the data sets I had collected.

I now describe the way in which I undertook lesson observations and made field notes, and then address the third method of data collection, which was the teachers' own reflections on their teaching.

4.8 Lesson observations with field notes

Creswell (2018) distinguishes between four types of observer participation in the research setting: complete participant (the researcher fully engages with the people she observes); participant as observer (the researcher participates in the activity of the setting); observer as participant (the researcher remains an outsider to the group, and watches and takes field notes from a distance thereby recoding data without direct involvement with the people or in the setting) and complete observer (the researcher is neither seen nor noticed by the people under study). Cresswell (2018) also recognises that these types may be fluid during phases of observation. I attempted to act as an observer as participant during the lesson observations. In other words, I aimed to observe what happened naturally, minimising the impact of my presence upon the people present and how they behaved.

It was important to observe the teachers' teaching because it offered an opportunity to 'gather live data from naturally occurring social situations' (Cohen, 2011, p. 456). This was important because I was investigating a social practice - teaching expertise. I observed each of the participants' teaching, but my focus was not on evaluating the effectiveness of their teaching (by virtue of being in the study they were deemed effective teachers) but on

how they enacted the curriculum and worked with pupils through the tasks that they devised and presented to pupils in the lessons.

The teachers nominated up to three lessons for me to observe at any time during the ten-day fieldwork period. It was agreed that I would sit in a place in the classroom that they selected for me; that the lesson would be audio recorded; that the teacher could decide if and how to explain my presence in the room (most teachers introduced me but did not explain why I was there); that I would not approach or speak to any children in the room (if children said hello or smiled I responded in kind) and that if they wanted me to leave at any point they could indicate that by saying I was needed elsewhere (this did not happen). Two lessons did not take place because the teachers were unwell or called away and therefore not available during the agreed fieldwork period.

Observation as a research method has its challenges, some of which I experienced. The most significant challenge was that the direct observations of the teaching took up a great deal of time. This was a good investment, however, in terms of improving the quality of the data I was able to generate for three reasons. Firstly, it increased the validity of my data and thematic analysis because I used several methods to triangulate my data. Secondly, it built shared understandings between myself and the participants when we came to the second interviews because we had common ground should they refer to any of the teaching I had observed. Thirdly, as a researcher I attempted to create a positive discourse rather than focussing on the problems of teaching or the failures of teachers. Specifically, I had explained I valued their views on teaching and had introduced myself to the participants as a fellow practitioner and as such somebody who appreciated the complexity and significance of their work. I hoped to build trust with the participants, which would allow them to relax and not feel under pressure to perform or conform to a predetermined model of teaching in the observations or interviews, but instead enable them to be expansive when they shared how they made meaning of their experience of teaching**.** Table 4.2 provides an overview of the 25

lessons observed. Because two observations were cancelled, there were only two lessons each for Sally and Samantha as opposed to the intended number of three. All names used are pseudonyms to safeguard the anonymity of participants.

Table 4.2: Overview of 25 Lesson Observations

Teacher	Subject	Lessons		Tasks	Age of pupils
Amanda	French and Spanish	1		How to show what you know in a photo assessment	14-15
		2		Use of future tense	14-15
		3		Recall of learned vocabulary and linking to new and similar words	11-12
Val	Chemistry	1		Why there are trends in reactivity	13-14
		2		How and why does temperature affect rate?	15-16
		3		Properties of metals	13-14
Malcolm	English	1		How to remember using a story as an example	11-12
		2		How a play was constructed	15-16
		3		The role of themes in a text	15-16
Julia	History	1		Was the British Empire a force for good?	12-13
		2		Write a short essay	11-12
		3		How much did religion change under the Tudors?	12-13
James	Science	1		Respiration and photosynthesis	12-13
		2		Communicable diseases	14-15
		3		Impact of fertilizers on plants	12-13
Sally	History	1		To investigate reasons for a rebellion	14-15
		2		Explain the reasons for the decline in the cattle industry	15-16
Samantha	French	1		Construct imperfect tense	13-14
		2		Talk about a sport	11-12
Jane	Art	1		Self portrait	11-12
		2		Representation	13-14
		3		Tone	13-14
Mary	History	1		Why was it hard to assassinate Hitler	14-15
		2		Why was there an uprising?	14-15
		3		How did the Nazis control Germany?	13-14

I made field notes during the observations. Ravitch (2016) suggests that, ‘observation without field notes does not constitute data; it is only through the recording of activity through various stages in the field note writing process that observation becomes data’ (p.161) Field notes based upon observation have significant strengths: they are flexible and exploratory; can enhance validity because they can be considered as triangulated data, and support contextualised understandings because behaviour is seen in its natural setting (Ravitch, 2016). There are challenging aspects too, however. Observation is interpretive and selective and as such inferential. It reflects the researcher’s assumptions and biases, yet may be codified as unbiased and a true reflection of reality (Ravitch, 2016). The process of a disciplined and thorough analysis and triangulation against other data methods helps to mitigate against these limitations, however.

My observations were supported by three forms of field notes, drawing on Hall (2019): open unstructured comments about what I was observing, open structured observation where I used a prompt sheet of some key cultural-historical concepts (for example, what matters in the task; what matters for the pupil as a learner; the double move; conceptual resources; cognitive processes; interpret curriculum; motivated actions) to focus my attention on these aspects, and a closed structured approach to observation where I used a task design analysis sheet in order to note the elements of the tasks that the teachers presented to the class. Although it might sound difficult to complete the two proformas it was not, because each was well designed in itself and I was only completing one form at any one time because they each recorded something different from the other. The Task Design Analysis Sheet and Observation Prompt Sheet can be found in Appendices 3 and 4.

As planned, I audio recorded all of the lessons with one exception: in Julia’s second lesson the audio equipment did not work so I had to rely on my notes taken at the time. In general, my own field notes consisted of my interpretation of what seemed to matter to the teacher about the task in terms of how it was enacted, and verbatim notes of phrases used by the

teacher when they were explaining why the curriculum content, or the task was important to them or their pupils. The task analysis proforma supported my attempts to categorise the nature and elements of the academic tasks in the lessons using terms and concepts taken from the work of Doyle (1984).

4.9 Teacher Reflections

Although I had observed many teachers teaching and spoken to teachers about teaching in my previous work as a headteacher, I had not previously undertaken these activities for research purposes. However, with Professor Anne Edwards' permission I used for the teachers' reflections an adaption of an instrument called Action Activity Template (AAT) that I had previously used when I was involved with some research led by Professor Anne Edwards. The original research instrument was developed to gather evidence of how Directors of Children's Services (DCS) had fostered learning and built capacity in their organisations (Edwards and Daniels, 2012). This was subsequently adapted for use with family support workers (FSW) as part of their professional learning programme (Edwards, 2015b). For my research into expert teachers, I adapted the AATs to provide a structured reflection by which to support the teachers' articulation of what their aims were when teaching and what actions they took when teaching. I kept the layout and appearance of the written reflection the same as the original but changed the wording so that it reflected the activity of teaching (see Table 4.3). As such, these structured written reflections were designed with the intention to act in a similar way to the semi-structured interviews: their role was to stimulate the teachers to reflect upon their practice and what they chose to prioritise.

Table 4.3: Teacher Reflection

Activity Very briefly describe one everyday activity this week where you were aware that you were promoting learning in or for a lesson.	
Action What did you do during that activity, i.e., what actions did you take? You can mention as many as you like	
Aims What are the long-term aims behind how you worked with pupils in this activity? How do your actions in the activity relate to these aims?	

The design of this particular instrument is rooted in cultural-historical theory and Hedegaard's (2012) planes of analysis and links teachers' actions with aims. The structured reflection starts with a description of an everyday activity to avoid teachers beginning with a rationale for action and 'brings together practice, activity and actions to allow an exploration of connections between motives inherent in specific, everyday actions and longer term strategic aims' (Edwards, 2015b, p. 28). The forms of reflection the teachers used in the written reflections were akin to reflection-on-action, which Schön (1987) describes as the capacity of the professional to reflect on practice after it has taken place. The teachers were asked to complete an AAT after the act of teaching a lesson. My intention was that the way the prompts were structured followed the conceptual structure of the research focus in that rather than eliciting strongly held opinions the reflection sheets supported the teachers' articulation of their rationale for practice. As a tool it was designed to generate data for an analysis of motives inherent in the purposes of teachers' practices: how the teachers interpreted the possibilities for connecting motivated actions in activity settings such as lessons, and what actions they took.

I felt confident in the use of these structured written reflections because I had personal experience in a previous research study of their ability to 'reveal strong connections between micro-level actions and more macro-level organisational aims together with pedagogic style'

(Edwards and Daniels, 2012, p.29). I had observed that people in roles equally complex and people-oriented as teachers – DCS and FSW - had found the AAT simple and clear to use. Consequently, I did not think it would be an onerous task for the teachers (and therefore more likely that they would be fully completed) yet would generate good quality and highly relevant data.

Each teacher was offered 5 paper copies of the reflection sheets at the beginning of the 10 working days fieldwork period and asked to complete them as seemed appropriate during that time. They were advised that I would collect them at the end of the 10 days. Most teachers handed them to the school's receptionist and I collected them on the final day from her. Table 4.4 shows an overview of the returned reflections.

Table 4.4: Overview of returned reflections

Teacher	**Lesson**
Val	1. Year 9 Science 2. Year 10 Chemistry 3. Year 9 Science 4. Year 11 Science 5. Year 10 Chemistry
Samantha	1. Year 7 French 2. Year 8 French 3. Year 9 Spanish
James	1. Year 9 Science 2. Year 10 Science 3. Year 10 Science 4. Year 8 Science
Mary	1. Year 10 History 2. Year 8 History 3. Year 11 History 4. Year 11 History 5. Year 7 History
Malcolm	1. Year 10 English 2. Year 11 English 3. Year 8 English 4. Year 11 Media 5. Year 11 English 6. Year 8 English
Sally	1. Year 11 History 2. Year 11 History 3. Year 11 History 4. Year 10 History 5. Year 11 History
Julia	1. Year 9 History 2. Year 10 History 3. Year 8 Citizenship 4. Year 9 History 5. Year 11 History

Of a possible 45 reflections (9 participants with 5 reflections each), 33 were returned. Two participants did not complete reflections; one completed 3 and one completed 6 because that individual printed out his own paper copies.

4.10 Transcription

All the interviews were transcribed in full by a professional transcriber. The rapid and accurate return of the fully transcribed interviews afforded me more time to reread them whilst listening to the audio recordings. As a result, I felt confident that I was very familiar with the content of the interviews. I initially sent the recordings of two of the observed lessons for transcription, but much of the lesson was inaudible to the transcriber because the pupils were working in small groups. I decided not to have any further lesson observations transcribed because most of the other lessons observed also involved the pupils engaged with activities and so the sound was a general hubbub where distinct words were hard to identify. Instead, I focused my attention on the various forms of field notes taken during the observations, using the audio recordings as required to support my field notes. Given their structured format I did not transcribe the teachers' reflections but analysed the responses on the AAT using template analysis, a process that I will describe later in the chapter. The template analysis (King, 2015) was an extremely useful part of the process of understanding the reflections and I used the same process as part of my thematic analysis of all the data sets.

4.11 Coding my data: template analysis by concept

I began the thematic analysis initially daunted by the range of my data and the need to examine and interpret the data in the most meaningful way possible. It was at this point that I adopted a process called template analysis. The term template analysis was initially used by Crabtree and Miller (1992) and it has since been extensively developed by Professor Nigel King at the University of Huddersfield (King, 2012; King, 2015; King, 2020). Template analysis is a procedure for undertaking thematic analysis of qualitative data that is iterative

and flexible: ‘Template analysis is a tool for the researcher to say, ‘This is what’s interesting in the data’ and ‘These are the messages that the data is telling me’ (King, 2015). In adopting this as a procedure, the researcher does not approach the data using a ‘top down’ method of rigid examination using only pre-designed themes as developed by Miles and Huberman (1984) nor from a ‘bottom up’ approach - where all themes are emergent - such as Grounded Theory, developed by Glaser and Strauss (1967). Equally I decided that the phenomenological approach of Interpretive Phenomenological Analysis (IPA) developed by Smith, Flowers and Larkin (2009) would offer too detailed an examination of the world of each of my participants. I was looking for a broader approach to thematic analysis that could incorporate my theoretical ideas, practical issues and research aims.

As an approach, template analysis recognises that the researcher may bring *a priori* themes from their literature or from the applied nature of the field under investigation, but equally the researcher is required to be explicit about their methodology drawn from the theory, ontology, or epistemology that they bring to the analysis. This is critical because template analysis has no intrinsic methodology, in that it does not work from philosophical questions of ontology or epistemology. Unlike Grounded Theory it has no philosophical assumptions nor set methods of collecting data and unlike the very widely used approach to thematic analysis developed by Braun and Clarke (2006) it does not confine analysis to a three level structure of description, interpretation and evaluation. For my research, template analysis seemed to offer a way forward in terms of the thematic analysis of my qualitative data as part of my research methodology because I could align it with my philosophical assumptions about ontology and epistemology whilst working systematically and rigorously with the data.

The first step in template analysis is to read and familiarise oneself with a sample of the data to develop the first template that can draw upon a range of sources for the themes. I read the first interviews and, in the case of the reflection sheets, where participants were asked to record three levels of response on each sheet, I read each section in turn closely and

identified emerging ideas as to how teachers promoted learning when they taught. I then approached the data inductively and highlighted what was of relevance to my research interests. A first set of themes emerged in the form of questions with which to interpret the data. These questions were:

1. What do expert teachers interpret as expert about their own teaching?
2. How do expert teachers describe expert teaching?
3. What do expert teachers describe as their long-term aims for their practice?
4. What do expert teachers prioritise in their teaching?
5. How do expert teachers describe their work with pupils?
6. How do expert teachers describe their aims for their pupils?

I began to see some early themes emerging in relation to these questions and these formed the initial template (see Appendix 5). The sources of themes for the initial template were 1) these early themes from the first partial inductive analysis; the initial questions, reflecting the real-world and professional concerns of the thesis, and 2) a *priori* themes drawing upon Edwards' (2010) concepts of relational expertise, relational agency, and common knowledge. These concepts were reframed from Edwards' (2010) original application of two multi-agency professionals engaged in a complex common task, involving the trajectory of a child's wellbeing and safety, to one of teacher and pupil engaged in the complex common task of learning in a lesson. I then mapped these concepts out in order to show the relationships between each element of the activities of teaching analysed through this focus (see Appendix 8 and 9).

At this stage, I was looking for ideas about expertise in teaching expressed by the participants because the 'collective target' (Stake, 2006, p. 6) of this qualitative study was the practice of expert teaching. The process of analysis was not designed to understand

each teacher fully as nine separate cases, with individual narrative accounts, but what was held in common between the cases - the actions (a particular action) in their activities (an aspect of teaching, for example, setting homework or giving an explanation) in the practice of their teaching. The first template operated as a codebook for deductive analysis. The procedure I followed was to code bigger ‘chunks’ of text so that the context was available for the subsequent template development, rather than coding individual words or short phrases in a more idiographic approach. The process of template analysis is one whereby any number of subsequent templates are developed until a final version is arrived at. What is distinctive about template analysis is that whilst it is structured through hierarchical coding, the coding process is open ended, iterative and flexible, yet not so open-ended that the point of interpretation is never reached because there comes a point when conceptual synthesis develops, by which I mean certain key themes or categories.

As such, codes are applied and modified in an iterative and open-ended process until the final version of the template can be described as a map of what is important in the data and therefore ready for the ‘real work of interpretation and representation’ (King, 2015). After coding the interview and reflection data, I turned my attention to my field notes and used a similar approach to analyse them. The template analysis was a long process, lasting just over 8 months (see Table 4.5), but it enabled me to be systematically engaged with all the data and I became very familiar with it.

Table 4.5 Template analysis timeline

Date	Template	Data set	Thematic analysis by concept
14.1.2020	1	**Interviews**	What matters? Relational expertise Relational agency Common knowledge
17.2.2020	1a	**Reflections**	Teaching challenges Teaching strategies Teaching behaviours
6.3.2020	2	**Combined interviews and reflections**	Motives Demands of practice Response by teachers
16.4.2020	3	**Combined interviews and reflections**	What matters to teachers? How teachers enact the curriculum How teachers work with pupils
3.8.2020	4	**Field notes**	Type of task Type of teaching Activity by teacher Activity for /to pupil

4.12 Thematic analysis across concepts

Ravitch (2016) points out that rigour in qualitative research encompasses a variety of concepts, considerations, and actions. A researcher develops a research design that seeks complexity through sequencing of methods and the mapping of research methods onto the guiding research questions, which in my case were:

1. What teaching actions do expert teachers use in their work?
2. How do expert teachers work with the space in relation between their pupils and the curriculum they teach?
3. What concepts mediate the practice of expert teaching?

The style of thematic analysis I adopted brought me to the point where I was ready to interpret the data and to decide how to report my findings. I began the process by revising everything I had written, making notes and then drawing mind maps on large wall charts in my study. An overall theme emerged from this analysis, which I discuss in the next three

chapters: to understand how teachers use the actions of teaching to bring their pupils and the curriculum into a metaphorical relational space.

