

**UCL**

**DOCTORATE IN EDUCATION**

**Title: Meta-teaching in Initial Teacher Education - An analysis of teacher educator pedagogy using stimulated recall method in a UK-based university**

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I, Debbie Wright confirm that the work presented in this thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.

## Abstract

Title: Meta-teaching in Initial Teacher Education - An analysis of teacher educator pedagogy using stimulated recall method in a UK-based university.

A longstanding issue for teacher educators has been the successful integration of theory and practice for student teachers. This thesis explored how teacher educators' pedagogy supports the development of student teachers' understanding of these two aspects. A case study approach was utilised for data collection, drawing on the perceptions of teacher educators' and student teachers' experiences, locating it in a social constructivist paradigm. Five experienced teacher educators were interviewed using a stimulated recall method, in which video recordings of seminar teaching were discussed via 1:1 semi-structured interviews. A stimulated recall method was chosen, as it had not been extensively used in teacher education. Additionally, two student focus group interviews were undertaken, and voluntarily submitted reflection sheets from further students were collected. Interviews were transcribed, and the data was coded and organised using thematic analysis. The study was framed by concepts of pedagogical reasoning and Swennen *et al's* view of congruent teaching (2008), in which the explicit modelling and deconstruction of practice supports student teachers' development. The findings revealed that teacher educators used meta-teaching and modelling strategies in their practice to support understanding of theory in teaching. Teacher educators also highlighted the importance of opportunities for students to reflect on practice. The use of stimulated recall emerged as an important method to support teacher educators' own professional development. The findings revealed that students were able to identify the meta-teaching within teacher educators' practice and valued the opportunities to

reflect on their own understanding. Theory was viewed by the students as an important component of their development as teachers.

## Impact Statement

This case study was undertaken within an Initial Teacher Education (ITE) Institute at a UK university. The study focused on experienced teacher educators (TEs) and ITE students in the first two terms of their study. My thesis considered the pedagogy of TEs, in relation to the longstanding issue of how best to support the integration of theory and practice in teacher education. The study provided an analysis of the strategies used by TEs and considered the perceptions of students and teacher educators. The findings of my thesis have substantial potential to contribute to the development of teacher educator pedagogy at institute level, but also to offer insights for other institutes, representative bodies, and policy makers by adding to the body of knowledge concerning teacher educator pedagogy.

In completing the thesis at my ITE institute, a greater understanding has been achieved of TE pedagogy. As an insider researcher, the study afforded me the opportunity to analyse the pedagogy of colleagues and provided the team with a greater focus, understanding, and commonality of language, in relation to the issue of theory and practice integration. The findings of my thesis have influenced the work of the TEs in reviewing and adapting practice in both university-based and school-based work, and have resulted in a review of the partnership work undertaken at my university. The integration of theory and practice has been reconsidered, resulting in the deconstruction of practice and the adoption of meta-teaching in teacher educators' practice, within the university-based curriculum. Meta-teaching is a term developed in the course of this thesis as pertaining to the explicit teaching about teaching.

Similarly, the findings of the thesis have been employed within the school-based work undertaken by students, in which students are supported with deconstructing the practice of classroom teachers via observation prompts and reflective journals. The study has also had an impact on the training of school-based mentors. The use of deconstruction of practice is now a significant feature of mentor training, and students and mentors are trained to undertake coaching dialogues. The area of reflection was an aspect of the study that emerged as requiring further consideration, and this is an area of current focus in the institute's development plan.

Whilst the findings of my case study cannot be considered generalisable, the issue of theory and practice integration is worthy of consideration in other institutes. The method used in the study (stimulated recall) proved to be an important mechanism in supporting collegiate discussions and analysis of pedagogy. Whilst some use of video analysis has been made by schools, less evidence was found of technology being used in ITE institutes. My findings would indicate that the method was successful in providing TEs with opportunities for 'reflection on action' (Schön) and proved to be significant in supporting collegiate analysis and providing shared understandings. The study may, therefore, provide an example of appropriate methods of working with colleagues to develop collective approaches.

Whilst research into TEs' pedagogy is prevalent in international research, less evidence was found in the UK. Countries such as the Netherlands, Australia, and the USA have a long-established tradition in the research and professionalisation of teacher educators. A recent paper from UCET (2020) identifies that high quality teacher education draws on a corpus of knowledge rooted in a robust research base. My study contributes further to our understanding of TEs' pedagogy and its subsequent impact on the development of the ITE student, as a critical professional.

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## **Reflective Statement**

In commencing the doctoral course, my motivation has always been the development of my own learning rather than the acquisition of the end qualification. As a teacher and teacher educator, I have always been fascinated by children, teaching and the interplay between teacher and learner. The doctoral study has given me an opportunity to return to that process and objectively reflect on the 'how' and importantly the 'why' of teaching. In undertaking the doctoral course, I have been able to step out of 'day-to-day' practice and consider and analyse my role, which is now supported by a more theoretical perspective. Over time, I have developed a range of skills of analysis and criticality, which have allowed me to deepen my engagement with the process of teaching and learning. Ultimately, I have gained a more confident voice with which to add to the discourse within my institution and education.

Completing my thesis and doctoral study has affected me in a number of ways; however, in this statement I intend to focus on the contribution the thesis has made to my understanding of teacher educators' pedagogy and the effect that the doctorate has had on my professional role within my work.

### **Contribution to my Understanding of Teacher Educators' Pedagogy**

The impetus for my doctoral thesis can be traced back to an issue in my own practice, in which the impact of pedagogical modelling appeared successful with some but not all students. I embarked on my doctorate seeking to establish what might be the elusive connection between students' understanding of pedagogical theory and practice. During the course of the doctoral assignments, I addressed the issue from a range of perspectives focusing initially on the students' perspective and

their ability to analyse practice. However, in my final thesis the emphasis shifted to the teacher educators' role in the process. My readings identified the significance of modelling to Initial Teacher Education and the importance of exploring pedagogical reasoning with students. These and other themes emerged as important to my developing understanding of teacher education. I will explore how these themes have informed my thinking and developed over time. I will also consider the emergence of my use of stimulated recall as the methodology I would adopt.

## **Modelling**

Reading for the first taught module 'Foundations of Professionalism' (FOP), introduced to me Murray's concept of the second-order practitioner, an almost unique position held by teacher educators in universities, in which educators engage in a dual role of teaching and learning about the discipline of teaching and learning (Murray and Male, 2005). The importance of teacher educators modelling practice, in addition to conveying content was conceptualised for me by my reading and helped me to consider what factors contributed to the successful use of modelling. I recognised through my reading the central importance of discussion to the modelling process and I adopted a social constructionist view adapted from my own classroom teaching. Discussion and dialogic approaches were the focus of early assignments in my doctoral work. However, reading Swennen et al's work on 'congruent teaching' highlighted that modelling offered more in terms of pedagogical exploration and indeed, my reading indicated that modelling alone appeared to be insufficient (Swennen, Lunenberg and Korthagen, 2008). At this point, I reflected on the additional aspects that may support understanding and drew on the work of McIntyre and, also, Loughran, who both advocate the importance of 'practical theorising' and pedagogical reasoning (McIntyre, 1995; Loughran, 2019).

## **Pedagogical Reasoning**

Swennen et al's work had identified the importance of exploring pedagogy explicitly with students rather than merely modelling practice (*ibid*). My wider reading confirmed that this was an area that many had considered important in the process of students teachers' learning. Indeed, Berry and Loughran's work illustrated the importance of teacher educators revealing the pedagogy to students and allowing time to consider the decision-making of the teacher (Loughran and Berry, 2005). Thus, the significance of pedagogical reasoning began to develop and became the focus of my Institute Focus Study (IFS). In the IFS, I explored whether students were able to identify the pedagogical choices of the teacher and whether they made connections to the theories of practice. Findings from this study indicated that students were able to identify some elements of practice. However, it was not clear how prevalent these practices were, and I recognised the importance of establishing the teacher educators' perspective on the process. It was, therefore, from these findings that the research questions for my thesis evolved.

## **Teacher educators' practice**

My thinking was further shaped by the work of Philpott, who conceptualised teacher education as the interplay of content, exemplification and meta-cognising (Philpott, 2014). This chimed with others' work on the importance of developing criticality in students in order to develop teachers who continue to learn post qualification. Indeed, having read Loughran, who refers to 'students of teaching' rather than 'student teachers', encouraged more than a semantic shift in me; rather it helped me to reconsider the role of teacher educators' practice in the process of developing

students' criticality (Loughran, 2019). Thus, an exploration of the teacher educators' practice seemed apposite.