4.13 Conclusion

In this chapter I have considered how my research questions were framed and how I developed a paradigm, ontology, and epistemology in order to address them. I also described the methodology and methods I used including some issues related to the quality, trustworthiness, rigour and ethical conduct of this investigation. I then describe the approach I took to the thematic analysis of the data I collected. I felt it was important to report my findings by devoting a chapter each to the concepts that emerged from my investigation of what mattered to these 9 expert teachers: subject agency (Chapter Five), relational space (Chapter Six) and future agency (Chapter Seven). This also enabled me to provide insights into the current debates about how teachers should teach, and to examine the culture and history of expert teaching. In Chapter Eight I discuss the meanings and relations I developed between my findings and the theoretical framework (Chapter Two) and literature review (Chapter Three) in terms of the research questions. To fully address my research questions, I realised an important next stage was to bring my analyses of these emerging concepts of subject agency, relational space and future agency together using the themes of teaching actions; relational teaching and motivated actions to compare them, which I do in Chapter Eight. Towards the end of Chapter Eight I focus on the contribution to knowledge offered by this thesis, which relates to the role of the following elements in the activities which make up the practice of expert teaching:

- the motives of subject and future agency
- the teaching process of metacommentary
- the metaphor of relational space.

Chapter Five Subject Agency

5.0 Introduction

In this chapter, I discuss my findings by introducing the first of three concepts I have developed from my data: subject agency. I drew upon theoretical frameworks developed from Hedegaard's (2012) double move and Edwards' (2010) relational type of expertise (derived from relational agency and common knowledge) to analyse the teachers' motives and developed three concepts about expert teaching: subject agency, relational space and future agency. Examination and analysis of the relation between what mattered to teachers and how they chose to teach affords new knowledge about expertise. Such new knowledge is not confined to procedural or declarative knowledge, as found in current policy frameworks such as the Teachers' Standards (2011), Core Content Framework (2019) and the Early Career Framework (2019), but as knowledge developed in relational terms, that is, judgement drawn from the underlying principles of their expert practice. I will argue that my analysis of the data suggests that what mattered most to expert teachers was wanting their pupils to develop subject agency. Subject agency takes the form of actions motivated to develop pupil agency in relation to the subject-matter of the curriculum. In this chapter I describe the actions the participant teachers took as a feature of their expertise to bring about such subject agency.

I discuss my initial coding and how that led me to understand teaching expertise as an enactment of knowledge within a social practice. The expert practice involved relational activities, which themselves can be interpreted in terms of the actions taken by teachers when they work with their pupils to bring them in relation with the subject-matter of the curriculum. Finally, I conclude by summarising insights gained into expert teaching. The remaining two related concepts, relational space and future agency, will be addressed in the two chapters that follow.

5.1. Analysis of data: initial coding

Teaching actions themselves are not ‘ raw behaviour’ (Addis, 2019, p. 29), but have intention - that is knowledge that can be articulated. The data collected from the interviews, observations and field notes, and reflections took the form of the sharing of such knowledge; what mattered to the teachers when they were in the act of teaching. I analysed the data using the process of template analysis as described in Chapter Four. Table 5.1 sets out and explains the coding at which I eventually arrived though the process of template analysis.

Table 5.1 Coding developed through the process of template analysis from interviews with and reflections of expert teachers

Source of data	Coding
First interview	Teaching activity How demand is presented to pupils
First interview	How I show I care
Second interview	How the teacher sees the subject How the teacher enacts the subject-matter content
Second interview	Aim Actions
Reflection	Types of tasks
Reflection	Teaching strategies and activities
Reflection	Aim/motive

The coding I developed led me firstly to analyse teaching in terms of how teachers enact knowledge within a social practice. The concept of enactment - the extent to which teachers align their teaching decisions with the design of a curriculum (Doyle and Rosemartin, 2012), afforded analysis of the practice of teaching as relational - the ways in which the teachers align their teaching actions to the pupils and the subject-matter of the curriculum. In such relational activity it mattered to the teachers to:

1. Recognise the importance of the everyday knowledge pupils bring to their learning in lessons

2. Develop their own knowledge of the everyday knowledge pupils bring to learning in lessons, and as a result
3. Use such knowledge to work with pupils in the lesson.

This level of analysis was then further developed by use of the concept of relational agency to analyse how a teacher works together with their pupils to respond to learning in the lesson. This then enabled me to analyse the activities of teachers 'down a grain size', that is, to identify the more specific actions taken by the teachers.

5.1.1 The enactment of knowledge as a social practice

In this section I consider the teachers' motives and what actions the teachers prioritised to develop the agency of their pupils.

The next stage of my analysis was to summarise my interpretation of the data collected. This summary of data was central to the development of my findings concerning the nature of teacher expertise, which were that 1) teaching expertise is relational, 2) concerned with the agency of pupils and 3) manifested through the actions taken by teachers. For example, teachers in general may refer to children becoming independent learners. However, the aims articulated by the teachers in their interviews went beyond independence. By way of illustration, Jane explained that what she believed mattered to her pupils was how they would be able to act as a consequence of the activities in the lessons, 'they (the pupils) felt that they could make some independent progress. That whatever I showed to them, talked to them, demonstrated to them that they could then take it forward themselves.'

The difference between independence as an aim – pupils working in a lesson *by themselves* - and agency – being motivated to work in a lesson *for themselves* - appeared significant. The preposition 'by' emphasises the agent as the do-er, someone working alone, whereas the use of the preposition 'for' implies pupils are in relation with, and also expresses the pupils' responsibility for, the activity in their task. For example, Jane explained that her aim in teaching art was, 'I really want them to have discovered something that they've done for

themselves: when the pupils are able to say, 'I didn't realise that I could do it' or 'Oh look what that does'. I want them to be able to say to me that they now know how to do something they couldn't before'. In Table 5.2 below Column 1 identifies the data source, and in the third column the categories I developed (in bold) in terms of what teachers prioritised in their practice.

Table 5.2: Summary of findings

Source of data	**Prompt for teacher**	**My interpretation of responses**
Initial interview	What do really good teachers know? What are they able to do?	**Teacher expertise** Not just about subject knowledge but how pupils work with school curriculum **How expertise is demonstrated** Teach to the level of someone who does not 'get it' **Expertise as a teaching process** 1. What pupils will think about 2. Pick out key parts 3. Strip down and layer up 4. Make the complicated accessible 5. Decode 6. Make the process explicit
Initial interview	What is it about your teaching that you think is really skilful? What are the most skilful elements or aspects?	**What teachers say to pupils to bring them into a relationship with the curriculum** 1. This is important 2. This is interesting 3. Mutual investment/exchange/I care that you get it 4. We both have fun/laughter 5. Giving/shaping 6. The tone and initial hooks 7. Get a good deal – I will teach the group and individuals in different ways 8. I recognise you are human – won't expose you for bad behaviour 9. How I frame errors so you want to carry on

Second interview	How were tasks designed to make the curriculum meaningful for the pupils?	**Teachers' view on the contribution of their subject to the curriculum** 1. To educate pupils about important aspects of human experience 2. To support pupils' future agency 3. The contribution of the subject to the world or to global issues 4. That pupils can be shaped by the subject 5. That the subject is important to pupils in their lives outside school **Teaching approach adopted** 1. Key concepts are presented and revisited in increasing complexity 2. The importance of acquiring and retaining knowledge 3. The subject is taught via conceptual connections 4. That pupils think 'in' the subject
Second interview	What mattered to you about the tasks in your lessons?	**Long-term aims** 1. Moving pupils towards doing the task themselves 2. Moving pupils towards being able to complete the task correctly when being formally assessed. **The teaching processes** 1. Pupils grapple with/get to grips with/piece together aspects of the subject-matter 2. Pupils express the subject-matter in the curriculum in a final written form 3. The skills of representing the subject-matter in writing and speech are developed alongside the concepts 4. Tasks are designed to act as building blocks in this process
Teacher Reflection	Very briefly describe one everyday activity where you were aware that you were promoting learning in or for the lesson	**Tasks** Designed **before** the lesson in relation to subject and pupils 1. Question and answer 2. Recap – to summarise 3. Recall – to remember

		4. Write, expressing own ideas
Reflection	What did you do during that activity, i.e., what actions did you take? You can mention as many actions as you like.	**Teaching strategies and processes used to make tasks work** Teacher responds **in** the lesson to pupils **Model** 1. Teacher led 2. With teacher assisting **Teaching process** 1. Teacher makes a process explicit 2. Teacher connects two ideas 3. Teacher uses pupil input **Tool** 1. Role of an artefact 2. Role of an activity
Reflection	What are the long-term aims behind how you worked with pupils in this activity? How do your actions in the activity relate to these aims?	**Teaching challenge has 4 aims** 1. Think in/with the subject 2. Practise a process 3. Use or apply knowledge 4. Love and value the subject **Subject agency:** **Self-driven** To do something with the knowledge themselves (mastery/control) **Respond to demand from external drivers** 1. To replicate an answer in the required form 2. To be able to replicate the model

This content of Table 5.2 shows the long-term aims of the teachers and how these were reflected in the actions they took. Taken together, the aims over time and the actions formed from them in the moment were the basis for the know-why of the teachers. In other words, the contents of Table 5.2 led me to consider the higher order procedural knowledge of the teachers as knowing why they chose to take action. The teachers prioritised the actions of their practice towards a notion of pupil agency whereby the pupils' capacity to act, sense of agency, exercise of agency and the sense of affordances to act (Wyse, 2021) stemmed from

within themselves, but specifically arose from what they had learned from previous teaching. For example, Julia explained,

> There is some knowledge, such as Nazi Germany, which I just think is so fundamentally important that people should know about it. I try to use captivating stories and interesting details to encourage them to come back again and again to that knowledge. But I also include activities such as debates and discussions to encourage them to analyse the knowledge and think about it and to listen to each other. But ultimately, I want them to be able to come up with their own judgements. I think it matters to them that they are learning historical knowledge, but I also want something to happen for them – that they are experimenting with their thinking.

Here Julia can be seen to prioritise the agency of her pupils and their relation with the subject-matter of the curriculum independent from their interactions with it through her.

Having considered the teachers' priorities in their actions to develop pupil agency, the next section considers how teachers conceptualised their teaching in terms of pupils' relation with the school curriculum.

5.1.2 Teaching as a relational activity

In this section I describe how the long-term aims of the teachers influenced the way they presented the tasks they had designed to their pupils. When I asked what mattered to them about their teaching the teachers' first responses addressed their desire for pupils to engage with the subject-matter of the curriculum. For example, Julia explained that her aim was to enable her pupils to 'see history as a debate'.

In the interviews, all of the teachers spoke of two long-term aims, which in turn mediated their teaching. Firstly, they had the long-term aim to move the pupils towards doing an activity, task, or process by themselves under assessment conditions: that pupils are able to

do something with the knowledge by themselves. Secondly, to recognise and respond to what matters to themselves about the subject they are teaching.

The teachers recognised that a necessary outcome of schooling for pupils is success in summative assessment (and one by which teacher effectiveness is measured) and that pupils need to be equipped to do well in external assessments. Teacher actions were influenced by summative assessment, which could then also be identified in terms of the actions taken to attend to the extrinsic motivation of pupils. For example, I noted that Sally explained in a Year 10 History lesson when she was talking about how to structure a 12-part answer in an exam: 'You won't get 10 plus if you don't give your own reasons'.

Analysing the teachers' motives, it became clear that whilst they were very aware of the importance of the demands of the assessments that lay ahead for their pupils they also juxtaposed these assessments with what mattered to them as teachers of a subject. For example, Samantha explained her teaching aim as 'to promote and reinforce good pronunciation in modern foreign languages (MFL) so they can get the best marks at GCSE for intonation and clarity of communication. However, it matters to me that they can pronounce words accurately and close to a native speaker's speech'. Each teacher spoke of the ways in which they managed their motive orientation, that is, the relation between their own motives and the demands made of their teaching by the education system. They were clear that it mattered to them that their pupils were able to work with the subject-matter of the curriculum in their lessons (so that they were prepared for the demands of assessment) as an object of activity, but also in terms that mattered to them as the teacher about what was important about the subject. For example, Val explained her actions in a Year 10 Chemistry lesson: 'The specification for the exam tells me to teach them about 'cracking' and why. However, they brought up some really valid points on whether this was an ethical practice. I opened this discussion up as it's important and I was pleased they were really thinking deeply about this problem.' This shows another interesting aspect – that teachers have their

own sense of what's important in their subject and they mediate between this and what is required by the assessment for the benefit of the pupils.

The teachers' motives ran deeper than measures of teaching expertise used elsewhere, such as the extent of their teacher subject knowledge or success measured in terms of examination assessment objectives, and their motives mediated how the teachers presented the subject-matter. Typically, a teacher's subject knowledge has been regarded as their core expertise and current policy developments in England (for example, the focus on the rewriting of both the school and ITE curriculum to know more and remember more (Ofsted, 2021; Ofsted, 2018a; Ofsted, 2018b)) have emphasised the knowledge of the school curriculum, but the motives of the teachers surfaced here imply a different significance afforded the subject they teach; that the pupils loved and valued the subject. As Jane explained, 'It's really important to me that every child leaves my lesson feeling they've achieved something of value to them and that they enjoy learning (the subject) enough to give something a try successfully or not, the following week'.

These teachers interpreted good teaching in terms of the pupils' relation with the knowledge of the subject being taught to them as agency, rather than solely in terms of efficient recall of such knowledge. It mattered to them that their pupils were able to use the knowledge for themselves. This aim was taken up, for example, as an activity intended to develop intrinsic motivation on the part of the pupils, which Val explained as her aim for a Year 9 Science lesson as, 'I hope to get across the reasons to learn and understand some of the more abstract concepts we are covering.' The teachers also wanted to recognise and respond to what mattered to themselves about the subject they are teaching. For example, Sally explained this as, 'My long-term aim is to get them to see that content is only the first step'. Thus, the expert teachers focussed on a second, more personal, object of activity – what learning the subject itself could mean to pupils as humans and how to enable them to relate to the subject in this way.

Thus, in Table 5.3 I show how I was able to identify four broad practice priorities of the expert teachers: motive, demand, response and messages that gave rise to their teaching activities.

Table 5.3: Four priorities of the practice of expert teaching and the associated activities for pupils as part of the practice of expert teachers

Priority	**Purpose of Teaching Activities for the Pupils**
Motive: (what mattered to the teachers about their teaching)	To do something with the knowledge themselves
Demand: (how the teachers made sense of their teaching)	To be able to replicate an answer To be able to answer in the required form
Response: (how the teachers enacted the subject-matter of the school curriculum)	Thinking in /with the knowledge Practising a process Using or applying the knowledge
Messages: (what teachers communicated to pupils about their teaching)	Loving and valuing the subject

Overall, the subject-matter of the curriculum was very important to the teachers. The aims underpinning their teaching reflected the importance the teachers afforded the subject-matter of the curriculum, which went beyond efficient recall of declarative and procedural knowledge by the pupils. Their teaching actions were designed to bring pupils into relation with the subject-matter of the curriculum

5.1.3 Teaching actions

Long-term aims influenced the activity of teaching of the curriculum because they influenced the way in which the teachers acted in response to the pupils in a lesson, and to the pupils' developing relation with the subject-matter of the curriculum in a lesson. During my fieldwork I had noticed and recorded how each of the teachers spoke in their lessons to achieve their long-term aim of deepening the direct relation between the pupils and the subject-matter. What emerged from this step in the analysis of the data was a series of activities of teaching

as forms of teacher talk, each of which had a specific underlying intention. The expert teachers responded in their practice to be able to focus on their aim of the relation of the pupils with the subject-matter of the curriculum. In Table 5.4, I summarised this talk into five forms: personalisation, explanation, sharing rationale, responding and acknowledging (in Column 1) and provide examples of each talk from the data (in Column 2). I then considered how these actions I had observed and recorded in my field notes related to the teachers' comments about what mattered to them as articulated in the second interviews and describe them as a teaching activity (in Column 3).

Table 5.4: How teachers used talk to connect pupils with the subject-matter of the curriculum

Teacher talk (observed in lesson) as action	**Example of teacher talk (taken from field notes)**	**Why it matters (Interview Response) as a teaching activity**
The teachers personalised the subject-matter	'You are right, with a small difference'. (Followed by an explanation of the difference between boule and petanque.) (Samantha)	This might be seen by the pupils as the teacher being prepared to deviate from their plan in order to meet the individual needs of the pupils, that is, to ensure the pupils 'got it'
The teachers explained the abstract concepts of the subject-matter	'You've got to think of them like a glue in the planes of atoms' (Val)	The teachers saw this as the key skill of a teacher and it related to the core elements of the role and identity of the teacher, that is, that a teacher communicates and a teacher connects pupils to the subject.
Teachers made their own rationale for tasks explicit.	'This is the type of question you would be asked about.' (Val) 'I don't need a literal word for word recall of the vocab, but I want you to think about the strategies to help you work it out when you are unsure'. (Amanda)	Teachers know why the tasks they asked pupils to undertake are worthwhile, that is, why they mattered to the teacher and why they would matter to the pupils' future and subject agency. Teachers explained the rationale to pupils throughout the lesson in the form of a metacommentary explaining what they were doing.
Teachers interpreted pupils' activity in the lesson through	'Now who can tell me why she has told me	This feedback to pupils had the aim of advancing from the key

the form of reading and responding to what pupils said in the lesson.	that? [an answer to a question] This step in the respiration process is the one we're interested in.' (James)	concepts in the subject towards the pupils' everyday knowledge and extending pupils' everyday knowledge towards the key concepts of the subject and was the key means by which pupils and the subject were connected whilst the lesson was underway.
Teachers acknowledged the effort made and required by pupils to participate in the lessons	'Is a narrative account a story? We need to talk about this because not everybody understands it. A narrative account is how one thing leads to another, not just telling a story, but causal factors leading to events. What leads to what. Your use of connectives then is really important.' (Sally) ' I believe we will know everything we need to know [to answer an exam question)] by the end of 8 hours' (Malcolm)	In taking this action, teachers built the connection between themselves and pupils and this act worked to build trust in the teacher by the pupils: pupils felt safe to trust the process of taking part in the lesson as a pupil because the teacher acknowledged that the practice of being a school child in a school lesson carried emotions.

It was at this point from my analysis of the motives of the teachers in terms of how they work with pupils in the lesson that I developed the concept of subject agency, which I defined as a type of agency whereby pupils are able to work with the subject-matter of the curriculum for themselves. In the next section I examine three of the elements of teacher activity practised by teachers to develop subject agency by pupils: working with pupils in lessons; responding to pupils in lessons and working with knowledge.

5.2 Working with pupils in a lesson

First, teachers recognised that learning in lessons in school required effort of pupils and as such made demands on pupils. Val, for example, encouraged her Year 10 class to, ' Try and drag it out of your memory'. In aiming to develop subject agency, the teachers acknowledged the effort required of pupils in such a process of learning and were mindful of

how to work with pupils so as to enable them to respond to the aim of the teacher. For example, in my field notes during one lesson observation I noted: 'The pivotal and high-risk moment in each lesson seems to be when Amanda stops talking and the pupils start to do the work. If Amanda keeps talking she maintains control but she wants to be able to hand the work over to the pupils whilst making sure the pupils keep thinking and talking about the subject-matter all the time'. The aim for subject agency that the teachers had for their pupils gave rise to a set of demands arising from their pupils, which teachers recognised they then had to address in their practice. All of the teachers articulated that what was demanding for pupils in the complex problem of learning in a lesson became part of the demand made of their teaching. In Table 5.5 I set out in Column 1 the factors the teachers said were key demands made on the teachers when teaching in terms of their aim for subject agency, and in Column 2 some examples of the verbal messages I observed the teachers give in their lessons to encourage pupils so as to minimise the impact of those demands. For example, as in the pivotal moment in each lesson when the teacher looks to the pupils to undertake the tasks of the lesson, an explicit instruction 'to pick up your pen' acted as a metaphor for the shift of responsibility for the work in the lesson now resting with the pupils.

Table 5.5 Actions taken by teachers as verbal responses to the challenges presented by pupils to the teacher aim of subject agency

Object of activity (In demands in the teaching process the teachers identified in their interviews)	**Teacher actions (In the form of verbal responses by teachers to their pupils observed in the lessons)**
Starting the task	'Pick up your pen' (Samantha)
Pupils' conceptions of self as learner	'You need to be able to do this yourself' (Amanda)
Pupils need to grapple with the task	'Nothing worthwhile is easy' (Jane)
Continuing to learn	'Keep going – you're getting there' (Val)

Table 5.6 below shows how all of the teachers identified the teaching skills required of them so that they were able to respond to their motive to develop subject agency on the part of their pupils. The demands that subject agency makes of the practice of teachers can test the skills of the teacher managing a class of adolescents and the individuals who make up a

class. For example, Amanda explained, ‘I come at each lesson with an understanding of the difficulty that pupils have with concepts and use that when I talk to them about how I will help them so they can do it’. As such, the teachers recognised that the demands they made of themselves to develop subject agency in their pupils could lead to low level disruptive behaviour by pupils wishing to avoid the challenge of engaging with the subject-matter for themselves and took that into account in their actions. We can infer that the teachers’ motivated actions in terms of subject agency are not concerned with making the work easier for pupils so that pupils are able to complete tasks. Rather, relational agency – how the teachers take action to work with pupils in the lesson – is the resource for the actions that teachers use to achieve what they value in the subject-matter of the curriculum. Amanda began one lesson by explaining the nature of the challenge of one type of question they would encounter in their future exam: ‘We need to make sure that this is the component we’re really, really good at because this is the one question we can’t prepare for. And when I say we can’t prepare for it, you can learn the vocabulary that will help you prepare. But you can’t prepare for it because you won’t know exactly what the photo is you’re going to get and that’s the issue, okay?’

Table 5.6 :Response as an activity by expert teachers

The responses of teachers to the demands of pupils on their practice	**Examples from the data**
To keep pupils on task	‘Does anyone have any questions?’ (Malcolm) ‘Is anyone struggling with this task?’ (Jane)
To connect present learning to learning past and future	‘ You will find this activity useful next week when…’ (Amanda)
To gain and maintain pupils’ cooperation	‘ What I want to see from this group is’ (Sally)

Whereas interpretations of teacher agency typically illuminate how a teacher engages with the evidence and policies of the system within which they work (Priestley, 2015), relational agency illuminates the ways in which teachers take action when they teach. Unlike concepts

of relational pedagogy that articulate a desire for the teaching to incorporate co-creation with the learner on the basis of relationships (Bovill, 2020), the expert teachers do not see pupils in an equal responsibility towards the learning in the lesson because the weight of responsibility for the complex problem of learning in a lesson rests with the teacher as the adult in the relationship. For example, Malcolm, in a lesson on *An Inspector Calls* asked the class to complete a timeline so they could see the historical context of the play and, as pupils offered key dates he justified the task: ' Right.Now the reason why it helps. Listening? The reason why it helps to view this play on a timeline is to do with a particular dramatic technique actually. A particular thing that Priestley is able to do because of the way he has structured his play in the setting of the play. So that's interesting because he has set his play in the past, right, enabling him to use what dramatic technique?' Pupil: 'Dramatic irony'. In Table 5.6 the three responses deployed were necessary for pupils to develop subject agency, and as such contribute to the way in which teachers work with their pupils, which together with knowledge of their pupils and the curriculum (that I examine in Chapter Six on relational space) forms the relational expertise of teachers (that I examine in Chapter Seven on future agency).

5.2.1 Responding to pupils in a lesson

The second category of teacher activity took the form of actions to adjust and adapt tasks in recognition of the motives of both teachers and pupils. Whereas the ability of the teacher to respond to what happens in a lesson has been conceptualised as adaptive expertise (Ericsson, 1993; Bransford, 2005), all of the participants identifed that prioritising responding to pupils in the lesson facilitated the development of subject agency by the pupils. For example, Sally explained to a pupil who had answered a question in the lesson: 'Je is I. So you see how you went from, 'I didn't get that one,' to giving me an answer. Do you see what I mean? If you haven't got it, improvise, go for it. What's going to be the worst that happens, (child's name)'. Pupil: 'You get it wrong'. Sally: 'You might lose a mark but if you don't try you definitely get a zero.' The tension represented here is that the aim of the

teacher is to shift responsibility about the subject-matter to the pupil over time and in terms of the future and via the process of what is challenging when mastering this in the past and present.

In Table 5.7 I summarise the three types of personal experience I observed teachers using. None of the teachers regarded their pupils as *tabula rasa,* nor did they only interpret their pupils' knowledge as to be measured against assessment objectives as 'starting points'. Rather they recognised that incorporating lived experience as a means for motivating pupils and building their connection to the teacher underpinned their long-term aims for them to learn the subject-matter. For example, Sally told her class about her own experience of learning a foreign language: 'You know when I came to England I had a degree in English. But I realised that when I came and lived here that there are words that I didn't know. And I remember that one of them was lampshade. I didn't know lampshade and I went to a shop and I said, 'Do you know the thing like the bulb not the bulb but the thing that covers the bulb. And I managed to buy a lampshade without saying the word.'

Table 5.7 How expert teachers spoke about lived experience in lessons in order to extend pupils' personal everyday knowledge to the general laws and abstract concepts of the subject matter

Lived personal experience	**Examples from the data**
Teachers told stories from their own life experience	James spoke about his experience of conducting experiments as a research scientist.
Teachers used examples or imagined examples from the pupils' life experience	Malcolm used examples of film characters to explain how a reader responds to a text.
Teachers told stories about life experience in the form of analogies and metaphors	Amanda told stories of celebrations of events across different cultures.

Overall then, subject agency hinges on how the teacher interprets the subject as it is represented by the school curriculum and aligns that with their aim for pupils' understanding, such as when pupils are able to deploy or apply the knowledge and skills themselves, rather than the ability to recall knowledge when prompted by an assessment designed to measure

outcomes as a test of the system. In one of my journals I wrote, ‘The teachers are focussing their lessons on understanding the content of the lessons, not knowing facts to be able to recall them.’ All of the teachers adopted a longer term perspective of their teaching in terms of pupils’ future selves, a ‘bigger perspective’ to the conceptual subject that they taught (which I examine in greater detail in Chapter Seven on future agency) which in my journal I described as, ‘The teachers are working to get the pupils to care about the knowledge they present in the lessons; the process they are going through in the lesson in terms of why and where this lesson leads.’

5.2.2 Working with knowledge

The third category of teacher action to bring about subject agency was how they enacted the double move; that is, how teachers acted to present the subject-matter of the curriculum in terms of the pupils’ everyday knowledge and the general laws and abstract characteristics of the subject (Hedegaard, 2005).

In Table 5.8 below, I summarise how, in the interview, teachers said they worked with pupils and aligned this with actions I observed during the lesson observations. As such, this was summmarised in the form of the following four teaching activities: 1) Key concepts presented first, with detail added over a long period of time, 2) Teachers extended the everyday knowledge of the pupils and advanced from the key concepts, 3) New knowledge introduced by connecting it to previous knowledge or everyday knowledge and 4) Tasks present pupils as requiring use of syntactic knowledge - the ways of thinking and representing that are expected of experts in the subject (Edwards, 2015). The teachers’ activity was mediated by the conceptual structure of their subject. As such, the teachers designed activities and tasks to bring pupils into a relationship with the key concepts.

The perspective that informed such planning was also over a longer time frame: deconstructed; revisted and through increasing complexity. All of the teachers considered their activities in relation to the length of time the pupil would study the subject in the school,

in this case at least 5 years rather than an instance of an individual lesson. As such, lessons and the activities therein were developed within the longer term perspective of the conceptual structure of the subject.

Table 5.8 : How expert teachers used talk to align what matters to them about the subject with what matters to pupils about the process of learning

Teaching process	Example	Type of teacher talk
The key concepts with which pupils will be grappling	‘ I am encouraging them to work through a problem, and promoting working out and crossing out and adjusting to get the right answer.They started off being quite down as they couldn’t solve it by looking at it but soon got into a process and were self suffcient.’ (Val)	Task presentation
Explained in simplest terms or via familiar terms	‘ I explained the life of King Harold but relating the situation to their own brothers and sisters. I wanted to make the point that people in medieval times were still people like us and to try to understand what Harold would want as the next King.’ (Sally)	Use of key terms
Biggest concept or simplest idea presented first	‘ I asked them to use a UV moisturiser and they shook hands then washed hands and then made the link to spread of disease to explain the nature of pathogens.’ (James)	Use of key concepts represented by the task
The aim of the task made explicit	‘ I explained why I love the topic and try to get across the beauty of it.’ (Val)	Use of meta-commentary

The use of everyday knowledge in the form of the teachers’ and pupils’ lived personal experience mediated the relational aspects of teaching because it worked to enrich understandings and the pupils’ practice as learners. In Table 5.9 I summarise the actions the teachers took in relation to the abstract laws and characteristics of the subject-matter of the curriculum. In bold I describe the four approaches the teachers adopted and then the specific purpose underpinning their talk. Whilst the teachers had not been informed of Hedegaard’s (2005) concept of the ‘double move’ by me at any time during the research period, it appeared to me that it was this concept that best encapsulated how all of the

teachers described their practice and the intended effect of their actions upon their pupils to enable them to be increasingly accurate and detailed in their work.

Table 5.9 : Teaching actions with the aim of enabling pupils to engage with the abstract characteristics and general laws of the subject

Teachers insisted upon	**Teachers rejected**	**Teachers expected**	**Teachers highlighted**
pupils used technical terms	answers that contained elements of error	answers to be analytical - that pupils were aware of the abstract characteristics and general laws of the subject when constructing their answers	that they wanted pupils to think and demonstrate their ability to think in the manner of someone who represented the subject - like an historian , like a writer etc

In this section, an overview of the data from which I generated the concept of subject agency was provided. I now conclude by briefly discussing how the concept of subject agency adds to our current understanding of expert teaching.

5.3 Conclusion

We can infer that what mattered to teachers was that the pupils developed their own practice as learners of the subject-matter of the curriculum. To achieve this they focussed their practice on both how they worked with the pupils in their lessons and how they handled the ideas their subject represented on the curriculum. The actions taken by the teachers were motivated to shape the practice of pupils as learners, which itself was mediated by their aim to develop the agency of the pupils. Hence what mattered to the teachers can be summarised as that the practice of the teachers was shaped by how they conceptualised the practice of the pupils as learners in relation to the subject-matter, and this mediated the actions they took within the activities of their teaching.

My analysis of the findings suggests that teachers use teaching activities to bring their pupils and the curriculum into a relational space, which I explore and analyse next in Chapter Six: relational space. The activities of the teachers focussed *both* upon pupils working with knowledge *for* themselves developed via an intrinsic motivation for the subject-matter of the curriculum and that pupils are able to work *by* themselves to succeed in an assessment activity of the subject-matter.

From these findings I identified subject agency as a distinctive aspect of expert practice, which surfaced as teachers spoke and reflected upon what mattered to them in their teaching. I developed this concept from aspects of the data I collected where teachers spoke of their aim and practice. As such, subject agency can be understood via:

- a long-term aim of the expert teachers to move pupils to agency
- the practice of expert teachers in taking pupils through processes of working with key ideas from the subject.

The first of these, the moving to pupil agency, was the strongest recurring theme throughout the interviews and the reflections. Secondly, the practice of teaching for conceptual understanding and the implications this had for how teachers sequenced their lessons over time was also strongly evident in the data.

Chapter Six Relational Space

6.0 Introduction

In this chapter, I discuss my findings by introducing the second of three concepts I have developed from my analysis of the data: relational space. Relational space is a metaphor to describe the function of the design of teaching activities that can lead to pupil agency and which is taken up in a form of teacher talk, which I termed the metacommentary. The concept of relational space arises from the motives of the activities and actions of the expert teachers to develop a social and cognitive space between pupils and the subject-matter they are being taught by the teacher. Finally, I conclude by summarising insights gained into expert teaching.

6.1 Teaching the subject-matter

Table 6.1 and the accompanying text sets out and explains the coding used to analyse the data from which the key themes were developed of social (the human processes and connections between teacher and pupils), cognitive (the processes and connections developed with the subject-matter of the curriculum), and relational (the processes and connections between the pupils and the subject-matter of the curriculum) activities.

By deploying the analytical concepts of relational agency and common knowledge first developed by Edwards (2010), I identified that an action taken by teachers - a use of talk in a form I term metacommentary (first mentioned in section 5.1.3) - was part of the practice of relational teaching, which had the aim of creating a cognitive and social space: relational space. In other words, the teachers used a metacommentary to make their teaching rationale clear to pupils. In this way the expert teachers' understanding of the child's thoughts (Tharp and Gallimore, 1993) mediated their design of tasks. In metacommentary, using their second-order procedural knowledge, the teachers shared their rationale for the tasks in the lesson and how this would enable pupils to achieve what mattered to the expert teachers. For example, Amanda, after explaining to a class that the task was to answer questions in the future tense, asked 'What am I asking you to do here? Why am I asking you

to do that?' followed by her explanation of why the task would be useful as part of the process in mastering that skill. Val, when asking pupils to draw a diagram of one of three types of bonding in a lesson about the properties of metals explained how by examining their differences pupils would be able to then understand electrons. In this way, in the metacommentary, the expert teachers were sharing their motive that pupils would achieve agency; both subject agency (as summarised in Chapter Five as the pupils' relation with the subject-matter of the curriculum), and future agency (which I go on to describe in Chapter Seven as the way pupils are shaped by their relation with the subject-matter of the curriculum).

The concept of metacommentary as a teaching activity illuminates *how* teachers work with their pupils in terms of *how* they talk to pupils about what they are teaching *when* they are teaching them. As a form of teacher speech, my description of the metacommentary might act, in cultural-historical terms, 'as a tool that potentially enables changes in consciousness' (Smagorinsky, 1998, p. 158). In this way, teachers incorporate the pupils' development of procedural knowledge (know- how), or declarative knowledge (know-that) with disciplinary knowledge (know-why). The teachers' use of know-why extends to how teaching actions satisfy the shared need of the teacher and the pupils (successful learning in the lesson) and how the activity will develop the cognitive requirements of the lesson. But most significantly and different from other aspects of talk in lessons, the teachers made explicit the way in which they designed the lesson so that pupils achieve subject and future agency.

6.2 The double move

Analysing the data, I noticed that the teachers spoke about how they presented the subject-matter of the lesson to the pupils in terms of actions to address what mattered to both teachers and pupils, but also how they wanted pupils to respond to the tasks set. As indicated in Table 6.1, I was able to identify 12 teaching activities developed to bring pupils in relation with the subject-matter of the curriculum. Six activities were concerned with what

teachers spoke about (the use of metaphor, the big picture, story, revisit, metathinking and summary); two concerned the ways in which teachers wanted their pupils to be in the activity (participating and independent); one concerned what teachers took account of in terms of their pupils when designing and talking about tasks; and the final three focussed upon the cognitive and social processes of 'grappling with' the subject-matter (clear explanation, pupil progression, abstract laws and characteristics). The last-mentioned was a focus of their motive of subject agency mentioned in the previous chapter. What the teachers said and did was designed to directly impact upon what the pupils said and did. It is possible to infer from this that the teachers were concerned with the nature of the pupils' engagement in the tasks set, as well as how the teachers should present the subject-matter of the curriculum in the lesson. They designed tasks in terms of actions that met the needs of both teacher and pupils in terms of the object of activity: learning in the lesson.