### **Methodological Choices**

In consideration of the teacher educators' perspective a range of methods were considered. However, in discussion with a research colleague at my institute, the possible use of stimulated recall as a method for my thesis came to the fore. The use of video had arisen early on in my doctoral study, as part of the data that emerged in my MOE 1 assignment. Students raised the value of video in helping them analyse teaching practice in seminars. Similarly, Ethell and McMeniman's work highlighted the important opportunity offered by video to explore and analyse expert practice (Ethell and McMeniman, 2000). I recognised the relationship between video-assisted lesson study and teacher educators exploring their pedagogical choices. Within the thesis, tutors were able to consider the successful features within their teaching and explore these attributes via video and through collegiate discussion. This approach accorded with my social constructionist perspective in providing teacher educators an opportunity to work with a knowledgeable other to explore their decision-making. Working alongside colleagues gave me insight into the complex nature of teacher educators' pedagogy and has shaped my thinking in relation to 'meta-teaching' as initially proposed by Field (Field, 2012). This thesis has helped me develop this term, and I have come to some conclusions around the aspects that underpin and define the term.

## **Contribution to my Professional Role**

My doctoral journey has contributed considerably to my own professional development in three particular areas: that of a professional, a teacher educator and a researcher.

### **As a Professional**

As a professional, the development of my thinking through reading and discussion has increasingly influenced my work within my institution. I currently lead a development group which reviews and considers the content and delivery of the ITE curriculum. Within this group, I found that our decisions were being increasingly influenced by my readings of seminal texts by such academics as Loughran and Korthagen (Korthagen, 2010b; Loughran, 2019). As we discussed how best to support students, I was able to draw on the findings of these and other scholars to consider options and ground our work in research. Thus, my doctoral work and my professional work operated as having a semi-permeable membrane with ideas and considerations moving back and forth between academia and practice. Issues and challenges chimed instantly with my readings, and this gave me confidence and credibility to offer suggestions and solutions. One benefit of the doctoral study for me, is it gave 'voice' to the thinking and research in a very practical and tangible way and allowed issues of practice to be addressed in an academically rigorous manner.

### **As Teacher Educator**

Additionally, my doctoral study has supported my work as a teacher educator. The focus of my thesis has had a significant impact on my own practice and my understanding of the pedagogy of teacher educators. From my initial readings of

such works as Swennen *et al* on 'congruent teaching', it became clear that literature was extending and developing the criticality of my own practice (*ibid*). Using my teaching as a pilot and preparation for the thesis raised issues and challenges that helped hone my thinking and practice. Reading has again supported my development in this area. When confronted with challenges, I was able to draw on readings in the field of ITE to aid my understanding and offer routes to follow to develop my work. Lofthouse's work on lesson study underpinned my focus on a collaborative research model as a means to support the development of ITE colleagues (Lofthouse and Thomas, 2017).

Early work within the doctoral study had also led me to consider my epistemological position and to challenge my assumptions; in doing so, I gained greater objectivity of the area I was studying. I believe I have gained a greater aptitude for analysis and criticality, and this influences a number of areas within my role as a teacher educator. My doctoral work has allowed me to reflect on my experience and reading and consider how best to support colleagues as they make the transition from schoolteacher to teacher educator. Readings of the work of Field and Berry highlighted the challenges that this transition presents, and I feel that this is an area that I would like to pursue with colleagues, who have recently joined the university (*ibid*).

### **As Researcher**

Engaging with doctoral work has helped me make the transition from teacher to researcher. It has given me greater confidence in my research skills and an understanding of the challenges, and importance of qualitative research. I have gained skills in interviewing and facilitating focus group discussions and feel

confident in adopting a case study approach. I attended a range of Research Training Programme workshops in order to actively seek opportunities to inform this aspect of my academic self. Undertaking research in my own institution has given me an understanding of the dilemmas of the insider researcher. I appreciate the challenges but acknowledge the richness of data and the benefit that collegiate research projects can offer. In completing my thesis, I was able to refine my use of terminology, and I was made aware of the importance of the precision of writing. This clarity of writing also helped refine and illuminate my thinking. I am aware that my wider reading within the field of ITE can be applied in a range of roles within my work, including working with teacher mentors. The use of the stimulated recall method, within the thesis, is a method with which I feel comfortable and would like to continue to develop as a coaching tool for teacher educators and school-based colleagues.

## **The Future**

I want to continue in Teacher Education both working with students but also taking a coaching and developmental role with colleagues. I feel my thesis has given me an excellent grounding in teacher pedagogy and ways in which this can be analysed and developed. The findings have given clear and precise areas for consideration in my institute and colleagues' practice. As my impact statement demonstrates, I am also working with school-based colleagues to develop a more honed understanding of the development of student teachers' professional theoretical knowledge.

I have gained in confidence as a researcher and hope to continue to contribute to the field of teacher educator pedagogy, perhaps, alongside colleagues at my institution. The findings of the thesis reflect the importance of stimulated recall method in

developing teacher educator pedagogy, and I feel this is an area that I will continue to develop in future research.

### **Structure of the EdD**

Threads of earlier modules can be seen in my thesis, with aspects such as professional decision-making and self-reflection casting back to the FOP module in year one and considerations of epistemology and methodology drawn from the MOE modules. The structure of the doctorate course has been ideal for me. It has developed my thinking and my understanding of the process of research.

In reviewing my progress, I can see that the cumulative nature of the course has honed my research skills and developed my thinking extremely effectively. The professional focus of the EdD course has also enabled me to incorporate my research effectively into my own professional practice and has given me the space in which to reflect again on my position, values, and assumptions, particularly in ITE. The ability to work with others on the course has been invaluable in expanding my thinking and contributed significantly to my continuing fascination with teaching and learning. In likening it to a mountain climb, as I near the summit, I am able to look back and see the view of my development more clearly. The vista opens before me to demonstrate the journey, and though difficult and uphill at points, it has offered me a wider perspective on where I have been and where my future path may lie.

## Chapter One: Setting the Context

### 1.1 Background and Context

This study is about teacher education in a UK-based University. The study focuses on students completing courses in the primary school phase and centres on the issue of integration of theory and practice in Initial Teacher Education (ITE) courses.

I am employed at the university as a Senior Lecturer in primary English and have additional responsibilities for mentor training and working with school partnership.

The university has a long-standing tradition in teacher education; it was originally established as a teacher training college in 1851. The tradition of teacher training at the institute has always drawn strongly on aspects of theoretical and philosophical underpinning in its course design, combined with working in partnership with local schools.

The focus of the study is on teacher educator pedagogy and how this best supports students' understanding of educational theory in taught seminars. My interest in this area developed over a number of years, but particularly as a result of leadership of a module focusing on primary pedagogical approaches. This module introduces students to the theoretical underpinning of teaching and learning and reflects on the social constructivist principles of primary pedagogy.

My fascination with teaching and learning springs from my own primary teaching background and my interest in this study's topic came as a result of working on the above module. The content of the module presents pedagogy through tutor modelling and consideration of theory; however, students anecdotally refer to school practices as where one learns to teach. Such comments led me to consider how we might draw theory and practice closer together and make students more aware of

the theory in the practice modelled by teacher educators. In doing so, it is hoped that teacher educators (TEs) can help students see the importance of theory and that the university elements are not a separate aspect to learning to teach, but can offer a crucial 'space' in which to consider the underpinning theoretical positions of practice.

### **Key Terms**

Within the study, I refer to 'Professional Theoretical Knowledge' (PTK) as a term by which to define the theory of Initial Teacher Education (ITE). ITE endeavours to develop aspects of knowledge around specific subjects, knowledge of child development and learning and knowledge of pedagogy. The term acknowledges that student teachers need to learn a particular combination of knowledge that links content and pedagogy (Tang, Wong and Cheng, 2012). The subsequent use of the term 'theory' covers all three aspects identified above.

Throughout this thesis, I reference the term 'meta- teaching'. This term was originally drawn from the work of Field, to define the practice of explicit teaching about teaching that is a key feature of teacher educator pedagogy (Field, 2012). However, this thesis has enabled me to explore the term in greater detail. Through my investigations, I have been able to identify aspects of teacher educator pedagogy underpinning meta-teaching and how these aspects support student teachers' developing understanding of pedagogy. Through tutor interview data, it has been possible to identify specific teaching strategies used to explore professional theoretical knowledge and to relate this to students' perceptions. Thus, I have constructed a new definition for meta-teaching, which incorporates distinct features. These are a deconstruction of the teacher educators' pedagogy, highlighting theory in TEs' pedagogy, and linking theory to classroom practice. This term was introduced

to TEs within the course of the study and has been, subsequently, incorporated into the discourse of other TEs within my institute.