Table 6.1 Responses coded to reflect activities of subject agency in terms of actions taken

	Theme (A category of teaching activity)	Examples of teacher responses (An action taken by teachers)
1	Use of metaphor	'Use real life examples as metaphors' (Mary) 'Use metaphors to explain across a range of fields of their experience' (Malcolm)
2	Use of the big picture	'The big picture of what it is about' (Mary) 'Make connections and links to show what they already know' (Amanda) 'Big picture first – this is the world and we are immersing ourselves in it' (Julia)
3	Use of story	'Use my life experience by telling stories' (Samantha) 'The analogy of seeing the subject via the people who were involved at the time' (Sally) 'Tell mini stories to add to detail or to exemplify a point' (Malcolm)
4	Use of revisit	'Keep coming back to key concepts, but not always straightaway' (Val) 'Retest knowledge till they get/understand it' (Amanda) 'Layer up and revisit key concepts '(Amanda) 'Repeat: you need to know this for yourselves therefore it is useful work' (Mary)
5	Use of meta thinking	'What are the subject's big questions?' (Malcolm) 'What are the subject's key skills?' (Sally) 'What are the pupils entitled to know?' (Julia) 'What is the real purpose for knowing this?' (Val)

6	Use of summary	‘Key messages’ (Mary) ‘Takeaway thinking’ (Malcom)
7	Encourage participation	‘It is okay to not know or to be wrong’ (Val) ‘Get them to visualise’ (Malcolm) ‘Create a sense of urgency so they want to be here now’ (Malcolm)
8	Encourage pupil independence	‘Be able to do it alone’ (Val) (Malcolm) ‘Offer real choices of ways of working’ (Jane)
9	Use of previous knowledge and experience	‘Unpick what they know already’ (Val) ‘Challenge their previous thinking’ (Val) ‘I am bringing that out of what you have already’ (Jane) ‘Find things that appeal to particular individuals in the lesson’ (Jane) ‘Describe my own journey of learning what I am teaching them in the lesson’ (Samantha) ‘Show enthusiasm when they bring an idea or an experience to me’ (Julia)
10	Focus on clarity of explanation	‘Make it as simple as possible’ (Val) ‘Explain more (go deeper, more precise)’ (James) ‘Use of technical terms (by me and by them) so that they are clear’ (Samantha) ‘Check they know exactly what I mean’ (Sally) ‘Explain it properly by making the connection to the purpose of it’ (Malcolm)
11	Focus on pupil progression	‘Remind them that they are on a continuum to expertise and everyone started somewhere’ (Jane) ‘Display their work intermixed with work that is beyond their current ability’ (Jane)
12	Focus on abstract laws and characteristics	‘Rigour in pushing the detail of the subject’ (James) ‘Being picky about no errors’ (James) ‘Use reasoning and other tools of the subject to develop that way of thinking’ (James) ‘Move from recall to analysis’ (Sally) ‘Pick it apart ‘ (Malcolm) ‘Being careful to link the concrete to the abstract’ (James)

In order to offer an example of the detailed analysis I undertook, I present here the specific set of responses of one teacher. Malcolm had been a head of department and now had a role in both his school and wider area to support local secondary school departments improve their practice. Malcolm suggested that, as a teacher, his knowledge of the curriculum takes the form of a structure made up of certain elements in order that he can represent it to his pupils. Malcolm explained that what mediates his teaching is the purpose of English in the curriculum and how that gets reframed in the various devices created in schools for planning. I use this as an example to demonstrate how the concept of relational

space as an aspect of relational teaching was surfaced by an examination of teacher motive. Malcolm situated the purpose of the subject in terms of the benefit to pupils in their real-world contexts:

> The scheme of work sits inside much bigger curriculum conversations and kind of curriculum journeys and the curriculum journey really starts with those really big questions that are, what is English for and what is it about and, what are the key skills that I want the pupils to know? And what is the knowledge that they're entitled to know? And all of those things.… I think that it is back to purpose again and I think a lot of it is creating like a real-world, real-life purpose for why they should know it.

In this way, the rationale for action is Malcolm's meta-thinking about the subject he teaches. Conceptualising the subject in terms of its fundamental purpose mediates his teaching in the form of the activities and actions he develops.

Malcolm described his approach to teaching a GCSE set text, *An Inspector Calls*. This is an example of how he connects the subject-matter to the wider purpose of the subject - why the subject matters to him as an English teacher. In terms of the double move, this can be seen as 'advancing from the abstract characteristics and general laws of the subject-matter areas (Hedegaard, 2005, p. 70).

> So, if we're doing literature properly, the way that we're actually analysing literature and I think where a lot of people do go wrong is they kind of get a poem out and they actually start at the kind of language and structure level. Whereas how can you do that? Because proper language and structure enables the author to communicate their message. So how can you analyse a piece of literature without knowing the message? So, we always start with the message.

Malcolm described his use of metaphors when teaching to connect pupils' everyday knowledge of the world to demonstrate how readers approach a literary analysis of a text. It is possible to infer that the aim of the activity was not the metaphors themselves but

experiences the pupil may have had exemplified by the metaphors he chose as a relational action.

> And what I was trying to communicate to the group was that [a phrase] been dropped in there on purpose. 'That should kind of get your Spidey sense tingling'. And you should be thinking, 'that's an odd line to include', 'I wonder why that's in there?' And what you should be thinking is, in that sort of dramatic irony way, 'that's going to come back later. You know, that's going be important later.' My use of metaphors is to make them think in a sort of non-academic way. I'm explaining, but they then have to piece it together.

In this sense, Malcolm was describing his use of metaphor as a teaching action which has the aim of working from one 'side' of the double move. As Hedegaard (2005) states: 'The pupils' learning must extend from their (pupils') personal everyday knowledge to the general laws and abstract concepts of the subject-matter areas' (Hedegaard, 2005, p.70).

In the next part of his response to the question, Malcolm indicated his motives are concerned with the subject and the pupils as relational – how pupils can be brought into a relation with the subject-matter of the lesson, and also in some future time. By that I mean, Malcolm's aim in terms of his teaching is not the quality of his transmission but the quality of the pupils' direct relation with the subject-matter i.e., the cognitive 'grappling' to develop the subject agency discussed in the previous chapter:

> So, I turn a lesson into a story… and then drop in, like milepost markers or whatever … to get the kids to hopefully do better in the subject … their agency is more about, it's more conceptual… it's about them enjoying the lesson and feeling engaged in the lesson but also feeling that it's important to them…And it's, there's a reason for being there.…what's happening matters. It's got to matter…But the feeling when they come in the class: …this is where I want to be right now.

In other words, what Malcolm is indicating here is an example of the long-term view of the value of the subject to his pupils. In this way, Malcolm is describing the importance he

attaches to the social aspect of the relational space for his pupils that he creates in his teaching along with the cognitive aims that underpin it. The importance of the subject relates to the idea of relational space in that part of the actions taken connect what matters to him both cognitively and socially in terms of why the subject matters to the pupils. As such, this interpretation is an illustration of relational teaching via the concept of relational space with its cognitive and social elements.

In Table 6.2 I summarise the coding applied to each teacher's actions and the categories of the teaching activity which surfaced from this as a theme of analysis: developing pupils' subject knowledge. When the teachers described actions or activity of their teaching, they revealed a motive orientation towards their subject or their pupils which represented both elements of the double move. What these categories demonstrated were the types of action the teacher engaged in when focussed either upon the subject-matter or upon the pupil in the double move. The teachers' motive was actioned when the teacher challenged pupils' thinking, deconstructed it to indicate an idea at a more conceptual level and indicated teaching activity at the metaphorical heart of the relational space. It was in these responses that the nature of the social and cognitive work became apparent within the literal and metaphorical relational space where the teachers bring pupils into relation with the subject-matter.

Table 6.2: Teachers' operation of the double move in their teaching

Teacher action	Teacher motive surfaced
'Big ideas first – then markers' (Malcolm) 'Keep coming back and adding detail and complexity' (Amanda)	Working with subject-matter of the curriculum to increase complexity as the subject is represented on the school curriculum
'Be picky' (James) 'Analysis' (Mary) 'Detail' (Sally) 'Accuracy' (Julia) 'Way of thinking' (Val) 'Technical information' (Samantha)	Responding to pupils' working with the subject- matter of the curriculum to ensure accurate representation of the subject as it is on the school curriculum
'Teacher experience' (Samantha) 'Pupil experience' (Sally) 'Use of stories, analogies, or metaphors' (Malcolm)	Working with pupils' representations of everyday knowledge of the subject-matter of the curriculum
'Challenge previous thinking by unpicking and then show next level' (Amanda)	Bringing the pupils' present relation with the subject-matter of the curriculum into relation with a more complex, advanced or higher level as represented on the curriculum.

These findings indicate that relational teaching is a social teaching process led by the teacher which aims to move beyond the building of cognitive connections in terms of memory and recall by the pupil of the subject-matter of the curriculum.

6.3 Teaching pupils

Because the focus of this research was on the professional voices of expert teachers and because there was an assumption of expertise of the teacher participants, I did not interview pupils for their views about the quality of their teachers, or measure pupil outcomes. However, it was important to develop an understanding of how the teachers worked with pupils when they were teaching because this was a concern for teachers themselves about the purpose of their work.

Three teachers emphasised the trust that pupils wanted to feel in their teachers; four emphasised the importance of the pupils' feelings evoked by the process the teacher took

them though to gain understanding and two teachers spoke about how the pupils wanted to feel about themselves as learners. What is suggested here are the elements that form the social aspects of the relational space. In Table 6.3, I summarise these responses, all of which take the form of communication from the teacher to the pupils which connected with the motives of the pupils in terms of how the pupils saw themselves in relation to the subject-matter of the curriculum. This indicates how teachers interpreted what matters to their pupils when they are being taught.

Table 6.3: Ways in which teachers addressed what mattered to their pupils through their talk

Theme focus of messages conveyed by the teacher	**Teachers' view of what matters to their pupils**
Trust in self as learner	'They can get it right' (Mary) 'They are doing well' (Mary) 'You are doing well' (Sally) 'You are on track' (Jane) 'You are not bad at this subject' (Jane) 'You will be able to do your exam in this subject We have covered the syllabus' (Sally) 'The pupils can do it' (Samantha) 'The pupils are doing well' (Sally)
Trust in teacher	'That the teacher knows their stuff' (Mary) 'The teacher is in charge' (James) 'This task is useful' (Amanda) 'You and your work will be noticed and responded to' (Jane) 'The teacher is sincere' (James) 'The teacher will work for them' (Samantha)
Trust in teaching process	'Want to be able to get to understand by following the process' (Julia) 'Confidence is built through the process' (Amanda) 'That they have 'got it' at the end of the teaching process' (Malcolm) 'You have been interested in learning and knowing this subject' (Julia) 'You are getting somewhere with the knowledge' (Val) 'You will be able to enjoy the task for its own sake, not always about the learning' (Jane) 'You will be able to take ownership and pride in task' (Jane) 'The work is enjoyable and interesting in its own terms' (Val) 'You get to shape things' (Julia)

The teachers' views of the motives of their pupils surfaced three areas that shaped how teachers spoke with their pupils about those concerns. As Mary, Sally and Samantha suggest, their talk was designed to address pupils' self-belief that they were capable of the

work; had been successful in the past and would be in the future (in the form of a summative assessment). Whilst these three teachers addressed what mattered to the pupils in the continuous present they also invoked a sense of the past and the future to frame the current activity. Malcolm and James both spoke of the importance for their pupils to have trust in their teachers in the sense that the pupils can rely upon them. Interestingly, both teachers were male, but I am not in a position in this study to address whether this would be the case more widely in terms of the different responses of the gender of the teachers. This might be a focus of future research. Finally, Amanda, Julia, Jane, and Val all spoke about the teaching process as being what mattered to pupils. They emphasised to their pupils that the process was effective, but also worthwhile in its own terms.

Another theme that emerged from the data were the feelings that the teachers sought to evoke in the pupils in order to address what mattered to the pupils. In Table 6.4 I categorise how the teachers wanted to make the pupils feel by addressing the pupils' motives. The teachers' responses suggest that the teachers talk to their pupils about three aspects of trust: trust in the teacher, the process and themselves, and this became a resource for their teaching in order to engage their pupils.

Table 6.4: Expert teachers' common knowledge: knowing what matters to pupils

Trust in teacher	**Trust in teaching process**	**Trust in self as learner**
1. 'The teacher knows 'their stuff'' (Malcolm) 2. 'The teacher is in charge' (James) 3. 'The tasks set are worthwhile' (Julia) 4. 'I respond to you as a human by encouraging, investing in, and answering your questions' (Samantha) 5. 'The subject is important and interesting' (Sally)	1. 'The process will get you somewhere' (Jane) 2. 'You can take pride in and ownership of the process' (Mary) 3. 'The process will be pleasurable in its own terms and because it is both a challenge and relatable' (Val) 4. 'The process is worth your while' (Jane)	1. 'The learning is worthwhile for me' (Val) 2. 'I can do it' (Malcolm) 3. 'I can do the necessary work' (Amanda) 4. 'As a learner this is not new /revisiting/done already and therefore you have the tools to do this' (Amanda)

Edwards' (2010) analytical concept of common knowledge was useful here by suggesting that the responses of the teachers could be interpreted as a form of knowledge used as a conceptual resource from which the expert teachers negotiated activities and identities in order to work agentically with their pupils.

6.4 Relational space: a concept surfaced by the motives of teachers

Eight teachers discussed aspects of the relational space in the interviews, from which I identified three characteristics of expert teaching. In Table 6.5 I marked whether the teachers addressed these three characteristics. In terms of Characteristic 1, teachers spoke about the responsibility the teachers had to make sure that all pupils in the class learned what was to be learned. Mary explained this as, 'Well I think it comes back to the kids knowing that they're going to get a good deal in that classroom' and Samantha referred to, 'the way to pass knowledge onto the kids according to the kids they have in front of them. Because you've got some people who have, who have a great deal of knowledge, but don't have the pedagogy. And I've had teachers like that when you just think, oh you've got so much to give but you don't know how to pass it on'.

Table 6.5: The characteristics of the very best teaching

Teacher	**Characteristic 1: The pupils 'get it'**	**Characteristic 2: The pupils feel safe to trust the process**	**Characteristic 3: The elements of teaching come together in a synthesis**
Mary	x	x	x
Malcolm	x	x	x
Sally			x
Samantha	x	x	x
James	x	x	
Jane	x	x	
Julia		x	
Val	x	x	

Jane referred to Characteristic 2 – pupils feeling safe to trust the process that their teacher puts in place as,

> And that they make kids feel safe. So, you know, not just physically safe, but safe in a room to get some of that. They're safe to make a mistake, they're safe to learn, they're safe to screw it up, put it in the bin. But that's part of my job, I have to make sure they're safe enough to know that they, this is the long run. And that I've got them, it's okay.

The focus upon safety can be interpreted as a response by the teachers to the demands made upon teaching in terms of accountability and assessment, as well as with the uncertainty of the personal changes brought about by learning.

Moreover, it was the words of Mary, Malcolm, Sally, Jane, and Samantha which helped to reveal what the concept of relational space might be. It seemed to involve a combination of factors in the social space of the classroom. Jane referred to it in this way:

> What does passion look like? … I still have to stand up and actually really enjoy what I'm doing, and actually care. Every single kid, if I can reach them in that class, they've got a little bit of what I meant... And it has to be made visible. I have to make that visible…Where I put myself in the room, how I interact one-to-one with a pupil who's struggling. I have to be able to, they have to feel it…You can feel it in the room. You can see it; you can feel it. It's not if the kids are well-behaved. It's not. I think that's sometimes a by-product, because they want some of what you're giving, they want it, they want a little bit of it…I really don't know how you define passion in teaching, but that is what I think makes for really good teaching. It's not just care actually, but that they know what it is they need the kids to have, and that they are able to communicate that.

I included this longer quote from Jane because here Jane explains how and why she acts in her classroom to fit what is happening in her classroom and that she and her pupils work together on what matters to each about the subject-matter of the curriculum. This seems to encapsulate the social understanding that expertise turns upon as enacted in a secondary school classroom, which I first suggested in section 1.0, and which Collins and Evans (2009) defined as the polymorphic actions from the teacher to fit the changing social circumstances of a classroom. Further and as I suggested in section 3.2.1, teaching, like other forms of social understanding, 'needs an object' (Scholz, 2018, p. 34), which for the expert teachers was what mattered to their pupils and to them in terms of the subject-matter of the curriculum.

It was Sally who first used the word 'space', which was the catalyst for my interpretation of teacher expertise in terms of working in a relational space. Sally wished to put into words the combination of social with cognitive: 'And then some also have this level of calm. You walk into their classroom and there is like this essence of Zen going on somehow. It's just a space that they've created. I think it creates a space where they can absorb, learn better'. The metaphor of relational space is, then, a means to describe the social activity of the teacher by which pupils can develop identity and agency for themselves.

The teachers identified that it was important for pupils to believe that their needs would be met in the classroom and the teacher would persist to ensure this was the case. Coupled with the core expertise of subject knowledge and behaviour management, this aspect of their practice seemed to be designed to develop the social space where pupils could work in relation with the subject-matter of the curriculum.

6.5 How do expert teachers work with the relational space between the pupils and the curriculum they teach?

These findings offer an insight into the expertise of teachers. Analysis of the motivated actions of the expert teachers suggests that the most distinctive feature about their relational

expertise was the importance to them of teaching for understanding – the exchange between teacher and pupil as a social manifestation of understanding, and the internalisation of new learning. The social manifestation of learning echoes the emphasis placed on this within pedagogical research traditions (Loughran, 2010). Running alongside this deep commitment to teaching for understanding was a commitment to the nature of the tasks the teachers devised that enabled the pupils to work with the subject-matter of the curriculum during the lesson.

The concept of motive in the form of 'what matters' was useful in terms of enabling the teachers to elucidate their practice in terms of the actions they took and how they interpreted their teaching activities. Although the teachers spoke of modelling, scaffolding, and other metacognitive and widely researched teaching strategies, the concept of 'what matters' illuminated that the teachers also used a form of discourse I termed a 'metacommentary'. The relational elements of the concept of metacommentary address problematic aspects of the Dreyfus and Dreyfus (1986) model because the data here suggests that a key aspect of teaching expertise is the use of metacommentary by expert teachers to articulate explicitly their implicit knowledge. However, I would extend the argument further and suggest that the metacommentary is a relational action on the part of the teacher that brings the pupils' expertise into being via the teachers' concern with agency. Further, my analysis of the data leads me to suggest that teaching expertise works to develop the future agency of the pupils, which can be understood in Barad's (2007) term, 'becoming': the 'ongoing, iterative enactment of agency as a process of 'intra-action' (p.33) which I describe in the next chapter.

As such, two distinctive concepts about expert teaching surfaced as teachers spoke and reflected upon what mattered to them:

1. Teachers work to develop a social and cognitive relational space
2. Teachers use a form of classroom talk: a metacommentary

The first of these, the creation of a social and cognitive space for relational teaching, was a recurring theme throughout the interviews. Secondly, the process of teaching for conceptual understanding, and the teaching rationale that evolved from this motive, had implications for how teachers designed tasks and made explicit to pupils their reasoning and intention, in the form of a metacommentary.

Chapter Seven Future Agency

7.0 Introduction

As with the preceding two chapters, I start this chapter by explaining my analysis of the data before devoting the bulk of the chapter to my findings. In previous chapters, I identified the significance of subject agency. Subject agency shaped the participants' teaching in terms of the long-term aim that pupils become agentic in their relation with the subject-matter of the curriculum. Subject agency is in contrast to the teaching aim of pupils being able to recall what has been transmitted by the teacher as declarative knowledge. I also identified that expert teachers surface the expertise of their pupils by being explicit in their use of procedural and disciplinary knowledge and by connecting with the motives of their pupils. In this chapter, I discuss my findings by introducing the third of three concepts I have developed from my analysis of the data: future agency. My use of the term 'future' is an attempt to indicate what mattered to the teachers about their subject for their pupils, taking its meaning from *futurus* in Latin - meaning 'to grow, to become'. Future agency describes the aim of expert teachers to value and prioritise their subject's capacity to build agency in the pupils' future lives. The teachers emphasised that it was important to them to present the subject with its possibility to be a real entity in the pupils' lives and to mediate their view of the world. I conclude by summarising insights gained into expert teaching.

7.1. Analysis of data: initial coding

I analysed the data using the process of template analysis as set out in Chapter Four. Table 7.1 and the accompanying text sets out and explains the coding I developed to analyse the data in relation to how teachers articulate and make explicit their aims in a lesson. I analysed the actions of expert teaching in terms of what teachers do in their work, in terms of their talk with pupils and the tasks they design, to convey what they value about their subject for their pupils and what their pupils bring to the activity. My analysis identified that an aim of the teachers was to move beyond enactment as the activity of the teacher through their own agency. By contrast, their intention was to develop the agency of their pupils in relation to

the subject-matter of the curriculum not only at that moment, but also in the future. Analysis of their motivated actions highlighted their context-sensitive and intention-dependent nature. As such, an attribute of expert teaching is that it is motivated by an aim that teaching and learning be both dialectical and future-focussed rather than only concerned with developing pupils' capability to recite and memorise facts.

Three different categories emerged from the data in relation to long-term aims: becoming, where the lessons and the activities were developed within the longer term context of the teachers' view of value and the conceptual structure of the subject; interpretation, which was the teachers' motive to orient their teaching towards the future agency of the pupils, via the teachers' use of their relational agency in the present; and demand, acknowledging the significance of summative assessments yet to be taken.

Table 7.1: The coding developed in order to analyse the intentions of the teachers as they enacted the curriculum.

Coding **(Motivated actions of teacher)**	**Theme** **Long-term aim of teacher for their pupils**
Subject as an aspect of human experience Subject as an aspect of the wider world Personal experience of subject	Becoming
Self in the future	Interpretation
Future assessment objective	Demand

All the teachers designed activities and tasks to bring pupils into a relationship with the key concepts of the subject, but this was also mediated by the perspective of a longer time frame. In other words, teachers considered their activities in relation to the pupils' future selves rather than only in the individual lesson, term or the year that the teacher would be teaching the pupils. This perspective shaped their teaching because as well as devising activities designed to develop recall of declarative knowledge (know-that), the teachers had the aim of developing higher-order knowledge by making explicit their pedagogical processes. In other words, instead of expert teachers expecting that their pupils would infer the teachers' procedural knowledge of teaching, the teachers made their procedural

knowledge (know-how) explicit through their actions and their teacher talk. The teachers explained that they worked with pupils by recognising and allowing the expertise of the pupils to surface. To be clear, this was not the same as assuming that pupils ought to direct the content and direction of the curriculum, but instead it was a way of bringing pupils into relation with the curriculum by working from what mattered to the pupils.

When I analysed aspects of the data I noticed that the concept of the future influenced perspectives about the purpose of education voiced by the teachers. I noticed that expert teachers planned their lessons around the understanding they hoped pupils were to experience, rather than simply designing activities for pupils to complete. Consequently, something was different in how they spoke to pupils during their teaching. For example, the teachers were clear about what they wanted pupils to gain from the experience of learning, rather than how that learning might be assessed at some time in the future. The teachers spoke with their classes in terms of an expanded capacity, as Malcom said to one of his classes: 'This is what you will know or be able to do that you couldn't before this lesson'. This teaching approach, where the teacher is able to speak directly to the pupils about the anticipated benefit of the proposed activities in the lesson to them as a person in their future lives seemed to clarify and make explicit the teacher's purpose to their pupils, rather than merely justifying the lessons in terms of what is needed to pass a test.

In sum, the concept of future agency was enacted by expert teachers as an important tool in their relational expertise, which I now consider.

7.2 Future agency as relational practice

This section explores what mattered to teachers about what, how and why they teach their pupils. It ends by considering how teachers conceptualise their teaching so that pupils work in relation to the school curriculum in terms of future agency. Mary, Malcolm, Sally and Val all emphasised that it was important to them to present the subject with its possibility to be a real entity in the pupils' lives and to mediate their view of the world; Jane and Amanda

reflected upon how they used the process of teaching to present the subject to the pupils and Jane, Samantha and James all emphasised the sense of forward momentum they wanted pupils to gain. However, it was Julia who used the expression 'future agency', which I then recognised in the contributions of the other teachers:

> I think [subjects taught on the school curriculum] really matter because I think it's part of understanding the shape of the world we live in today and part of understanding just how things operate. But for me, one of the things I think that's quite fundamental is realising that it doesn't have to be this way. That sense of *future agency* … And then for me I think it is that *agency that the future could look different*.

The data indicated that it was important to the teachers that subjects have possibilities beyond the school curriculum. In similar terms, Professor Mick Waters, a previous Director of Curriculum at the Qualifications and Curriculum Authority argued for teachers to 'understand the impact that their subject discipline could have on society, beyond its exam status' (2021, p. 17). This goes some way to explaining the long-term aims of the teachers for their pupils. This aim is the potential of the subject to offer their pupils an expanded capacity operationalised in their future lives as members of society, not only in terms of educational outcomes. Waters (2021) listed the elements of such an impact: 'Communicating the joy of the subject discipline, the intrigue of those who have practised the discipline as specialists, the effect of the discipline on civilisation for good or ill, the application of the discipline in the real world, and the relationship it has with others – these are the true roles of the teacher' (2021, p. 17). This resonates with how teachers interpreted their role as teachers of a subject as set out in Table 7.2.

In Table 7.2 I demonstrate how I developed dimensions of the concept of future agency from my analysis of the motivated actions of the teachers. The theme of perspective connected to three long-term aims of the teachers in relation to future agency: what it means to be human; the representation of the subject as a curriculum; and the role of the teacher as a mediator

between the two. The theme of identity could be developed from the long-term aims that reflected the subject in relation to the pupils: their agency and the significance of the dialectical nature of learning the subject. Finally, the teachers recognised the importance of what I call critical thinking in their actions, which shaped the ways in which pupils engaged with the knowledge of the subject-matter as a result of the teaching processes they enacted in their practice.

Table 7.2: The long-term aims of the expert teachers when enacting the curriculum and actions taken

Long-term aims of teacher	**Action taken by teacher**	**Theme**
For pupils to be educated about important aspects of human experience	'The subject is real, not just talking in school' (Mary) 'See the relevance to today' (Malcolm) 'Not just about examples but about links to their current experience of the world' (Val) 'The subject is how everything works in the world' (Val) 'The subject contributes to global understanding of the world and the development of cultural capital. Cultural capital is about being sensitive in the world to shape and be shaped by the content of the subject' (Julia) 'Subject is global so make links between the past and the present and the parallels' (Sally) 'We built up resources for an understanding of people and the choices and reasons for those choices' (Sally) 'The fact that you actually need to know stuff to be able to understand the world' (Julia)	Perspective
How to best represent the subject on the school curriculum	'80% of my choices are based on why it is important to have the subject on the curriculum' (Sally) 'I select on a basis of a progression of topics through key stage three and four' (Sally) 'Make connections across the curriculum not just linear' (Amanda) 'Make relationships between the topics clear' (Amanda) 'The teacher's own view of the subject trying to think what they want to know now and reframe it in the light of the content' (Julia) 'The subject matters because of the shape of the world and how things operate' (Julia) 'Try to find ways to make aspects of the curriculum interesting and important to make them want to do it' (James) 'Make it a set of skills we revisit over time' (Jane)	Perspective

	‘What we're learning is difficult but no more difficult than any other curriculum’ (Samantha)	
To mediate the focus on the exam outcomes	‘If the exam is the only motivation, then that's demotivating. I teach it because it is exciting and will be practice for the exam. They should trust the teacher to get them there and that the teacher cares about teaching it to them.’ (Val)	Perspective
To value and prioritise their subject’s capacity to build agency in the pupils’ future lives.	‘To see oneself as capable of taking bigger risks with the tasks each time’ (Jane) ‘I promise therefore that you can do the tasks in the future’ (Jane) ‘The task is a safety net to propel their knowledge forwards’ (Jane) ‘The benefits to them’ (Samantha)	Identity
We shape and can be shaped by the subject	‘Reading and responding to and using new ideas in the future’ (Julia)	Identity
That pupils grapple with the subject-matter themselves	‘Analogies to reflect and to relate to what they know’ (Val) ‘Build up layers to understanding to show breadth and depth’ (Amanda) ‘Making connections not recall’ (Julia) ‘Thinking in the subject as equals’ (Julia) ‘The subject is a way of thinking, a gymnastic of the brain’ (Samantha) ‘That they're better at the subject than they think they are’ (Samantha) ‘Demonstrate that mistakes are all right and that it takes a while to learn the subject and it's not meant to be easy’ (Samantha) ‘By using problems over how to use the knowledge or use it in a different context’ (James) ‘Focus on connecting new and previous knowledge’ (James) ‘Not just through recall but by drawing upon more complex thinking’ (James)	Critical thinking

It seemed to me that the teachers were motivated by what mattered to their pupils and that this was most clearly evidenced in terms of the reasons for learning their subject-matter. The data indicated that it is deeply rooted in the teachers’ sense of purpose. In other words, the range of their responses as to how they design tasks to make the curriculum meaningful for their pupils:

1. to mediate pupils’ view of the world
2. the processes of teaching to present the subject to the pupils

3. the sense of forward momentum for their pupils.

These all speak to an aspect of their expertise as relational: *the capacity of the teacher to interpret* what matters about the subject-matter in terms of actions taken when they are teaching.

In this section, I have provided information about the concept of future agency that emerged from the data. I now discuss what the concept of future agency adds to our current understanding of expert teaching.

7.3 Future agency matters to expert teachers

Future agency is when the teacher references how pupils' future selves can be shaped by what the teachers believe matters about their subject in terms of a future identity, perspective, and critical thinking. This type of agency accounts for the long-term aim of expert teachers, which was to value and prioritise *their subject's capacity to build agency in the pupils' future lives, and as members of society*. As such, this concept was borne out of recognition of the importance to the teachers of their work with knowledge in their practice. All of the teachers valued their own subject for its contribution to pupils' future agency and, although the teachers taught responsively for learning and development in terms of the past and present during the lesson, their teaching was mediated by aims that were in part future-focussed. The object of future agency sites the act of teaching in the motivated actions of the teacher. The motive of enhancing the future agency of the pupil mediates the actions teachers take to realise that motive. It also influences how the teachers represent the curriculum subject to the pupils in their work.

My general findings suggested that when the expert teachers spoke about their teaching whilst they were teaching they operated as second order practitioners (Murray and Male, 2005). The teachers explained this aspect of teacher talk as a continuous monologue, 'a golden thread', running alongside all other aspects of teacher talk throughout the lesson. When the metacommentary was concerned with future agency, it took the form of when

teachers *explained the values that had shaped the direction of the lesson to the pupils taking part in the tasks of the lesson*.

As I discussed in Chapters 5 and 6, the teachers not only took a longer-term view of their teaching in terms of pupils' future selves, but this also mediated the 'bigger perspective' to the subject they adopted when they taught, and this was operationalised through the conceptual structure of their subject. All the teachers designed activities and tasks to bring pupils into a relationship with the key concepts of the subject, but this was also mediated by the perspective of a longer time frame. Lessons and the activities were developed within the longer-term context of the teachers' view of the value of the conceptual structure of the subject. What emerged from the data was the teachers' motive to orient their teaching towards the future agency of the pupils, via the teachers' use of their relational agency in the present. For example, Malcolm explained his approach to a Year 10 writing lesson where one task involved him modelling the deconstruction of a paragraph in terms of 'building their confidence in writing by seeing behind the curtain of the process to show them what thinking about writing looks like in practice' so that pupils would be able to apply that know-why when writing in the future.

Such an analysis addresses limitations of other studies of both general accounts of expertise and more specific accounts of teacher expertise because it moves beyond accounts of expertise as 'automatisation' (Keestra, 2019, p. 77), that is the fluency that comes from rule following or practice as a response to a specific context. In this way, this analysis addresses that 'expertise is also associated with explicit planning and articulation of situation specific intentions' (Keestra, 2019, p. 77). Thus, the expert teachers' actions were motivated by their intentions for the future. In the next chapter I consider the meanings and relations I developed between my findings as discussed in the previous three chapters in terms of the theoretical framework (Chapter Two) and the literature review (Chapter Three).

Chapter Eight Discussion and conclusion

8.0 Introduction

In this chapter, I firstly consider my findings in relation to the literature before moving on to discuss my insights into the actions involved in teaching. I suggest that the concepts of subject and future agency, relational space and metacommentary reframe current understandings of teacher expertise. These emerged from this investigation and via its research questions:

1. What teaching actions do expert teachers use in their work?
2. How do expert teachers work with the space in relation between their pupils and the curriculum they teach?
3. What concepts mediate the practice of expert teaching?

Whilst the interactions between teachers and pupils have been previously investigated in the literature (Britzman, 1991; Bingham, 2004; Boyd, 2006; Aspelin, 2014; Hinsdale, 2016; Crownover, 2018), these are mainly presented as separate activities. This study contributes to existing knowledge by demonstrating relational teaching actions which formed the social and cognitive space for pupils' subject and future agency. In the second part of this chapter, I conclude by suggesting how adopting a relational perspective to expertise might add to the literature if further research develops the ideas in this thesis

8.1 Discussion of classic theories of expertise applied to teaching

In this section I discuss my findings in terms of the general approaches to expertise, which have focussed upon an individual's high performance of a skill and that have shaped the approach to teaching expertise adopted in England since the early 1990s. It was useful to consider teaching expertise in terms of general approaches to expertise because whilst teaching has not been a typical domain for the study of expertise in the classic studies of expertise (Glaser, 1988; Ericsson, 2006), models of teaching expertise and the professional

tools to develop teaching expertise have drawn upon general approaches developed from these classic studies. Further, the critiques of general approaches to expertise help to identify and illuminate the limitations of the models of teaching expertise, which this study suggests arise from not sufficiently addressing teaching as a social practice - rather than a performance - with a dual focus upon who and what is taught.