I have used the terms teacher educator, student teacher, and pupils throughout my research to define clearly the differing participants within the teaching process. Two terms are often used in the preparation of student teachers; Initial Teacher Education (ITE) and Initial Teacher Training (ITT). These reflect differing philosophical positions, with universities often referring to ITE to reflect the educative nature of the process. Given the situational context of the research in a university, I will refer to ITE throughout.

## **1.2 Introduction to the Research Questions**

This study aims to explore the pedagogy of teacher educators and seeks to identify what aspects of their pedagogy support students' understanding of professional theoretical knowledge in primary practice. In doing so, it is intended to ascertain the strategies currently used and consider the impact these have on students' understanding. Ultimately, it is hoped that successful strategies can be shared and developed further within my institutes' teacher education course. The research questions addressed are:

### **Main question**

How do university-based teacher educators support primary school student teachers' ability to recognise theory in practice?

### Sub-questions

1. What are university teacher educators' perceptions of themselves as models of practice?
2. How do they use strategies of modelling and meta-teaching to make professional theoretical knowledge known?
3. Can students identify the pedagogy and links to theory within the practice of teacher educators?
4. Are students able to reflect on these practices in relation to their own developing pedagogical knowledge?

### **1.3 The Importance of Theory in Teacher Education**

In the last ten years, there has been an increase in the number of routes into teaching, with many moving away from university-based education to school-based training (Orchard and Winch, 2015). This school-based training approach adopts an apprenticeship model in which student teachers spend a large proportion of their time teaching in school, supported by practitioners to explore practice. Conversely, the contribution that university-based models can make to teacher education is that they can offer opportunities to analytically and critically explore professional theoretical knowledge that underpins practice (Orchard and Winch, 2015). Within my own institute, we retain a position that allows students to engage critically with theory and reflect on this in light of their own developing understanding. This is achieved via a range of research modules developing over the course, culminating in a literature-based dissertation. Orchard and Winch identified that the university environment provides a space that is conducive to reflection away from the everyday business of school life, and their recommendation was that universities should continue to take a

central role in the preparation of teachers, as ‘good academic preparation is a necessary condition to high quality teaching’ (Orchard and Winch, 2015, p. 32). Similarly, engagement with theory is linked to quality outcomes for pupils. BERA identified the positive impact of having a profession that is research literate and engaged in research can have on learner outcomes; identifying in their work a clear link between ongoing professional reflection and enquiry, and school improvement (BERA-RSA, 2014). Furthermore, they indicated that enquiry-based university environments were the hallmark of high performing international education systems.

Additionally, the teacher who is able to engage with research has the capacity to judge right action in a variety of contexts; such a teacher is able to draw on a well-thought through substantiated conceptual framework of teaching knowledge. It is therefore, important within teacher education to consider the ‘developed capacity for ethical deliberation’ (Orchard and Winch, 2015, p. 5), as this distinguishes teaching as ‘professional teaching’ rather than craft teaching (*ibid*).

‘Practical theorising’ (McIntyre, 1995, p. 368) is identified as an active process; in which students engage in critical testing of ideas from different sources. This process is reiterated in more recent research into experienced teachers’ decision-making; where the notion of clinical reasoning is based on the combination of ‘the analytical and intuitive cognitive processes that professionals use to arrive at a best judged ethical response’ (Kriewaldt and Turnidge, 2013, p. 107). Indeed, whilst the notion of practical wisdom or technical expertise may be seen as an essential part of teaching (Lunenberg and Korthagen, 2009); teachers must also be able to evaluate and question their practice in new situations (Burn and Mutton, 2018). Thus, the need for ITE courses to offer opportunities for student teachers to engage critically with research seems crucial.

Since the completion of this study, the implementation of the Core Content Framework (CCF) (Department for Education, 2020d) has been established in ITE provision. The Core Content Framework identifies the minimum curriculum entitlement for students, including elements of research to which students should be introduced. It has received criticism for drawing on a narrow range of research (BERA, 2019) and the presentation of such prescriptive models has been viewed as reducing opportunities for professional choice (Brooks, 2021) . Indeed, Brooks identifies that it is the development of professional judgement that marks ‘out the new professional from the unthinking technician’ (ibid). Similarly, UCET has called for high quality teacher education which acknowledges that research is contested and contestable and that students need be able to engage in enquiry-rich practice (UCET, 2020).

Biesta’s work warns us against merely relying on a ‘what works’ model of research as this limits ‘the opportunities for participation in educational decision-making and reduces teacher agency’ (Biesta, 2007). It is important that the advent of the CCF does not compromise the importance of developing students who have a predisposition to be continually intellectually curious about their work (UCET, 2020).

This study makes an important contribution not only to the importance of students’ acquiring research-informed knowledge but considers strategies which support the development of student teacher agency.

This study will endeavour to consider how the pedagogy of the teacher educator makes the theory explicit to students and provides them with opportunities to develop their critical understanding of pedagogy, as it is important for all teachers to engage with knowledge beyond the domain specific and to be capable of asking

critical questions of their existing practice (Murray and Kosnik, 2011; BERA-RSA, 2014; Orchard and Winch, 2015). The Carter Review of teacher education argued that beginning teachers should be taught to evaluate and challenge research findings (Department for Education, 2015), and BERA's work reiterates this suggesting that it is important that trainees understand how to interpret educational theory and research in a critical way so they are able to deal with contested issues (*ibid*). Thus, it can be seen that not only is the presentation of theory important to the development of student teachers, but opportunities for critical engagement with the theory. Orchard and Winch's work identified that critical reflection of the ethical dimensions of teaching did not feature prominently in ITE provision at the time of their review (Orchard and Winch, 2015). This study will, therefore, consider how teacher pedagogy endeavours to encourage this critical engagement.

Within the above section, I have outlined the importance of theory in teacher education in relation to quality teaching; pupil outcomes; the developing professionalism of student teachers; and the role university plays in its presentation. In the following section, I will introduce factors which contribute to the integration of theory and practice. These will include the structure of course design; the acknowledged contribution that school placements make and the influence of teacher educator pedagogy. Firstly, I will provide some context to the current position of the ITE curriculum.

## **1.4 Factors to Consider in the Integration of Theory and Practice**

### **1.4.1 Context**

In 2015, the Carter review of Initial Teacher Education was undertaken, the purpose of which was to define effective ITE practice and recommend where and how

improvements could be made (Department for Education, 2015). Drawing on data from the 2014 NQT survey, the review identified that the quality of ITE training was seen as at least good by 89% of primary trained respondents. However, subject knowledge development and subject specific pedagogy were identified as significant gaps in many ITE courses by the review (*ibid*). This led to a recommendation for the development of core content for ITE courses, with a particular emphasis on research informed practice, as the review had recognised that a high level of subject expertise was a characteristic of good teaching.

In November 2019, the introduction of the ITE Core Content Framework (CCF) identified the minimum requirement for ITE provision (Department for Education, 2020d). The development of the Core Content Framework has encountered criticism after its speedy introduction (BERA, 2019) and questions have been raised concerning the issue of progression following its introduction post the Early Career Framework, a later curriculum for Early Career Teachers (Department for Education, 2020a).

However, the Core Content Framework offers an initial framework to the content students should be taught through the 'learn that' statements and 'learn how to' statements of its structure. It attempts to address the 'what' and 'how' of teacher education and encourages the idea of students' engagement with 'expert colleagues'. The CCF further identifies two key strategies as important to the development of early practitioners. These are discussing and analysing practice with expert colleagues and observing how expert colleagues work, thereby developing an ability to deconstruct teaching approaches. The CCF defines 'expert colleagues' as professional colleagues, including lecturers and tutors (Department for Education, 2020d, p. 5). This study will, therefore, focus on the students' observation of teacher

educators as 'expert colleagues' to consider the influence of their pedagogy on student development.

### **1.4.2 Course Design**

Whilst the introduction of the Core Content Framework has identified minimum requirements for ITE provision, the complex issue of course design remains. Several models of ITE curriculum have been suggested with theory and practice placed at different points in the students' development.

McIntyre's model of 'practical theorising' highlighted the importance of theory and practice being run in parallel to support integration (McIntyre, 1995). Conversely, Korthagen's work in the Netherlands shows that theory may well be better placed later in student development (Korthagen, 2017). Additionally, the new ITE Core Content Framework acknowledges the need to structure the introduction of students 'to a core body of knowledge, skills and behaviours that define great teaching' (Department for Education, 2020d, p. 3), but also recognises the central importance of a coherent sequence of teaching that supports students in the development of these areas.

Sullivan and Knight's recent work at Nottingham University considers strands of content for an ITE curriculum, which additionally incorporate the notion of phases of development (Sullivan and Knight, 2019). This particular framework also highlights the importance of understanding pedagogy and the development of critical thinking skills that a professional will require to make appropriate judgements. Thus, there appears to be some consensus within models in which the importance of students' abilities to engage critically with the pedagogical choices made by teachers is central. It is this consensus over the importance of understanding pedagogy through

critical engagement which reinforces the purpose of my study. Students need to understand that theory is embedded in the professional practice of all teachers; in doing so, it may be seen as more relevant and may not be cast off by beginner teachers once qualified (Burn and Mutton, 2018).

### **1.4.3 The Contribution Made by School-Based Practice**

It should be acknowledged that the integration of theory and practice needs careful consideration of both the structure of the course and also recognition of the complementary contribution of school placements to the process. Indeed, the review of literature by Sheffield Hallam University, commissioned by Ofsted, confirmed that a 'joined-up approach' to classroom practice and theory was a vital aspect of the ITE curriculum and that the roles of both teacher educators and school-based mentors were equally crucial to the integration of theory and practice (Department for Education, 2020c, p. 19). Indeed, Mutton *et al* concur, stating that it is only by working together in partnership that universities and schools can make a distinctive and essential contribution to the process of the integration of theory (Burn and Mutton, 2018). Within my research, I acknowledge, however, the focus to be on the university based aspects of the students' development. This offers a counter to the current emphasis on school-based ITT.

Similarly, whilst acknowledging that research has been undertaken into the course structure and design in relation to the integration of theory and practice, less research has been undertaken in the area of teacher educators' pedagogy (Loughran, 2014). This research will focus on teacher educators' practice and seeks to understand its contribution to students' understanding of pedagogy. It aims to consider what strategies are used by teacher educators to support the integration of

theory and practice, as it seems a pertinent factor, which has been underexplored. (Philpott, 2014)

#### **1.4.4 The Contribution of Teacher Educator Pedagogy**

My research seeks to consider the perceptions of teacher educators of themselves as roles models and the strategies they use to make their professional theoretical knowledge explicit to students, but also to gather students' perceptions of the theory within teacher educator practice. Data gathered from NQTs and students by Ofsted identified that in students' opinion, educational theory was irrelevant and that they considered that the instruction of how theory can be used in practice, as a weak area in their ITE courses (Postlethwaite and Haggarty, 2012; Department for Education, 2020b). The literature review in chapter two will identify key strategies with which teacher educators may explore professional theoretical knowledge and consideration of how best to support student understanding.

My study will utilise a stimulated recall method, using video and post session discussion with teacher educators. Additionally, focus group interviews and post session reflection sheets will be used to garner students' responses.

The position of the teacher educator can be identified as being a second-order practitioner, in which the teacher educator draws on the experience of school teaching to teach others. Thus, the 'knowledge of the subject and the pedagogy of how to teach the subject are inseparable' in teacher education (Murray and Male, 2005, p. 126). Teacher educators have a significant role to play in the quality and practices of student teachers and need to be confident in their knowledge of how to teach others to teach (Department for Education, 2020c). The dual nature of the role requires teacher educators to model classroom practice for students, whilst

understanding their position as second-order practitioner, and the strategies they use to teach others to teach. Thus, teacher educators require an understanding of andragogy, as well as pedagogy. Indeed, Loughran acknowledges that teacher educators as expert colleagues are often 'engaged in difficult practice that looks easy' (Eraut, 1994; Hagger and McIntyre, 2006; Loughran, 2014, p. 273).

Furthermore, student teachers need support to deconstruct practice and notice the subtle decision-making that is taking place within teaching, as it is acknowledged that expert practice often involves a great deal of tacit knowledge and understanding (Orchard and Winch, 2015). Indeed, there is some evidence that student teachers find it hard to notice the modelling in teaching (Burn, Mutton and Hagger, 2015; McLean Davies *et al.*, 2015). By observing teacher educators' practice, this study hopes to illuminate strategies by which tacit theoretical knowledge can be made known. Much of the current research on observation relates primarily to observation in school-based training of classroom practitioners; the pedagogy of teacher educators has received less attention.

In the course of the study, the strategies of modelling and meta-teaching will be considered as they reflect the position of the second-order practitioner and the need to explore explicitly the decision-making involved in teaching. The term meta-teaching was developed from Field's work on teacher education (Field, 2012). The term modelling draws on the work of Loughran and Berry, Smith and Swennen *et al.*, (Loughran and Berry, 2005; Smith, 2005; Lunenberg, Korthagen and Swennen, 2007), with Smith's work identifying the importance that student teachers placed on teacher educators modelling primary practice within their work (Smith, 2005). Additionally, Smith's work identified the importance of discussing practice. Therefore,

it is of interest to me to consider the strategies used to offer opportunities to critically engage with the theory presented.

Within the above section, I have considered the factors that contribute to supporting the integration of theory and practice, highlighting the current context in ITE, the design and structure of course, and the need for further research into the role of the teacher educator and their pedagogy.

### **1.5 Research Rationale and Relevance**

This section will explore the relevancy of the research and the potential contribution of this thesis.

The issue of how best to support students' understanding of theory in practice has been a long-standing matter, with students seeing university theory as irrelevant (Hennissen, Beckers and Moerkerke, 2017). However, as a teacher educator of 15 years' experience, I feel strongly that a theory-based approach to teacher education is crucial if students are not merely to imitate the practices of experienced teachers and are to be suitably prepared for the complex demands of teaching in the twenty-first century (Orchard and Winch, 2015).

This study seeks to look for best practice in teacher pedagogy in a current and authentic context and will inform my own practice, but it also can support the development work at my institute. BERA's recommendations cited the importance of the creation of 'research-rich organisational cultures' within universities to achieve better outcomes for learners and teachers (BERA-RSA, 2014, p. 8). The design of this study drew on research within my institute, and it enriched professional discussions with colleagues and ultimately influenced course design.

My research is also relevant to other ITE institutes and contributes to the evidence base on teacher educator pedagogy. A good understanding of ITE pedagogy is necessary for ITE professional development and ITE tutors need to be open to researching their own practice (Loughran, 2014). In doing so, we model teachers as life-long learners, demonstrating that as teacher educators, we, too, should challenge our default settings (Russell and Korthagen, 1995).

## **1.6 Thesis Overview**

In chapter two, a literature review will consider the issues surrounding the integration of theory and practice. It will define professional theoretical knowledge and consider attempts to address its integration in Initial Teacher Education. A range of strategies employed by teacher educators will also be considered to situate the study focus.

Chapter three is a discussion of the methodology followed throughout this research. A justification for why a case study approach has been followed is outlined and consideration is given to the strengths and weaknesses of case study. The thematic analysis is discussed including the technique followed.

Chapter four considers the findings of the data and offers analysis and initial discussion of the results. Chapter five reviews and concludes the research, providing a consideration of the design and methods and identifying recommendations for future practice and research.

## Chapter Two: Literature Review

This literature review focuses on the challenges of identifying theory and connecting it to practice for student teachers. It will consider the nature of teacher educator pedagogy and will define key strategies of modelling and meta-teaching evidenced in teacher educators' practice. The importance of reflection in the process of integrating theory and practice will also be clarified.

### 2.1 Theory and Practice Gap

For many years, the literature surrounding teacher education has identified the difficulty in unifying theory and practice in student teachers' development (Hagger and McIntyre, 2006; Burn and Mutton, 2015; Hennissen, Beckers and Moerkerke, 2017). Furthermore, there is some evidence that for many students, much of their university-based teaching seems irrelevant to the classroom context (Smith and Hodson, 2010; Bråten and Ferguson, 2015).

Indeed, Murray advocates that teacher education must be relevant to the classroom situation, if students are to apply the knowledge of theory (Murray and Passy, 2014).

Schön refers to this 'theory/practice' dilemma as one of 'rigor' or 'relevancy' in the development of professional knowledge (Schön, 1991, p. 42) wherein teacher educators need to consider carefully the integration of theory and practice.

Additionally, students' lack of experience in classroom practice makes application of theory problematic (Eraut, 1994; McIntyre, 2005; Hennissen, Beckers and Moerkerke, 2017), and students need to see theory and practice as intrinsically linked to be valuable in their development (van den Bos and Brouwer, 2014). It is important, therefore, to consider the most effective ways to present theory to students so that there is integration between their understanding of the theory and its

application to classroom practice. This study intends to consider the teacher educators' pedagogy to reveal those strategies which best support this integration.