Extant research has defined expertise as when an individual has moved beyond the need to follow rules (Dreyfus and Dreyfus, 1986) or as superior performance of a skill (Ericsson, 1993) and highlighted the importance of fast performance and tacit knowledge. This thesis has demonstrated that such single construct models do not sufficiently address the complexity of teaching arising from its prime purpose of conveying the subject-matter of a curriculum to a class of children in a school classroom. This study has found that teachers' pedagogical actions draw upon know-how, know-that, but also know-why. Expert teaching did not just take the form of the ease, speed or fluency of performance of an individual teacher drawn from memory recall, but was linked to their judgement around how to interpret and align elements of their dual focus upon their pupils and the subject-matter of the curriculum.

In England, approaches to teacher expertise (grading teacher performance against a continuum; codifying teacher knowledge and skill as observable behaviours; memorising a training curriculum) have been developed from the application of general approaches to expertise to teaching and justified in terms of process and methodological approaches to expertise (Berliner, 2004b; Hattie, 2003). Since the 1990s, successive Ofsted evaluation schedules (McVeigh, 2020) have described and judged the quality of teaching in schools and of individual teachers in terms of a continuum of differing levels of expertise after the 5 stage model of Dreyfus and Dreyfus (1986) in the form of graded descriptors. Similarly, from 1992 it was common practice for individual schools to adapt the current Ofsted criteria for

judging the quality of teaching into a skill-based continuum to be used when observing individual teachers' teaching to judge the level of their expertise.

Table 8.1 is an example of a typical proforma that an observer would use as the basis for evaluating an individual lesson of a teacher; consequently, teachers were expected to demonstrate these descriptors when observed. In this way such descriptors of teaching came to prescribe how teaching was to be enacted and identified and, as a proxy for expertise, was a tool for its development. However, my findings suggest that expert teachers were less concerned with such external aspects of their performance of teaching, but were focussed upon how they understood their pupils in relation to the subject-matter of the curriculum.

Lesson observation proforma			
Teacher		**Observer**	
Lesson focus:		**Date:**	
Year group / number of children:		**Time:**	
OUTSTANDING	**GOOD**	**Requires Improvement**	**INADEQUATE**
1.Child friendly objectives and success criteria are shared, displayed, explained & understood.	1.Child friendly objectives and success criteria are shared & displayed.	1.Objectives & success criteria are shared	1.No objectives are shared
2.Resources are ready or easily accessible to the children & are of a high quality. Environment is stimulating, organised & purposeful.	2.Resources are ready or easily accessible to the children. The environment is organised & purposeful.	2.Some resources are ready or easily accessible to the children. The environment is organised & purposeful	2.Resources are not ready. The environment is not attractive / purposeful / organised.
3.Differentiation is challenging and stretching for all groups	3.Differentiation is closely tailored to meet all the pupils needs.	3.Differentiation is evident	3.No differentiation is used.
4.Thorough teaching knowledge is evident through delivery / planning for series of lessons.	4.Good teacher knowledge is evident.	4.Some teacher knowledge is seen.	4.Teacher knowledge is inadequate.
5.Wide range of questions are used which challenge & stimulate the children. Children are encouraged to pose questions & investigate.	5.Wide range of questions are asked.	5.A mix of open / closed questions is used.	5.Mainly closed questions are used.
6.All children are given opportunities to think, listen & explain their answers to teachers & peers & good models of speaking & listening are expected by the teacher.	6.Most children are given opportunities to think, listen & explain their answers.	6.Some opportunities are given for children to speak & explain their answers.	6.Children are given few opportunities to speak & explain their answers.
7.All work is assessed giving children targets for improvement & the opportunity is given to respond to any comments. Children understand what to do to improve.	7.All work is assessed and the children are given targets on how to improve their work.	7.Work is assessed	7.Work is not consistently assessed.
8.Previous learning is built upon. All children make good progress in the lesson & some make exceptional progress.	8.All children make progress in the lesson.	8.Some children make progress in the lesson.	8.Children make little or no progress in the lesson.
9.The pace & structure of the lesson engages and motivates the learners.	9.The pace and structure of the lesson engages & motivates most learners.	9.Some learners are motivated by the pace and structure of the lesson.	9.Learners are not motivated or interested in the lesson.
10.Teaching assistants / adults work well with identified groups and are well directed.	10.Teaching assistants / adults work well directed to support learning	10.Teaching assistants / adults are given a set role within the lesson.	10.Teaching assistants are inadequately helped to support learners.
11.Behaviour of children & relationships between children & / or staff is excellent.	11.Behaviour of children & relationships between children & / or staff are usually good.	11.Behaviour of children & relationships between most children is good.	11.Behaviour of children is poorly managed & relationships between children / staff is poor.

Table 8.1 Typical lesson observation proforma (Didau, 2019)

Further, Table 8.2 is a section from the proforma for assessing the expertise of trainee teachers graded against the Teachers' Standards. Developed and used by university and

school-based associations of teacher education in England between 2015 and 2020, it deconstructed the Teachers' Standards (2011) in terms of skill. An individual trainee teacher was assessed against each of eight standards and then awarded a level of skill that mirrored Ofsted gradings after each practical placement and summatively at the end of their initial training before being awarded QTS.

10. Teachers' Standards, Part One: Teaching grade descriptors

Please note: Words in italics are directly from the ITEIH; column headings reproduce the overall outcome criterion.

1. Set high expectations which inspire, motivate and challenge pupils

- establish a safe and stimulating environment for pupils, rooted in mutual respect
- set goals that stretch and challenge pupils of all backgrounds, abilities and dispositions
- demonstrate consistently the positive attitudes, values and behaviour which are expected of pupils.

Standard sub-headings	Outstanding (1): *Much of the quality of student teachers' teaching over time is outstanding and never less than consistently good.*	Good (2): *Much of the quality of student teachers' teaching over time is good; some is outstanding.*	Requires improvement (3) - meeting the Standard: *The quality of student teachers' teaching over time requires improvement as it is not yet good.* **Student teachers need targeted advice to be good.**	Inadequate (4): *Student teachers fail to meet the minimum level of practice.*
A establish a safe and stimulating environment for pupils, rooted in mutual respect	Consistently uses innovative strategies to establish a safe and stimulating environment for pupils, rooted in mutual respect, which motivates and inspires pupils to learn and enjoy the subject.	Uses a range of strategies to establish a safe environment which, much of the time, is stimulating and rooted in mutual respect.	Is able to establish a safe and stimulating environment for pupils, rooted in mutual respect.	Is unable to establish a safe and stimulating environment for pupils.
B set goals that stretch and challenge pupils of all backgrounds, abilities and dispositions	• Consistently sets goals that stretch, *challenge and motivate pupils.* • *use effective strategies to support* the learning and progress of *underperforming groups.*	• Sets goals that stretch, *challenge and motivate pupils.* • *use strategies to support* the learning and progress of *underperforming groups.*	Is able to set goals that stretch and challenge pupils of all backgrounds, abilities and dispositions.	Is unable to set goals that stretch and challenge pupils of all backgrounds, abilities and dispositions.
C demonstrate consistently the positive attitudes, values and behaviour which are expected of pupils.	Consistently and effectively demonstrates and models the positive attitudes, values and behaviour which are expected of pupils.	Consistently demonstrates and models the positive attitudes, values and behaviour which are expected of pupils.	Is able to demonstrate consistently the positive attitudes, values and behaviour which are expected of pupils.	Is unable to demonstrate consistently the positive attitudes, values and behaviour which are expected of pupils.

Table 8.2 Extract from the Teachers' Standards mapped out as graded descriptors in Initial Teacher Education (NASBTT, 2017)

Moreover, ITE organisations inspected by Ofsted between 2015 and 2020 were themselves rated by Ofsted partly on the proportion of trainees who were graded as good or outstanding against the Teachers' Standards (Ofsted, 2015). Hence the skill-based continuum was used at two levels: to grade individuals and organisations in terms of the attainment of rule-following at differing levels of teaching expertise. However, my findings suggest that this

focus upon the external performance of teaching does not address the internal motives that shape the concepts and actions taken by teachers. Moreover, viewing teaching as a practice to be developed over time and which draws upon the identity, agency and motives of the teacher surfaces the know-why of teachers, which shapes the ways in which a teacher works together with both their pupils and the subject-matter of the curriculum.

In terms of theories about the nature of expertise (Kotzee, 2014; Scholz, 2018), and implemented at the same time as the inspection of teaching and teachers in schools, the professional competences and then standards for teachers were designed to codify the knowledge and skills needed by good teachers. In addition, adopting the language of Dreyfus and Dreyfus (1986), since 2019 a curriculum for the initial and early stages of a teacher's development has mandated the knowledge and skills teachers are required to develop as the basis for moving from novice to expert teacher (DfE, 2019b). Further, from 2024 trainee teachers are to engage in prescribed slots of intensive practice, described in terms of deliberate practice (Gov.UK, 2021; Ericsson, 1993). As such, general approaches to expertise can be seen to have influenced the professional tools used to identify and develop teaching expertise.

The findings from this study illuminate such professional tools in the following three ways: firstly, that the use of a continuum of expertise has addressed observable behaviours of teachers as part of the accountability structures of a school or as part of an inspection. Secondly, codifying the knowledge and skill that contribute to the role of a teacher in order to model effective teacher decision-making has neglected the significance of teacher judgement and its relation to the intents and actions of teachers. The third aspect of professional tools used to develop teacher expertise illuminated by these findings relates to the most recent developments – that novice teachers are required to memorise a curriculum and intensively practise specified skills during identified periods within the programme of training. The point here is that teaching has been conceptualised in terms of a performance

that has been rehearsed in readiness, rather than involving social and relational processes with those being taught. My findings, however, confirm that teaching is better understood as a practice with a history, values, emotions and intentions for the future. In this way, the findings from this study emphasise the identity and agency of teachers and acknowledges their concerns for the identity and agency of their pupils. However, I do not hold the view that adding the concepts of subject agency, relational space and future agency to a graded descriptor as something that teachers need to know or do or to be memorised and practised will add to the effectiveness of these tools. This is because subject agency, relational space and future agency are ideas to think about in relation to teaching rather than something that a teacher does.

However, I argue that the metacommentary is a tool that teachers might be taught to use and, further, in so doing would support teachers grappling with how best to teach their pupils the subject-matter of the curriculum. In other words, rather than present teachers with models to mimic and memorise in order that they become 'second-nature' and can be observed when performed – i.e. the internalisation of external ideas – my findings suggest that using the metacommentary so that teachers can engage with their own and their pupils' identity and agency leads to actions that bring about subject agency, relational space and future agency. In other words, engaging with what matters to the teacher leads to actions that interpret and align pupils and the subject-matter of the curriculum with the complex shared task of learning in a lesson i.e. externalisation from internal ideas.

In sum, general approaches to expertise that focus upon recall, 'reflect the ability to recognise whether a particular schema is appropriate to a situation and the ability to execute the schema… experts have a collection of schemas that are more compatible and more comprehensive with respect to the demands of a particular domain, than less experienced people' (Flach, 2018, p. 181). These approaches emphasise the difference between novices and experts with an implication that novices are somehow deficient. In this way, expertise is

about the extent of an expert's knowledge. However, other general approaches to expertise consider it more a matter of doing; cognition is constructed through the interaction of person and environment without the need for mental representation: 'Cognition thus involves events which arise from the experience of having a body, with a set of sensorimotor capacities and capabilities, in an environment…cognition shifts from mental representations to perception-action couplings' (Baber, 2018, p. 243). In broad terms, such general approaches to expertise are concerned with where cognition occurs. If cognition occurs in the brain, then the acquisition of teaching expertise focusses upon the ability to recall mental representations through deliberate practice. If teaching expertise arises in the interactions between people and their environment, then expertise relates to the ability of the expert to adapt to their environment as set out in a graded descriptor based upon a novice-expert continuum of skill acquisition.

Whilst this study did not investigate novice teachers, my professional experience as a headteacher and teacher educator had led me to argue that novice teachers struggled to make sense of what graded descriptors looked like as actions in their own teaching or that of others and that such an approach leads to a single, pre-determined view of teaching to which teachers are expected to conform. Further, such a check-list approach to observing teaching resulted in either the observer looking out for certain behaviours by the teacher rather than addressing teaching as an holistic, complex, social, and relational practice or, I suggest, forming such a view based on their own experience and then justifying it by ticking boxes afterwards (Chamberlain, 2011). In this way, whilst a continuum can set out the development of expertise, I would argue that the nature of the accountability systems in which it has been deployed and because teacher expertise has been linked by policy makers to the 'failure' of the current systems (Steadman, 2021), the novice-expert continuum has been used in a way that reflects a need in schools and universities for novice teachers to be 'classroom-ready', or 'good' as quickly as possible. However, my findings suggest that expert teachers are able to be explicit about their expertise and that addressing its specific

nature rather than focussing on the quality of teaching more broadly can support novices to develop their teaching. For example, when I have encouraged trainee teachers to theorise practically (Hagger, 2006) about their practice by using these findings to illuminate the actions taken by expert teachers linked to the reasons why teachers acted in the way that they did, the trainees have been enabled to consider the range of different ways in which a teacher might design a task or work with their pupils in terms of the task.

As discussed in section 3.1.3, Dreyfus and Dreyfus (1986) emphasised the way in which an expert responds to specific features of the environment as an intuitive situational response whereas novices associate specific features of the environment with specific actions, that is, rules. As novices move through the stages of advanced beginner, competence, proficiency and expert, the expert responds to the environment in the form of the coupling of perception with action rather than requiring the novice to interpret the environment and recall similar situations. However, this general approach to expertise does not clearly articulate the know-how and know-why from which the expert is able to remember which actions to perform, the focus is only on the body and its adaption to the environment. In contrast, although other methodologies and perspectives on expertise focus on the nature of knowledge or skills in terms of the measurement of performance, my findings indicate that teaching expertise is primarily relational, and that the relational aspects of teaching illuminate expertise because they incorporate know-why with the know-that and the know-how of teaching.

The work of Dreyfus and Dreyfus (1986) was highly influential upon nursing because work by Benner (2000) led to the novice to expert continuum being widely adopted as a framework for assessing nurses' needs at different stages of professional growth and as the model of nursing clinical competence. As shown in Tables 8.1 and 8.2, Dreyfus and Dreyfus' (1986) influence upon teaching has been just as significant because it has been adopted in the form of a range of graded descriptors of expertise used at different points in a teacher's development and subsequent career. Dreyfus and Dreyfus (1986) are less directly

associated with tools for developing and identifying teaching expertise than has been the case in nursing, although provenance of their work in relation to teaching has been cited by both Berliner (1986) (see section 3.3.1) and Hattie (2003) (see section 3.3.2).

My findings suggest that, rather than focus on the difference between novices and experts with the aim that novices acquire expertise by copying experts, there is value in considering what experts and novices have in common in terms of their practice i.e., a history, knowledge, values and future-focussed intentions. For example, teaching novice teachers how to use the metacommentary would enable them to articulate their developing know-why, as the basis from which they interpret and align what matters to them, their pupils and the subject-matter of the curriculum. Further, through critiques of the work of Dreyfus and Dreyfus (1986), it is clear to see some of the practical problems with current approaches. Firstly, novices and those more expert are seen as thinking qualitatively differently from one another, for example, experts are said to identify problems differently to novices (Glaser, 1988) and on that basis are said to act differently during the course of a lesson (see section 3.2 and section 3.2.2). Consequently, a model of teaching expertise that set out to describe a process became a means by which to prescribe teaching; that is what ideal teaching is, or what ideal teaching should look like to the observer. In this way, the adoption of the novice to expert continuum in the form of graded descriptors outlined the methods by which a teacher might respond to their environment in terms of following a set of rules or procedures as the way to achieve fast and fluent classroom performance.

Secondly, the graded assessment grids by which to describe and prescribe the development of teaching expertise focussed on trying to separate out the ways in which experts and novices are distinct and modelled how teaching expertise might be acquired by attempting to master the next stage as laid out in the assessment grid or to grade and define a teacher's level of expertise. However, the distinctions between outstanding or inadequate skill were often characterised by use of adverbs, for example consistently or effectively, which are

difficult to enact. As such, and in section 3.1.3, I have argued that when applied to teaching, the novice to expert continuum has been operated as a dichotomy. Rather than grade individual teachers and then quantify teaching quality in schools or departments in terms of percentages as a means to evidence consistency of teaching to a certain model, my findings suggest that it is worthwhile to engage with teaching expertise in terms of how the teachers themselves articulate their actions and how those actions link to their know-why, and that attempting to engage with the subtleties and intangible nature of the relation of a teachers' aims and actions has practical value.

To summarise, the underlying approach to the development of teaching expertise in England since the 1990s has been that by mapping professional standards or criteria onto a continuum of skill acquisition one can create a series of building blocks that can be mimicked and thus lead to high performance (see section 3.3). The critiques of the novice to expert continuum itself also illuminate the limitations of these professional tools modelled upon it. Such grade descriptors did not differentiate expertise sufficiently (what does consistency or effectiveness look like in practice?) nor could such descriptors of observed behaviours form the basis of the acquisition of expertise (how does one ensure all children make progress in a lesson as opposed to only some children?). Further, teaching is recognised as a complex activity (Lum, 2019) and these tools do not work within its complexity. On the one hand, an A4 proforma as an attempt to summarise something complex may be a useful aide memoire in the busy life of a school, however, attempting to understand the complexity of expert teaching through the use of a single construct (in this case that novice and experts think and thus act differently) can only address certain aspects of the complexity of teaching. Similarly, interpreting expert action as fast processing of rules as the basis for action does not sufficiently address the range of variables that make up the lived experience of a classroom teacher. My findings suggest that, whilst the concepts of subject agency, relational space and future agency are important to the practice of expert teachers and these concepts have not, as yet, been discussed as part of the expertise of teachers, the metacommentary is a

practical tool that can be taught to novices, which will enable them to engage with these concepts of teaching expertise. For example, asking trainee teachers to consider the aims of their actions and how they link to what is important for their pupils and the curriculum enables trainee teachers to engage with explicit pedagogical reasoning.