## 2.2 Professional Theoretical Knowledge

Professional knowledge has been defined in numerous ways. Eraut presents two forms of knowledge that of codified knowledge and personal knowledge. Codified knowledge is that which is given 'status by incorporation into educational programmes; examinations and courses' (Eraut, 2000, p. 113). It is defined as 'comprising of concepts, frameworks, ideas and principles, which may be used to interpret, explain or judge intentions, actions and experiences in educational settings' (Eraut, 1994, p. 70). In addition to codified knowledge, there is personal knowledge defined as 'the cognitive resource that a person brings to a situation that enables them to think and perform' (Eraut, 2000, p. 114).

Similarly, Kessel and Korthagen identify professional knowledge as a balance between episteme and phronesis, in which episteme is knowledge seen as a scientific understanding of a problem and phronesis, drawing on Aristotle's term, being where knowledge is seen as practical wisdom (Korthagen and Kessels, 1999). Correspondingly, Swennen *et al* would identify these aspects as public knowledge and personal knowledge (Swennen, Lunenberg and Korthagen, 2008). Additionally, Shulman's work refers to pedagogical content knowledge in which content knowledge and pedagogical knowledge form the basis of professional understanding (Shulman, 1987). In sum, it appears that there is much consensus on the two combining elements of professional theoretical knowledge.

Difficulties arise, however, in defining what theory should be introduced to students, and some would advocate that there is no consensus on the theory that should be

presented (Shulman, 1987; McIntyre, 1995), thus making the issue of connecting theory and practice particularly challenging.

In the context of this study, I am defining theory as professional theoretical knowledge incorporating the codified knowledge identified by Eraut above, in relation to subject content and knowledge of child development and learning. However, I am also drawing on Shulman's pedagogical content knowledge that 'special amalgam of content and pedagogy that is uniquely the province of teachers' (Shulman, 1987, p. 8).

The importance of not polarising the two aspects of theory and practice is also highlighted within literature (Korthagen and Kessels, 1999). Schön's model of professional thinking in action sees professional activity as consisting of 'instrumental problem solving made rigorous by the application of theory' (Schön, 1991, p. 21). The professional is seen to take their knowledge base and convert it into professional practice that is uniquely tailored to the requirements of the context in which they operate. Similarly, Eraut highlights that theory is not stored in an isolated form, but derives meaning from other ideas or concepts and that to use theory involves providing specific contexts (Eraut, 1994). In setting the theory within a context, it allows the student to reconstruct or reinterpret the theory. Eraut also identifies the importance of the range of interpretations, practice, and perspectives that students need to encounter for a reinterpretation of concepts and ideas to take place (Eraut, 1994; McIntyre, 1995). However, in professions such as teaching, contexts are often unstable and ambiguous. These are often confusing contexts, which Schön refers to as the 'swampy lowlands' of professional action (Schön, 1991, p. 42). It can be seen, therefore, that the lack of consensus on theory combined with the unique contexts that student teachers encounter makes the integration of theory

into practice a demanding area. The dilemma for universities is how best to provide these contexts; at what point to provide public theory for student teachers; and to provide spaces for the two aspects of theory and practice to be linked.

### **2.2.1 Models of ITE Curriculum**

America (Association of Teacher Educators (ATE) and the Netherlands (Dutch Teacher Educators Association-VELON) are among a number of countries which offer frameworks for identifying features of teacher education (Koster and Dengerink, 2001; Association of Teacher Educators, 2008). Across all models, there is some consensus around the significant interplay of key aspects, the 'what' of teaching (subject content); and secondly, the 'how' of teaching (pedagogical understanding). In addition, the importance of metacognition is frequently highlighted; this is what Philpott identifies as the 'beyond' of teaching (Philpott, 2014, p. 11), recognising the importance of reading and critical reflection to reviewing intuitive assumptions (*ibid*). The common aspects which prevail are what concern this study, as are the consideration of how best to present these aspects.

Traditional approaches to teacher education have often adopted a deductive approach to students' learning in which theory is placed first in the taught elements of the university-based teaching and followed by practice school-based elements. This has been seen to be problematic (Korthagen and Brouwer, 2005) and may have unintentionally contributed to the separation of two elements in students' minds. Korthagen's work in the Netherlands identifies that an inductive approach may have a greater impact on students' learning. A three-level theory model is offered for students' learning, in which Korthagen places the students' experiences at the centre

of the learning process; Korthagen refers to this as a 'realistic approach' to teacher education (Korthagen and Kessels, 1999, p. 7).

	Bridging the gap between Theory and Practice		Three-level theory
 Deductive	Theory (Conceptual knowledge)	Inductive 	Level of Theory building
	Practical knowledge		Level of Schematization
	Practice - experiences (Tacit knowledge)		Level of Gestalt formation

Figure 1. Korthagen's model of 'realistic approach' to Teacher Education

In 'Linking practice to theory in teacher education: A growth in cognitive structures' (Hennissen, Beckers and Moerkerke, 2017).

The first level of the model identifies the importance of students' previous experiences and preconceptions around teaching; the second level relates these experiences to practical episodes in the classroom, as a means to develop the conceptual knowledge of students at the third and final level.

The work of Burn *et al*, however, highlights that linear approaches to models of ITE may well be too simplistic (Burn *et al.*, 2003) and that student teachers recognise early on that teaching is complex and multi-layered. Eraut concurs with regard to ITE curriculum design, stating if theory is taught but does not get used, it is likely to be consigned to memory; hence, the theory is often being labelled as irrelevant by students (Eraut, 1994). Conversely, without theory student teachers' ability to theorise is limited by their restricted range of ideas, experiences, and concepts (*ibid*).

Therefore, we see that, models of ITE curricular need to ensure the cohesive planning of these elements to support their integration and avoid the fragmentation of the ITE curriculum (Korthagen, 2010b).

Within sections 2.2 and 2.2a, I have highlighted the difficulties of identifying the theory to be taught and that the integration of theory and practice through course design is challenging. In the following sections, I will outline further considerations which affect the integration of theory and practice, including prior knowledge and contextualisation of knowledge.

### **2.2.2 Prior Knowledge of Students**

It is important to acknowledge the influence of students' prior experiences as pupils in school classrooms and recognise the 'issues, concerns and expectations of student teachers' (Loughran, 2014, p. 275) when considering the ITE curriculum. Hagger and McIntyre urge us to build on the existing perspectives of students rather than ignore them, highlighting the importance of linking theory to prior experiences, knowledge, or understandings (Eraut, 1994; Hagger and McIntyre, 2006). McIntyre acknowledges the challenges that prior knowledge presents and admits that we can at best modify the prior dispositions and attitudes of student teachers (McIntyre, 1995) .

Similarly, Korthagen accepts that the presentation of theory takes time to impact on the practice of novice teachers and may be related to their orientation to reflection; this is an area to which I will return (Korthagen, 2010b). Eraut also acknowledges that frameworks of students' understanding can be changed over time, but identifies that this is a slow, gradual process (Eraut, 1994). Korthagen and Kessels' earlier work referred to this process as a 'guided reinvention' of understanding (Korthagen

and Kessels, 1999, p. 13). Thus, we see that the influence of theory on practice may be developmental in nature and, therefore, may need to permeate throughout the curriculum design.

### **2.2.3 Providing Contexts to Apply Theory to Practice**

In addition to the prior experiences of students, the importance of providing clear contexts to apply knowledge of theory to practice is evident. Eraut highlights that knowledge derives meaning from context and that no theory is valid until 'one has tried it and by implication adapted it for oneself' (Eraut, 1994, p. 32). Similarly, McIntyre's work considers the important interplay of practice and theory and that any theoretical insights should be presented to students as suggestions for practice, stating: *'Theory which is not clearly directed to such practical ends is a burden..., which most cast aside'* (McIntyre, 1995, p. 377).

Indeed, Korthagen and Kessels' work concluded that theoretical elements offered by teacher educators should 'have the characteristics of phronesis rather than those of episteme' (Korthagen and Kessels, 1999, p. 13) if the integration of theory is to be valued by students. Thus, we see the importance of situating the theory within meaningful and suitable learning experiences, and teacher pedagogy needs to build on prior experiences to ensure the effective integration of theory and practice (Brownlee, Purdie and Boulton-Lewis, 2001; Philpott, 2014; Bråten and Ferguson, 2015). Therefore, this study will also identify where teacher educators model practice, in which students can draw on personal experiences to reflect upon practice.

#### 2.2.4 Students Engaging with the Theory

In addition to providing clear learning contexts, it is important that teacher educators create pedagogical opportunities that extend understanding of teaching and 'provide insights and experiences of the dynamic, problematic, complex and sophisticated nature of practice' (Loughran and Menter, 2019, p. 222). The importance of student teachers engaging critically with the complex issues that arise in teaching is crucial (McIntyre, 2005) and the process of student learning can be seen to be an interplay between students' conceptions of teaching and daily practice through reflection (van den Bos and Brouwer, 2014).

Eraut identifies that students need to conceptualise their own learning to make better use of theory. He asserts the importance of the degree of control over their own metacognition, as a significant influence in supporting students to develop an understanding of the interplay between theory and practice (Eraut, 1994). Thus, providing students with the opportunities to discuss their developing understanding with others is a vital element of their education. Hennissen *et al* identify that knowledge is created by the 'externalisation of tacit knowledge' borne from experiences (Hennissen, Beckers and Moerkerke, 2017, p. 315), by which students develop as 'active agents' in the process of linking theory and practice (Cheng, Tang and Cheng, 2012, p. 782).

Similarly, Cheng *et al*, identify the importance of students making evaluative judgements about practice and relating these back to theory (*ibid*); in doing so, they begin to develop a common professional language of critique and expand their understanding of professional knowledge (Eraut, 1994; Beach and Bagley, 2013; Simpson, 2016).

Eraut identifies the importance of observing experts within the field, who offer a variety of approaches (Eraut, 1994). Additionally, having these experts explain their teaching strategies and ongoing thought processes is seen to be important for student teachers to understand the role that theorising can play in professional practice (McIntyre, 1995). The consensus on the importance of theorising practice through discussion reinforces the purpose of my research. Whilst the two studies cited above situate their work in a school-based context, this study will consider the idea that theory can be linked with practice within university-based sessions. It will consider the ways in which teacher educators make explicit their decision-making and explore the theory that underpins their practice.

Schön identified that professionals often know more than they can say and that it is important to reflect on understandings through a process in which the professional surfaces, criticises and reconstructs knowledge and embodies it in future action (Schön, 1991). It is for this reason that a stimulated recall method was used as the basis of the research. Stimulated recall method uses video of a teacher's lesson to stimulate a commentary on the teacher's thought processes at the time (Calderhead, 1981). This method will offer teacher educators the opportunity to explore their practice and shed light on those strategies that support the linkage of theory and practice for students. Further detail on stimulated recall method will be explored in the methodology chapter.

Within section 2.2, I have explored issues that impact on the integration of theory and practice in the ITE curriculum and the consideration needed when addressing this area.

## 2.3 Teacher Educator Pedagogy

Within this section, I will consider the importance of teacher educators' pedagogy on students' development, including difficulties arising from tacit knowledge and the need for further consideration of pedagogy within ITE.

### 2.3.1 Tacit Knowledge of Tutors

Hagger and McIntyre acknowledge that teaching involves a great deal of tacit thinking and the teachers' thinking has immense complexity that is difficult to articulate (Hagger and McIntyre, 2006). They identify that the individuality of thinking is often embedded in teachers' practice. Similarly, Eraut highlights that self-knowledge of performance is often difficult to articulate and is limited in its criticality (Eraut, 1994). Indeed, several studies identify that the articulation of one's own practical knowledge is complex and difficult to achieve (Smith, 2005; Swennen, Lunenberg and Korthagen, 2008; Philpott, 2014). As Hagger suggests, for most experts their expertise is taken for granted; what they are doing is obvious and does not need explanation (Hagger and McIntyre, 2006). If this is seen to be the case for teachers, one may assume that teacher educators are also potentially as vulnerable to this inability to articulate practice as classroom teachers. This study seeks to explore whether this is, in fact, the case or whether second-order practitioners may counter this assumption.

This study seeks to explore the extent to which experienced teacher educators' explicitly explore the theory in their practice with student teachers and make evident the impact such theory may have on children's learning. It will also consider the strategies employed to highlight the importance of theory to practice. Indeed, Loughran highlights the importance of teacher educators refocusing students'

attention away from the visible performance of teachers' work to the invisible work that supports it. He identifies that one of the key elements for teacher educators' professional knowledge is making the knowledge of teaching and learning explicit to students (Loughran, 2014). Similarly, Korthagen and Kessels identify that a key factor of teacher education should relate to the development of a reflective learning process in students.

The systematic enquiry into learning, identified above, makes the relationship between knowing and doing more accessible (Korthagen and Kessels, 1999). Furthermore, Smith's work clearly identifies that students want their teacher educators to be able to articulate their professional content knowledge explicitly in teaching sessions (Smith, 2005). Smith identifies the important role that teacher educators have in providing a bridge between theory that students encounter in university and the practice that they will see in school.

### **2.3.5 Consideration of Teacher Educators' Pedagogy**

There is some evidence that there remains insufficient focus on the pedagogy of teacher education and for many early career teacher educators little support is given to develop their pedagogy beyond school classroom practice to address the differing needs of adult learners (Field, 2012). This may be because teacher education and its pedagogy have historically received little academic focus (Korthagen, Loughran and Lunenberg, 2005; Vanassche and Kelchtermans, 2014). For many teacher educators in their initial stages of development, the central focus lies on their teaching rather than on student learning (Field, 2012; Hadar and Brody, 2016), with many relying on credibility gained via classroom teaching experience (Boyd and Harris, 2010).

Korthagen *et al* identify the importance shift in focus needed by teacher educators, from the curriculum to the learner (Korthagen, Loughran and Russell, 2006).

In Hadar and Brody's study, it was identified that the distinguishing feature of teacher educators' pedagogy was their ability to discuss student teachers' learning in relation to theory (Hadar and Brody, 2016). This feature was distinct to this population, differing from classroom teachers, who rely to a greater extent on practice to develop students' understanding, during periods when students were on school-based experience (*ibid*).

Additionally, in Smith's work, in which the perceptions of students and tutors were gathered around teacher education, it could be seen that students identified the importance of modelling and discussing practice as indicators of good teacher education (Smith, 2005). Conversely, teacher educators paid less attention to the issue of modelling in their responses within Smith's study, placing the development of reflection as central to their role and more significant in linking theory and practice (*ibid*). It appears that teacher educators need to act as effective role models of practice, whilst also ensuring that students develop the skills to critically engage with theory in developing their own understanding. This reflects the second-order practitioner position identified earlier (Murray and Male, 2005); in addition to this, it is important that teacher educators display a learner disposition themselves (Mutton, Burn and Hagger, 2010). Mutton *et al* identify that in theorising their own practice, teacher educators are offered an excellent opportunity to achieve this. It seems important, therefore, to identify the features that make an effective pedagogy for teacher education.

Attempts have been made to outline the important characteristics of teacher educators' pedagogy. Korthagen, Loughran and Russell's attempt resulted in seven principles to support the development of an Initial Teacher Education (ITE) curriculum, including learning approaches modelled by teacher educators in their own practice; dealing with continuously conflicting demands; and a view of knowledge, which is socially created (Korthagen, Loughran and Russell, 2006). Similarly, work by Philpott identified the interplay of content, exemplification, and 'meta-cognising', as a triangular process for facilitating a pedagogy for teacher education (Philpott, 2014, p. 11) and Burn and Mutton identify the importance of 'exposing for discussion the reasoning of the experienced teacher' (Burn and Mutton, 2015, p. 226).

It is the agreement of the importance of teacher educators' pedagogy in student teachers' development which reinforces the purpose of this study. It is in drawing on these models and reading that I have identified three areas for consideration within the study: modelling, meta-teaching, and reflection. These appear central to teacher educators' pedagogy and therefore, will form the basis of my exploration. The following sections will consider these three aspects in greater detail.

## **2.4 Strategies within Teacher Pedagogy**

### **2.4.1 Modelling**

The position of the teacher educator is quite unique in higher education, given its dual nature of presenting both the subject knowledge of teaching and the model of teaching itself and is a feature of being a 'second-order practitioner' (Murray and Male, 2005, p. 2). Many studies make clear the important link between the model of teaching presented in teacher education and its impact on future students' practice

(Segall, 2001; Lunenberg, Korthagen and Swennen, 2007; Fisher, 2011; Hogg and Yates, 2013; Philpott, 2014). Indeed, in the role of second-order practitioner, the teacher educator is demonstrating the 'how' of teaching, which is seen to have a greater impact on students' future teaching practice than subject knowledge alone (Russell and Korthagen, 1995). Indeed, Russell explains the impact of this position as 'how I teach IS the message' for student teachers (Loughran and Russell, 1997, p. 32). Thus, it is evident that the joint nature of the teacher educators' role means that students are not only gaining from the subject knowledge of the tutor, but also observing the process of their teaching.