Unlike the domains of classic studies into expertise such as the physical skill of playing an instrument or the problem-solving associated with playing chess, teaching is a social activity that works through communication and co-operation between teachers and pupils. As McGilchrist (2021) suggested, the social and relational are important when seeking to understand the nature of reality: 'The only world that any of us can know, then, is what comes into being in the never-ending encounter *between* us and this whatever-it-is' (p.10). My findings support this view because rather than focus on memorising and recalling rules to be implemented with a 'what works best' view, relational expertise addresses how teachers work with their pupils and the subject-matter of the curriculum in the moment and in their planning to address the importance of future-focussed intentions by focussing on the relation between pupil and subject-matter of the curriculum.

As Ofsted concluded in their evaluation of lesson observation models (Ofsted, 2018c), a model for observing the work of an individual teacher to suggest ways in which they might develop their practice does not necessarily generalise to a repeatable approach for developing teaching expertise at the level of a system. Overall, a limitation of the Dreyfus and Dreyfus' (1986) novice to expert approach to expertise as applied to teaching is that this approach does not illuminate how or why the expert teacher knows how to act. Similarly, this argument may go some way to explain why, although widely adopted, the graded descriptors of teaching can be seen as limited in terms of their efficacy and impact on identifying teaching expertise and helping teachers acquire expertise. Whilst graded descriptors may have set out pre-designed actions of what good teaching looks like, my findings suggest that such tools neglect the importance of the agency of the teacher. My findings concur with such

views of the deficiencies of graded descriptors because what mattered to the expert teachers was why they acted in the way they did when they taught. Rather than consider their teaching as recalling predetermined teaching decisions or rules as quickly as possible, the teachers were concerned with how and why they interpreted and aligned what mattered to them with what mattered to their pupils and the subject-matter of the curriculum.

Whilst the work of Dreyfus and Dreyfus (1986) has had a clear influence on the ways in which teaching expertise has been investigated and interpreted, not least because of Berliner's influence since 1986, expertise has also been understood in terms of deliberate practice (Ericsson, 1994) (see section 3.1.4). The role of deliberate practice as a means to acquire a skill can be seen as linked to the approach for teacher training adopted by Nick Gibb when he was Minister for Schools (2010 – 2021). This has been developed by organisations closely linked to recent changes in teacher education. For example, the Master's in Expert Teaching developed by Pips Mccrea for Ambition Institute and the Lessons for ITT developed by Emma Mccrea for Oak National Academy both advocate teachers' developing expertise by practising set approaches to the teaching process. Further, the DfE process for accreditation to become an ITT provider in England underway in the first part of 2022 as an outcome of the ITT Market Review (Gov.UK, 2021) requires four weeks of Intensive Training and Practice (ITAP) for postgraduate and six weeks of ITAP for undergraduate teacher training courses from 2024. The guidance for those applying to be accredited as an ITT provider stipulates that 'trainees should have the opportunity to apply what they have learned through rehearsal or live practice, receiving constructive feedback on their delivery' (DfE, 2022, p. 13). The process asks ITT providers to identify between 3-5 areas of learn-that or learn-how from the mandated Core Content Framework (CCF) (DfE, 2019) as the designated skills to be practised in this way. This new policy requirement represents the first time that deliberate practice has been required as a means to develop teaching expertise and also that it is used in order that trainees know, remember and can apply the accompanying mandated curriculum. However, as mentioned in section

3.1.4. neither Ericsson (2016) nor those who have subsequently discussed deliberate practice, suggest that deliberate practice is how a teacher should acquire expertise (Fadde, 2020). My findings confirm this because the complex, social and relational processes of teaching that mattered to the expert teachers were not skills that could be drilled for speedy and accurate performance such as that in physical or problem-solving activities where deliberate practice has been seen to be more useful.

Arguments concerning the complexity and social nature of teaching can also be applied to the use of deliberate practice as sufficient means to identify experts in teaching and to develop teaching expertise. Teaching is more than a single construct not least because it has a dual focus on both the pupils and the subject-matter of the curriculum, and so a model which turns on a single idea is unlikely to address its various elements. Rather than superior performance of a skill, the nature of teaching involves enabling pupils to learn the subject-matter of the curriculum as a social and relational activity. However, my findings show that the perspective of relational expertise can add to current understandings of teaching expertise by addressing how and why expert teachers take action when they teach. I now go on to conclude by summarising the importance of relational expertise for teachers.

8.2 A relational perspective of expert teaching

As an approach to expertise, these general approaches draw upon frameworks that tend to emphasise the difference between novices and experts on the basis that the difference implies a deficit in the novices. The perspective of relational expertise adds to our understanding of expert teaching because it recognises the significance to teachers in being able to address what is important to them about teaching the subject-matter of the curriculum to the pupils in their classes. It also assumes that novices (their pupils) have something to offer and that what matters to them is important to the process of teacher and pupils working together. This perspective adds to our knowledge of expert teaching by indicating that it is shaped by two important concepts: subject agency, which can be defined

as developing pupil agency in relation to the subject-matter of the curriculum; and future agency, which can be defined as valuing and prioritising the subject-matter of the curriculum to build agency in pupils' future lives. Moreover, whilst analysis of the motivated actions of expert teachers surfaced these two concepts, it was also possible to identify a feature of teacher talk - the metacommentary. The metacommentary is a relational action on the part of the teacher that acknowledges the pupils' standpoints and expertise. It is through the metacommentary that the teacher shares their pedagogical rationale with pupils. Rather than finding the teachers' expertise as tacit, intuitive, or thus unable to be articulated (Loughran, 2003; Kotzee, 2014; Winch, 2014), the teachers continuously articulated their expertise via the metacommentary. The teachers' use of this feature of teacher talk mediated their practice: the expert teachers were explicit about their disciplinary knowledge; their pedagogical rationale was to enable their pupils to engage in the learning process to develop higher-order functioning. Their concern with pedagogical actions connected the know-how and know-why of their actions because of the shared focus on the object of activity between the teachers and their pupils.

In my findings, the actions by which expert teachers mediate pupils' learning align with Vygotsky's explanation of scientific and spontaneous concepts and involves Hedegaard's (2005) 'double move' where teaching advances from the abstract characteristics and general laws of the subject-matter towards pupils' learning that extends from their personal everyday knowledge to the general laws and abstract concepts of the curriculum subject. Teachers also mediate pupils' learning via Edwards' (2010) concepts of (i) 'relational agency': recognising how others interpret and react to problems and aligning one's own interpretations and responses to theirs; and (ii) 'common knowledge': a conceptual resource from which activities and identities are negotiated to work with others.

This thesis has provided material which supports the argument that expertise can be interpreted from the motives of the experts and then analysed in terms of the concepts that

shaped their actions. Rather than try to simplify the complexity of teaching and map it onto an existing approach to expertise, by looking to identify the priorities that arose from that complexity it became possible to identify what mattered to expert teachers about teaching and in terms of their own teaching rather than in terms of models that attempted to describe what expert teaching looks like to an observer.

My analysis has provided material that supports the argument that, rather than describe teaching expertise in terms of lists of know-how and know-that as found in the various descriptors used to identify and develop expertise as outlined above, and in the dimensions and attributes described by Hattie (2003), expert teachers operate from their know-why – the explicit awareness and articulation of their pedagogical rationale in lesson design, teaching and assessment. This concept of know-why can be linked to the priorities of the expert teachers and to their dual focus: on their pupils and, at the same time, on the subject-matter of the curriculum to be taught to those pupils. This adds to our understanding of the nature of the subject knowledge teachers draw upon. Rather than having what has typically been described as 'good' subject knowledge previously as in the Teachers' Standards (2012) and Ofsted (2019) or an awareness of how a disciplinary subject is represented on the school curriculum (Kitson, 2020), the expert teachers prioritised their pedagogical knowledge – how to design tasks so that pupils engage with the curriculum – and had the teaching ability to keep reframing the curriculum until pupils of all levels and abilities could make sense of the content. In this way, action was taken on the basis of the knowledge of the shared motives concerning the shared object of activity: the joint working. The pedagogical actions addressed the complex, social nature of teaching because they connected to the teachers' interpretation and alignment with what matters between themselves, their pupils, and the subject-matter of the curriculum.

8.3 Insights into teaching actions

Rather than conduct experimental activities to assess how differently novice teachers acted when compared with expert teachers in simulated activities as was the method adopted in some earlier studies into teaching expertise (Borko, 1989b; Westerman, 1991), this study considered the motives, ideas and action of expert teachers. The expert teacher participants certainly regarded their expertise as something that they were able to *do* but unlike the emphasis in the literature on the skill acquisition of the individual expert (Ericsson, 1994) their activity involved their ability to act in relation with others. They prioritised certain sets of activities as expert. These priorities were all aspects of how to bring their pupils into relation with the subject-matter of the curriculum. These processes went beyond the pupils engaging with the tasks designed by the teacher or the teacher gaining pupil compliance in terms of behaviour to undertake the work set - as described in the Teachers' Standards (2012) and by Ofsted (2019). Rather these processes were concerned with the agency of the pupils in terms of both the subject and what the subject might mean for the futures of the pupils. The processes add to our understanding of teacher expertise because they can be seen as 'down a grain size' in terms of lists of know-how and know-that because they connect teachers' actions and aims. For example, teachers were able to describe the elements of the processes by which they developed activities for pupils to undertake in terms of how they as teachers considered the subject-matter of the curriculum. This process included actions such as: what pupils will think about when undertaking an activity; identifying the key concepts; deciding an order by which to access key concepts in activities and deciding upon activities and explanations to scaffold pupils' learning (described as how to make the complicated accessible to all pupils).

What all the priorities and sets of associated actions identified by the expert teachers had in common was to link pupils with the subject-matter of the curriculum. Understanding the range of ways the teachers went about this adds to our understanding of teaching expertise and is illuminated by recognising the importance of the perspective of the relational to the

complex and social nature of teaching. For example, rather than only being concerned that pupils understand the tasks set and complete them accurately, the expert teacher participants recognised as important that pupils integrated the subject-matter of the curriculum so that they were able to operate using what they had learned: it had become part of how they were able to see the world. Further the teachers recognised that to achieve this priority it required of them to work with pupils in particular ways: to support pupils to tackle activities and tasks that they find difficult or that do not come naturally to them. The uncomfortable process of grappling with the subject-matter of the curriculum was supported by the teacher in the lesson because it was based in a set of long-term aims. This adds to our understanding of expertise because this perspective highlights the significance to teaching expertise of the ability to understand and operate from the priorities of the pupils and then to use that knowledge as the basis for action. The perspective of relational expertise of teaching expertise confirms Edwards' (2010) theory because it identifies elements of teaching expertise as firstly, common knowledge (knowing what matters to oneself and the other party about the object of activity) and secondly, relational agency (taking action based upon the shared motives towards the object of activity) (Edwards, 2010).

The perspective of what matters to expert teachers adds to current understandings of teacher expertise because teachers were able to articulate how they went about teaching in terms of actions taken and also the reasons for actions. This contrasts with the more general descriptors of what teachers should know or be able to do. For example, the Early Career Framework (2019) states that a teacher should learn that: 'Explicitly teaching pupils the knowledge and skills they need to succeed within particular subject areas is beneficial' (2019, p.12). This statement of what teachers should know, however, is not clear about how one would do this. Further, it does not help develop teacher understanding of what 'explicit teaching', 'knowledge and skills needed' nor 'beneficial' might mean for their practice or how to acquire expertise in these areas.

In the activity of a lesson in a classroom, the way in which a teacher goes about teaching is through their use of talk. In this way, teaching expertise might be seen to be demonstrated through the types of talk or the tasks achieved through talk. In this study, teachers were explicit about their practice by recounting how and why they talked with their pupils during the course of a lesson. A relational perspective of teaching expertise can add new understandings because it highlights how teachers undertake teaching. Rather than the action-perception couplings seen as the process of being expert by Dreyfus and Dreyfus (1986) or the speed of recall of representations as the process underpinning how expertise is achieved through deliberate practice (Ericsson, 1994), a relational perspective adds to understandings of expertise by considering the relation between teacher speech and teacher action in response to what matters to pupils and to the teacher about the subject-matter of the curriculum. Teacher talk directly related to the long-term aim of expert teachers for their pupils to develop agency in terms of the subject now and in their future lives.

I have suggested that a limitation of graded descriptors is that they do not illuminate how an expert teacher teaches. Attempting to enact them to acquire expertise is problematic because they are not actions that can merely be mimicked without appreciation of the underlying principles and reasons for action. My view is that the categories of teacher talk developed from this relational perspective are more useful because they are social by nature and address the complexity of teaching because they attend to its dual focus: the pupils and the subject-matter of the curriculum. Further, this form of talk is a means by which to change the quality of the relation: that is, to achieve the motives of the teacher and the pupils in terms of the subject-matter of the curriculum. What mattered to the teachers was the agency of their pupils, which was the ‘becoming’ to be developed in terms of subject and future agency, rather than their performance of teaching as a skill: they wanted to ‘bring out the best’ in their pupils through what they were taught.

The significance this thesis affords teacher know-why, which it defines as higher order procedural knowledge, adds a further dimension to current understandings of teacher expertise. Know-why can be understood as know-how, but in a higher-order form. Know-why links to the know-that which each task in a lesson is designed to address by also representing how something works at a deeper level of specificity. In using their know-why, the expert teacher draws upon the underlying principles of their know-how with the aim of expanding the capacity of the third party – in this case the pupils and their 'becoming' by virtue of subject and future agency.

By investigating how the teachers' long-term aims were enacted in their teaching and through analysis of the links between actions, activity and aims, it became clear that expert teachers had developed a form of talk which made explicit what mattered to them, to their pupils in terms of learning the subject-matter of the curriculum and that the relation between all three was addressed through tasks, explanations and other general teaching activities in a lesson. The metacommentary was the way in which teachers acted upon their higher order procedural knowledge in a second order form – that is, it was important to share why tasks would be of benefit to pupils now and in the future. In this way, the metacommentary became a tool to form, generate or organise first order knowledge of the expert teacher – the subject-matter of the curriculum. As such, the metacommentary was where teachers articulated the 'what matters' to them as teachers about the curriculum and why their pupils should learn it. The process of metacommentary as a feature of teacher talk demonstrates that teachers' relational agency is oriented towards pupils' subject and future agency. This can be interpreted in the following aspects of teacher talk:

i) becoming, where the lessons and the activities were spoken of within the longer-term context of the teachers' view of the subject's value and conceptual structure

ii) interpretation: the long-term aim of the expert teachers was the transfer of agency to the pupils, which was explained as the pupil being able to do something with the knowledge of the school curriculum subject, for themselves

iii) talking about taking the pupils through a process of grappling with, getting to grips with and piecing together key ideas from the subject,

iv) referencing how pupils' future selves (including their future development) would be shaped by the subject in terms of identity, perspective and critical thinking.

Rather than being motivated by effective and efficient recall of declarative knowledge by their pupils in future lessons or assessments, the expert teachers were explicit about their motives in terms of procedural and disciplinary knowledge and as such shared their motive orientation towards the object of activity with their pupils. The analysis of the motivated actions of the teachers demonstrated that the metacommentary was a tool used by teachers to respond to and mediate external accountability and measurement of outcomes in terms that enabled pupils to move their practice as a learner towards something both teachers and pupils valued.

An important element of the metacommentary was the role that it played in building trust between the teachers and their pupils. Table 6.3 in Chapter 6 indicates the three aspects of trust that were spoken about in order to build it: the pupils' trust in themselves as a learner; trust in the teacher and trust in the teaching process. In this way, showing that the teacher was aware of what mattered to pupils and speaking from and to their perspective, common knowledge was established and was developed as a basis for the teacher to take action. This adds to current understandings of the relational work of teaching because, firstly, rather than focus on the personal qualities of the teacher to build relationships, the focus is upon what makes for successful joint working on the shared object of activity between the teacher and their pupils. Secondly, rather than being solely concerned with the quality of relationship

between the teacher and the pupils, the participant expert teachers were concerned with the pupils' developing relation with the subject-matter of the curriculum.

8.4 How relational expertise reframes current understandings of teaching expertise

Teacher expertise can be explained as relational because a) the teacher recognises what matters to them and their pupils about the subject-matter of the curriculum; b) the teacher then interprets and aligns what matters to them and their pupils about the subject-matter of the curriculum; c) the teacher takes action to bring what matters to the pupils about the subject-matter of the curriculum into relation. These actions work to achieve a social and cognitive space from which pupils develop subject and future agency.

By drawing upon the relational aspects of teaching, this study highlights that, to understand the nature of teacher expertise, social actions in the domain of teaching are significant to the teacher. Paying attention to this aspect of expertise ensures teaching is seen as more than performance, tacit knowledge or a form of decision-making. Similarly, the lens of expertise brings to the fore that expert teachers are concerned with the actions of their teaching and that these actions are not clearly explicated by external observation or replication of prescribed models of teaching. Rather, teacher expertise involves working with pupils and the subject-matter of the curriculum and their expertise relates to the purpose of the activity. Framing teacher expertise as relational recognises that teachers work with a complex problem of developing learning in a lesson as a joint activity with their pupils with the aim of moving forwards in a direction valued by pupils and in terms of the subject-matter of the curriculum.