Swennen *et al* refer to this integration of modelling of practice and professional theoretical knowledge as 'congruent teaching' (Swennen, Lunenberg and Korthagen, 2008, p. 531). Swennen *et al* define congruent teaching as 'attuning the learning of the student teachers with the teaching of the teacher educators; and attuning the learning of the student teachers' pupils with the teaching of the student teachers' (Swennen, Lunenberg and Korthagen, 2008, p. 532). Swennen *et al* identify a range of approaches within congruent teaching, including the importance of linking modelling and theory. Indeed, Swennen *et al* and other studies identify the importance of this 'congruent teaching' as a significant factor in developing students' experience of learning to teach, allowing them to develop their understanding of teaching and envisage new visions of learning (Loughran and Berry, 2005; Lunenberg, Korthagen and Swennen, 2007; Aleccia, 2011).

Lunenberg *et al* define modelling by teacher educators as the 'practice of intentionally displaying certain teaching behaviour with the aim of promoting student teachers' professional learning' (Lunenberg, Korthagen and Swennen, 2007, p. 589). It is also important to acknowledge that the nature of teaching is multi-faceted, and

thus the teacher educator as a role model, demonstrates not only the process of teaching and decision-making that teachers undertake, but the teacher educator also demonstrates the ethos and nature of learning within a classroom (Poerksen, 2005; Philpott, 2014). Thus, within modelling, students not only learn about and discuss teaching; they 'experience' teaching. It is for this reason that this study will take account of the students' perceptions of modelling within teaching seminars via focus group interviews.

Additionally, it should be recognised that students at an early stage in their development are often very concerned with the 'what' and 'how' of teaching, as they focus on what they might need to survive in the classroom (Burn, Hagger and Mutton, 2015; UCET, 2020). We should acknowledge this need in students, since these aspects give them confidence in the initial stages. However, this focus on practice presents some tensions for the teacher educator, as an important aspect of teaching is the pedagogical decision-making of teachers in the classroom: the 'why' of teaching. It should be acknowledged that merely modelling activities to students may not help them adopt the practice (Hogg and Yates, 2013). Students might not be able to recognise examples or translate the examples into their own teaching.

Indeed, there is some evidence that methods used in teacher education are not immediately adopted by students in their own teaching in school (Cochran-Smith, 2005c; Korthagen, 2010b; Struyven, Dochy and Janssens, 2010) and that the adoption of models of practice may also require a shift in students' belief systems around teaching, which are drawn from prior experiences as pupils (Lunenberg, Korthagen and Swennen, 2007; Struyven, Dochy and Janssens, 2010). Furthermore, Dziubinski identified a widespread increase in social constructivist approaches in higher education, where HE teachers are encouraged to engage in student-centred

activities and experiential learning but he also identified their lack of effectiveness, if they are reduced merely to the portrayal of fun activities; Dziubinski referred to this as 'edutainment' (Dziubinski, 2015, p. 316). Indeed, Struyven *et al's* work identified that the methods modelled need to be thoroughly reflected on, amended, and translated into a students' teaching context to be effective (*ibid*).

Thus, it would seem that modelling alone is insufficient to transform practice. Berry's work identified the subtle existence of two layers of modelling for the teacher educator. The first layer identified is where the teacher educator models the practice that they expect student teachers to use in future practice, and the second layer concerns the pedagogical reasoning that accompanies the practice (Berry, 2004). Berry also acknowledged the tension that teacher educators face in selecting exactly what to make explicit to the student teachers, advising that such decisions need to be made thoughtfully. Additionally, Berry outlines the requirement for students to attend to learning on a range of levels simultaneously could result in modelling becoming an extra layer of the thinking that is unhelpful to the student (*ibid*). Similarly, there is some evidence that teacher educators presently do not overtly make their decision-making known to students, as part of their own pedagogical approach (Lunenberg, Korthagen and Swennen, 2007). Thus, assuming modelling good practice to students is sufficient for them to adopt the model of practice may make the impact of such modelling less effective (Struyven, Dochy and Janssens, 2010).

Therefore, teacher educators need to consider the position of modelling within their pedagogy and reflect on its place and purpose. Indeed, Struyven *et al's* work highlighted the importance for balance in pedagogical approaches in teacher education and that lectures were still seen as an important element of the process

(*ibid*). It remains clear, however, that when choosing a particular pedagogical approach that tutors needed to clearly articulate reasons for choice. The focus of this study is to draw on the teacher educators' perceptions of themselves as models of practice and to explore their use of modelling within teaching seminars. It will also consider the importance of pedagogical reasoning, referred to within this study as meta-teaching.

To support the integration of theory and practice, it is important for teacher educators also to focus on developing a criticality of practice, alongside modelling (Lunenberg, Korthagen and Swennen, 2007; Smith and Hodson, 2010; McAlister, 2012). At this early stage of their development, it is important for students to develop a sense of critical reflection. Aleccia identifies the importance of developing students' reflective practice and asserts that teacher educators can also act as models of reflective practitioners (Aleccia, 2011). This is an area to which I will return in section 2.4.3. Within the next section, I will consider the position of meta-teaching in teacher pedagogy.

#### **2.4.2 Meta-teaching**

The term metacognition was first introduced by Flavell in the 1970s as identifying learners' knowledge about the cognitive processes necessary for understanding and learning (Flavell, 1979). This term is related to the work of this study, as its focus is to investigate how students reflect on their understanding and learning of teaching and how teacher educators support the process through their pedagogy.

However, this term has been modified by studies in the field of teacher education in which pedagogical reasoning is seen to incorporate features similar to meta-cognition in which teacher educators explicitly explore their thinking and decision-

making within their pedagogy to support the understanding of student teachers (Swennen, Lunenberg and Korthagen, 2008; Field, 2012; Loughran, 2019). The term 'meta-teaching' has been coined to reflect this process and relates to the teaching about teaching (Field). The purpose of meta-teaching is to explore the decision-making behind teaching to reveal the complexity of the process. Similarly, Loughran identifies that it is the 'ability to develop, use, and share well-reasoned teaching procedures' that defines the expert pedagogue (Loughran, 2019, p. 532).

Meta-teaching also reflects Swennen *et al*'s work on congruent teaching in which five approaches were identified within teacher educator pedagogy that reflect this process. These include 'thinking aloud', 'thinking aloud and stepping out', 'reflection breaks', 'co-teaching,' and 'linking modelling and theory' (Swennen, Lunenberg and Korthagen, 2008, pp. 532-533). Swennen *et al* identified that these approaches were used by teacher educators as a means of achieving congruency in their teaching and enhancing the integration of theory and practice.

Similarly, McIntyre's work, derived from school-based internships, identified the importance of 'practical theorising' for student teachers. In this work, McIntyre acknowledged the students' need for practical activities to succeed in the classroom, but highlighted, also, the need for 'subjecting these ideas for critical examination' (Hagger and McIntyre, 2006, p. 58). To critique practice, students needed to be made aware of the elucidated practice of experienced practitioners and the theory underpinning the activities. Whilst evolving from a differing context, the importance of critical engagement with the thought processes of teaching remains key to the integration of theory and practice. Within this study, the term meta-teaching is used in relation to teacher educator pedagogy as an approach to raise decision-making to the surface and explore the underlying theoretical principles.

Meta-teaching has the potential, via approaches such as ‘thinking aloud’ and exploring decision-making processes, to develop students’ understanding of the implicit thinking behind teaching (Korthagen, Loughran and Lunenberg, 2005; Hagger *et al.*, 2008) and to develop their ability to ‘see into practice’ (Berry, 2004; McKeon and Harrison, 2010, p. 27). Additionally, the value of debriefing and deconstructing teaching task post-teaching contributes to the understanding of pedagogical choices (Loughran and Berry, 2005; Wilson and Bai, 2010; Simpson, 2016).

Meta-teaching allows students to understand that teaching is not merely the delivery of knowledge, but highlights the complexity of the teaching process (Loughran and Menter, 2019). It offers an opportunity not merely to emulate the teaching practitioner, but to develop a ‘know-why’ understanding of teaching (Beach and Bagley, 2013, p. p.386). The debriefing or deconstruction of a teaching task is an active process that necessitates critical testing of ideas from differing sources, including both practice and theory. It provides students with a shared understanding of the process of teaching and opportunities to see that theory is embedded into all practice (Loughran, 1995; Segall, 2001; Aleccia, 2011; Burn, Mutton and Hagger, 2015).