Expert teaching developed from the concerns teachers had for their pupils. However, this concern was not used in teaching just to tell pupils what they needed to know; neither was it addressing only the pupils' choices, and nor was the challenge of learning 'dumbed down'; rather the teachers were concerned with the drive towards pupil agency. However, the

agency the teachers aimed to enact was not only the capacity of their pupils to take action, but the potential their subject had to offer their pupils' futures as a consequence of the processes of the learning by which they were shaped and influenced. Expert teaching is evident through the teachers' capacity to make explicit their pedagogical rationale so that pupils develop declarative, procedural and disciplinary knowledge. In other words, it matters to expert teachers that their pupils are able to interpret for themselves what they have been taught in school.

Thus, instead of seeing expertise as a fixed attribute or acquired as a result of practice or identified in terms of a checklist of attributes as a cognitive technique to stimulate retrieval cues for memory or in terms of the ability to deliver an intervention or a model of teaching, this notion of relational expertise lies in the value that teachers place on the development of a social and cognitive relational space to facilitate the 'becoming expert' of their pupils.

8.5 Implications for Researchers

My study suggests three possibilities for educational researchers interested in the quality of teaching. Firstly, that a cultural-historical theoretical perspective is likely to be of interest to those wishing to learn more about the practices of teachers and their interaction with learning and teaching. Secondly, that the research instrument of structured reflection in the form of the Action Activity Template enables analysis of aims, actions and activities. Thirdly, that a relational ontology is a way forward in recognising the complex shared work between teachers and their pupils.

8.6 Directions for Future Research

This thesis deconstructs the notion of teacher expertise through a cultural-historical analysis of what mattered to the participant expert teachers. However, relational expertise and relational teaching are both under-researched. While this study has deepened understandings of these concepts, further studies could investigate expertise further to

include the pupils' experience of expert teachers with a focus on the metacommentary and the agency of pupils.

It would also be important to use future research to investigate the impact of the nature of the subject taught by the teachers. This is particularly important given the significance I afford the double-move, which considers the abstract laws and concepts of the subject as one half of the work of a teacher. Future research is needed to investigate whether the different nature of the abstract laws and concepts, say between music and maths, impact directly on how teachers bring pupils into relation with the curriculum in terms of what matters to the teacher, their pupils and in the subject.

Further studies, perhaps adopting different methods, theory and scale, could be designed to explore more widely concepts about expert teaching developed from the motives of teachers and in terms of their actions.

8.7 Pedagogical Implications for Teacher Educators

At the time of writing this thesis, the role of teacher educators and the curriculum and assessment of student teachers in England is going through a period of particularly rapid change as a result of significant developments in educational policy that have focussed upon the school curriculum and teacher recruitment and retention by attempting to define core knowledge. Both the Core Content Framework (2019) - a mandatory ITE curriculum introduced from September 2020 - and the Early Career Framework (2020) - a mandatory two-year teacher induction and development programme in place from September 2021 - are based on two sets of practice statements: 'learn that' and 'learn how to', which are defined as categories of key skills to be practised. However, the expert participant teachers considered that the development of expertise went beyond what can be known and what can be done. It is pertinent for teacher educators to consider the type of experiences and theoretical stances they design into their ITE curriculum to create possibilities for student teachers to consider how subject knowledge in terms of the subject-matter of the curriculum

is important to pupils; to consider the concepts and abstract laws of the subject-matter and to ascertain not just what pupils already know as a starting point, but the subject's relation with the pupils' everyday knowledge. It would also be helpful for teacher educators to encourage student teachers to perceive, name and interpret as higher order knowledge the pedagogical reasoning of the teacher educator and other teachers in their initial and early training programmes, and for the metacommentary to be taught explicitly by teacher educators to student teachers.

8.8 Pedagogical Implications for Teachers

In order to develop expertise, teachers need to extend the range of talk they use in their lessons. Although teacher development of expertise often addresses, for example, teachers' use of questions and explanations or considers the part that pupil talk plays in their learning and development, teachers should pay attention to the activity of the metacommentary. By noticing its existence, naming it as a feature of their practice and considering how it makes the purpose of learning explicit to pupils, teaching can become more relational. Teachers could also reflect explicitly on which aspects of their developing expertise is relational. Further, by reconsidering the notion of agency as a topic for discussion in schools rather than the term 'independence', for example, teachers might reflect upon what matters to them and to their pupils in their practice.

8.9 Final thoughts

This study has taught me a great deal about teaching and this process has shaped and changed the way I understand teaching. I used to observe that some teachers had the sort of classrooms described earlier by participants Stephanie and Sally, where you walk into the room and 'somehow it had all come together', but, like them, I did not have the words to describe what was happening. However, this study has given me a discourse to describe how teachers work with their pupils and the terms, metacommentary, subject and future agency have become tools that represent the changes in how I see the world of expert

teachers. Further, they have become tools that I use in my practice as a teacher educator and in managing the delivery of the ITE curriculum in my own institution.

I believe that basing the study on talking to teachers directly about their work and in their classrooms was worthwhile and I am grateful for the chance to think deeply and systematically about what it was the teacher participants shared with me. I now have a new theoretical framework to underpin the practice of teaching and I not only live with this theoretical framework but am enabled to live in the world differently because of it. In particular, relational expertise and all it entails appears to capture how different people working together can create something new and better. My lasting memory from this research will be the privilege of spending time with the nine expert teacher participants who wanted their pupils to have a better future.

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Glossary

AAT Action Activity Template

AERA American Educational Research Association

ACER Australian Council for Educational Research

CCF Core Content Framework

DfE Department for Education

ECF Early Career Framework

EIF Education Inspection Framework

GCSE General Certificate of Secondary Education

HMI Her Majesty's Inspector

HMCI Her Majesty's Chief Inspector

IPA Interpretive Phenomenological Analysis

ITAP Intensive Training and Practice

ITE Initial Teacher Education

ITT Initial Teacher Training

MFL Modern Foreign Languages

NBPTS National Board for Professional Teaching Standards

NBCT National Board-Certified Teachers

OFSTED Office for Standards in Education

Appendix 1: Interview 1 Questions

1. Why did you become a teacher?
2. Have there been any ideas which have, in particular, shaped how you understand/interpret good teaching?
3. How would you describe your signature pedagogy? (how might pupils, peers or SLT describe it)
4. What elements make up very good teaching? Is there anything you think distinctive about the very best teaching? The very best teachers?
5. What do really good teachers know? What are they able to do?

6. What is it about your teaching that you think is really skilful? The most skilful elements or aspects?
7. Any other comments or thoughts?

Appendix 2: Interview 2 Questions

1. What were you thinking about that you spoke or acted upon?
2. What mattered to you about the tasks in the lesson?
3. How were they designed to make the curriculum meaningful for the pupils?
4. What mattered for students as learners (in your mind/theirs) about in the lesson?
5. How do your actions or decisions enable the pupils to engage with the task?
6. How did you move the child's understanding from everyday to the subject knowledge you wanted them to have?

Appendix 3: Task Analysis Field Notes

<table>
<tr><th>Prompt</th><th>Researcher's Observation</th></tr>
<tr><td>Types of academic task:
memory routine opinion understanding</td><td></td></tr>
<tr><td>Teaching activity:
direct or indirect</td><td></td></tr>
<tr><td>Task accomplishment leads to :
<table><tr><th>Acquire</th><th>Practice of operations (to obtain information demanded in the task)</th></tr></table></td><td></td></tr>
</table>

	a. Information Facts b. Principles c. Solutions	d. Memory e. Classify f. Infer g. Analyse		
Ambiguity and risk for students: a. Ambiguity – precise answer or precise formula for generating an answer available in advance b. Risk – the stringency of the evaluation criteria used by the teacher c. Memory 1 and Routine 1 – reproduce small amount or simple algorithms(answers available in advance and likelihood to reproduce them is high) d. Memory 1 and Routine 2 –reproduce large amount or procedure to be used complicated e. Opinion – several answers are possible but risk low because more than one can be correct f. Understanding – not reduced to simple algorithm; some aspects can't be reproduced using memory. Complex procedures and higher level processes are needed				
. Nature of scaffold : a. teacher does; pupils watch b. Teacher does; pupils help c. Pupils do : teacher helps d. Pupils do; teacher watches				
Cognitive demand / level in task: a. Memory b. Understanding c. Transfer d. Hypothesis				
Academic task in lesson: a. Products handed into the teachers for summative grade b. Titles of work set c. Prompts and resources made available to students d. Major or minor work or an exercise?				
Task defined by following components: a. A product (numbers, answers responses) b. Operations to produce product (remember apply select) c. Resources (notes , textbooks, models from the teacher) d. Significance of task for assessment (% of a grade, practice only) (Doyle, 1983)				

Appendix 4: Observation Sheet (prompts)

What matters in the task?

What matters for the student as a learner?

The double move – child/task ? abstract/concrete

Build agency?

Conceptual resources

Cognitive processes

Decision making

Interpret curriculum

Motivated actions

Say/do

Appendix 5: Initial template drawn from Interview 1 and Teacher Reflections

Relational Expertise (the groupings reflect the structure of the reflection sheets)

1. work together on complex problems held in common
2. involving the joint interpretation of the problem
3. the joint response
4. what the other party brings to the joint working and interpretation
5. works alongside the core expertise of the teacher
6. the activity that pupils and the teacher hold in common
7. teachers design tasks such that the outcome of task accomplishment is the learning in relation to the school curriculum and pupils' 'starting points'
8. how the teacher mutually aligns what matters to them and what matters to their pupils through listening and understanding
9. the expertise of the pupil is surfaced and used
10. the teacher respects the history and identity of the child as pupil in the lesson
11. the teacher focusses themselves and their pupils on going forward together

Common Knowledge

1. alignment built though relational expertise
2. the teacher moves pupils towards both the substantive and syntactic knowledge that make up the subject as represented on the school curriculum
3. a resource designed to shape collaboration
4. what matters to the teacher
5. what teachers said about their views on what matters to the pupils
6. built by teachers through their use of talk
7. the tasks teachers design for pupils to work on in the lesson

8. the long-term aims of the teacher and pupils

Relational Agency

1. the capacity for working with others
2. recognising what matters to the other party
3. aligning ones' responses to the newly enhanced interpretations with the responses of the other party
4. the action taken by the expert teacher in their teaching
5. working together on the learning in the lesson in the heart of the action of the practice

Appendix 6 Participant Information Sheet

Study title

Expert teaching: what matters to expert teachers?

You are being invited to take part in a research study. Before you decide whether or not to take part, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully.

What is the purpose of the study?

The study is designed to investigate how teachers think about their teaching.

Why have I been invited to participate?

You have been invited to participate because you are an expert teacher.

Do I have to take part?

It is up to you to decide whether or not to take part. If you do decide to take part you will be given this information sheet to keep and be asked to sign a consent form. If you decide to take part you are still free to withdraw at any time and without giving a reason.

What will happen to me if I take part?

You will be asked to allow me to audio record three of your lessons in a 6 week period; you will select the three lessons to be recorded. You will be asked to take part in 5 30 minute interviews and to complete a brief evaluation sheet for every teaching day for one week of the 6 week period: this should take about 4 hours of your time.

What are the possible benefits of taking part?

The main benefit of taking part in this study will involve having time to consider your own teaching and pedagogical decisions.

Will what I say in this study be kept confidential?

Research data will be kept securely at all times, especially when collected at school before being transferred back to Oxford Brookes University. Laptops and other devices will be encrypted. Data will be stored in Google Drive, for which the University has a security agreement.

Data generated by the study will be retained in accordance with the University's policy on Academic Integrity. Data generated in the course of the research will be kept securely in paper or electronic form for a period of ten years after the completion of a research project.

It should be noted however that the legal limits to confidentiality will apply.

What should I do if I want to take part?

If you would like to take part, please pass your name to me at lshires@brookes.ac.uk

What will happen to the results of the research study?

The results of the research study will be written up in a thesis for a doctorate in Education. A summary of the research will be made available to the school. Results may also be shared at conferences and written up in publications.

Who is organising and funding the research?

This research is organised as part of the Doctorate in Education programme at the School of Education in Oxford Brookes University.

Who has reviewed the study?

This research has been approved by the University Research Ethics Committee, Oxford Brookes University.

Contact for Further Information

You may contact me at lshires@brookes.ac.uk . If you have any concerns about the way in which the study has been conducted, you should contact the Chair of the University Research Ethics Committee on ethics@brookes.ac.uk.

Thank you for reading this information sheet.

Appendix 7 Consent Form

CONSENT FORM: Teachers

Expert teaching: what matters to expert teachers?

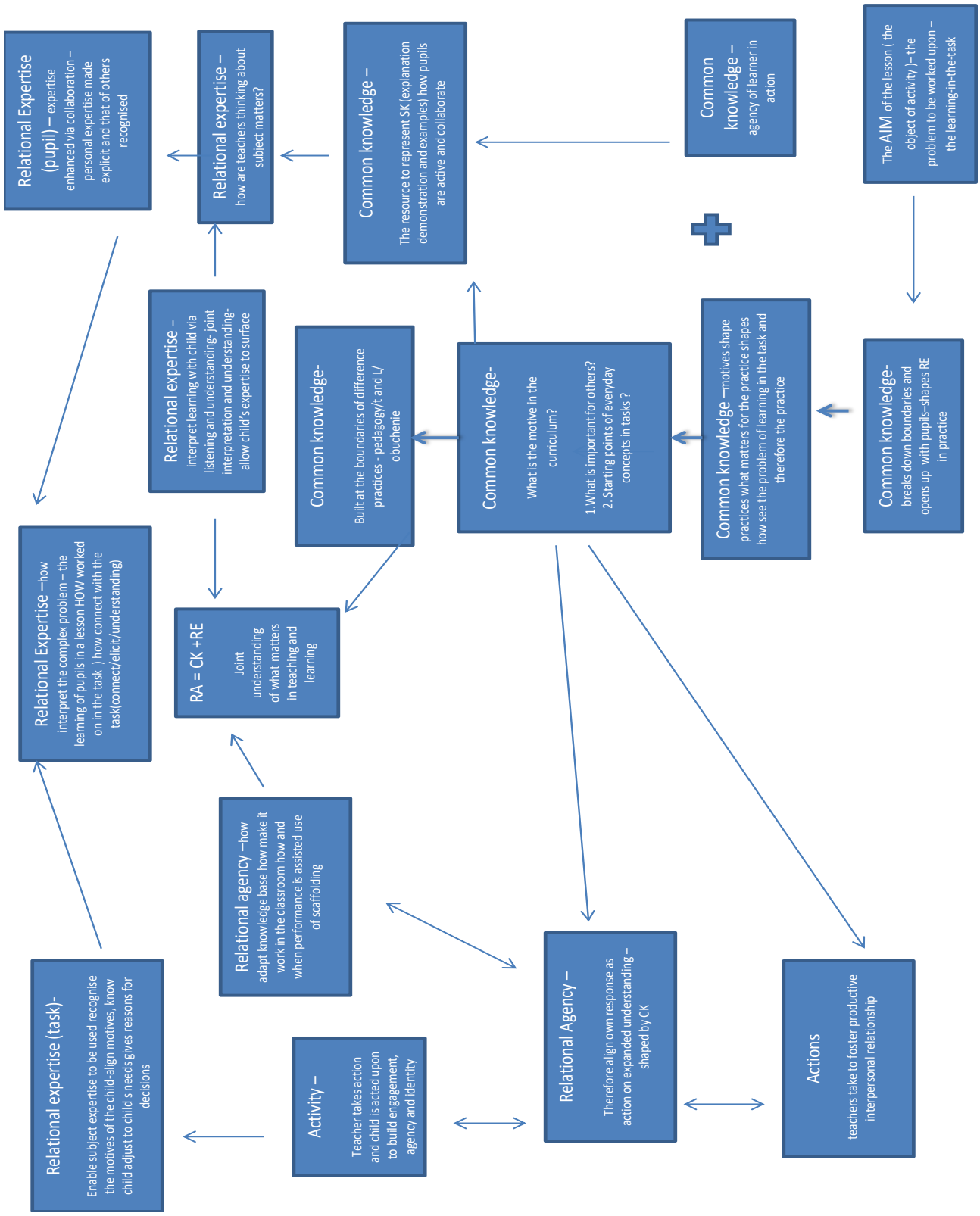
Lorna Shires, Principal Lecturer, School of Education, Oxford Brookes University, Harcourt Hill Campus, Harcourt Hill Oxford OX2 9AT

Please initial box

1. I confirm that I have read and understand the information sheet for the above study and have had the opportunity to ask questions. ☐
2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving reason. ☐
3. I agree to take part in the above study. ☐
5. I agree to the interview / lesson being audio recorded ☐ ☐
6. I agree to the use of anonymised quotes in publications ☐ ☐
7. I agree that my data gathered in this study may be stored (after it has been anonymised) in a specialist data centre and may be used for future research. ☐ ☐

Name of Participant	Date	Signature
Lorna Shires		
Name of Researcher	Date	Signature

Appendix 8 Mapping relational concepts to teaching



Appendix 9 Mapping relational concepts to pedagogy