Additionally, the use of meta-teaching introduces student teachers into a common language around teaching and learning. Beach and Bagley advocate the importance of developing this metalanguage around teaching with students (Beach and Bagley, 2013). They identify that there have been fewer opportunities in recent years to engage in ‘vertical discourse’ (*ibid* p.388) around teaching, with much discussion having notions of common sense. Beach and Bagley identify ‘vertical discourse’ as the specialised academic language of disciplines, with a hierarchically organised

conceptual structure. They maintain the importance of vertical discourse to the teaching profession; it is needed to form a robust system of concepts and practice, which aims to help students theorise teaching. Similarly, Paris *et al*/ emphasis the importance of this common professional language to making concepts explicit to student teachers and how this actively promotes a professional culture of learning about teaching (Paris, Polson-Genge and Shanks, 2010).

Additionally, such meta-teaching strategies as those identified above have the impact of ensuring that students are enculturated into the professional practice of reflection. Giving students clear opportunities to discuss the processes and decision-making involved in teaching are seen to be important in making the link between theory and practice (Segall, 2001; Tang, Wong and Cheng, 2012). Furthermore, Hogg and Yates identify the importance of actively planning these opportunities into teaching seminars, as they allow students time to develop skills of professional critique (Hogg and Yates, 2013).

Opportunities to discuss with peers and tutors both during and after teaching sessions are seen as advantageous, since this 'pedagogy of theorising' (Giroux and McLaren, 1986) is what is practised in the lived world of the educational experience, combining both the doing of the activity with the theorising of why it is done that way. Thus, through critical reflection students can be encouraged to see episteme and phronesis as a 'synergistic relationship' (Loughran, 2019, p. 525). It encourages students to see that as practitioners, teachers should be constantly reviewing practice and critiquing their decision-making in class (Simpson, 2016).

Where pedagogical reasoning is seen to be the basis of practice, it seems evident that the teachers' practice will constantly evolve, resulting in enhanced pupil learning (Loughran, 2019). Thus, the benefit of applying meta-teaching within sessions has a potential transformative impact or influence on students' learning (Aleccia, 2011) and on the pupils they will teach. It provides students with the foundations for future critical practice, encouraging perceptual development and allowing students to recognise that practice always has some theoretical underpinning (Segall, 2001; Korthagen, Loughran and Lunenberg, 2005).

It should be acknowledged that several tensions exist concerning making pedagogical choices known to students. As teaching is a very fluid and moving dynamic practice, it may not, even for the best teachers, be easy to identify what decisions are being made at specific points (White, 2011). Furthermore, Bullough identifies that for many teacher educators accessing public theory in relation to their own pedagogy remains an issue (Bullough, 1997). It appears that teacher educators rely on personal experience and personal theories rather than drawing on public theory to support practice (Field, 2012). As teacher educators, it is also difficult to be clear about what to make explicit which elements will be most useful for students and at what point to introduce these to students (White, 2011).

Additionally, Burn *et al* highlight how prior experiences can obscure rather than help student teachers to interpret experienced practitioners' decision-making (Burn, Mutton and Hagger, 2015) and, therefore, as teacher educators, we need to ensure that our decision-making is explicit and clear. The focus of this study will consider what strategies teacher educators use to make their decisions clear to students and how they relate their decisions to theory.

As highlighted in the previous section on modelling, an important factor in the development of students' pedagogical understanding is providing opportunities for critical reflection with others to foster critical engagement with ideas and theory (Segall, 2001; Hagger *et al.*, 2008; Simpson, 2016). McIntyre identifies this as an important feature in student teachers' education, as it enables them to 'engage in practical argument, which will enable them to act intelligently and effectively as teachers' (McIntyre, 1995, p. 381). This third factor will be explored in greater depth in the following section.

### **2.4.3 Reflection**

The concept of reflection in relation to professional development is rooted in the work of Dewey, who defined reflective thinking as 'active persistent and careful consideration of any belief or supposed form of knowledge' (Dewey, 1991, p. 6). Similarly, Korthagen defines it as 'the mental process of structuring or restructuring an experience, a problem or existing knowledge or insights' (Korthagen, 2010a, p. 11). Within teaching, the term of reflection has been extended to 'critical reflection', which is seen as 'the sustained and intentional process of identifying and checking the accuracy and validity of our teaching assumptions' (Brookfield, 2017, p. 3). The intended purpose of critical reflection, therefore, is to take more informed actions in the future (*ibid* p.5). Thus, the central purpose of a reflective teacher education process may be viewed as developing student teachers' reasoning about why they employ certain teaching strategies and how they can improve their teaching for the benefit of children in the class (Lee, 2005). In the pursuit of this study, the definition of critical reflection is adopted, as its focus is the ability of students to identify pedagogical reasoning within practice.

The potential of critical reflection is its transformational nature and involves one in reflecting on beliefs and assumptions and their consequences for practice (Yost, Sentner and Forlenza-Bailey, 2000). Critical reflection offers opportunities to consider alternative view points and courses for action. Through critical reflection students teachers are supported in thinking and problem solving issues in practice; leading to a reconstruction of knowledge. The result of critical reflection for the individual should be 'cognitive change' (Yost, Sentner and Forlenza-Bailey, 2000, p. 41).

However, it should be acknowledged that such change can be unsettling and there is a tension in confronting differing perspectives (Griffiths, 2000). In order to make meaningful change, it is necessary to overcome uncertainty. Indeed constructivist models of reflection encourage this uncertainty and can be seen as inducing disequilibrium (Yost, Sentner and Forlenza-Bailey, 2000). The tension between students' initial beliefs and those they encounter can be seen to support student development and it is through 'collaborative interrogation and reflection on experience' (Daly *et al.*, 2020, p. 238) that the alteration of views of novice teachers can take place. Such cognitive challenge can take time to impact on students' practice but the process of critical reflection can be added to the student teacher's professional knowledge, and drawn on at later points (Griffiths, 2000). Crucial to its development is the critical dialogue needed to build further understandings (Daly *et al.*, 2020).

Critical reflection is a collective process, and beginner teachers' reflection is assisted by others including peers and tutors (Griffiths, 2000). Group reflection offers opportunities for collaborative problem-solving and inquiry and it is through solving problems together that students are able to re-build new knowledge. Central to this

process is providing a 'dialogic space' (Moate *et al.*, 2019, p. 168) in which students can confront differing viewpoints and through dialogue are able to 'go meta' (Daly *et al.*, 2020, p. 228). Within these collaborative dialogues students are afforded the context in which to develop their understanding.

Additionally, critical reflection offers student teachers greater agency and can be seen to have an emancipatory power (Griffiths, 2000; Yost, Sentner and Forlenza-Bailey, 2000). In developing critical thinking skills, reflection's transformational nature means beginner teachers can act as agents of change not only for their own future practice, but also within schools (Yost, Sentner and Forlenza-Bailey, 2000). Critical reflection should be central to the process of initial teacher education in order to develop 'critical and deeply reflective practitioners' for the future (Daly *et al.*, 2020, p. 229).

It is important that students have access to public theory around the development of children and pedagogy (Cochran-Smith, 2005b). However, it is also important to develop a higher level of consciousness of this theory through developing reflection skills with students (Harford and MacRuairc, 2008). Reflection develops the capacity for critical engagement with theory (Hagger and McIntyre, 2006). Thus, by providing opportunities for reflection, students are not only presented with theories and knowledge, but are encouraged to reframe their experiences in light of theory.

Burn and Mutton identify the importance of teachers' abilities to interrogate their own practice and to refer to research-based principles and theory, which can adapt teaching to particular teaching circumstances (Burn and Mutton, 2018; Loughran, 2019). Similarly, Schön identified that professions such as teaching need to develop beyond any step-by-step approach to pedagogy and that the use of reflection can

help to avoid an unthinking approach to teaching (Schön, 1991). This 'adaptive expertise' (Berliner, 2001, p. 473) is what beginner teachers need to develop, to address the changing demands of curriculum and context (Schön, 1991).

The introduction of critical reflection can begin early in the process of teacher education. Indeed, Nelson *et al* identify that theory and practice do not need to be taught in isolation; issues of practice can be considered before school-based experiences through reflective modes of teaching (Nelson, Miller and Yun, 2016). Nelson *et al* advocate that students need space to struggle with new concepts; time to reflect on challenges; and opportunities to process their own responses. This can be achieved by taking on board student-centred methods of instruction offering opportunities to explore practice. Indeed, they advocate 'that internalised reflection is more than just part of teaching it *is* teaching' (Nelson, Miller and Yun, 2016, p. 659) (author italics). Thus, within this study, the pedagogy of the teacher educator is explored as the focus of developing students' critical reflection skills.

The importance of developing students who are self-regulatory learners is also highlighted by Lofthouse, who asserts that the use of dialogue to encourage students to be metacognitive is a crucial aspect of Initial Teacher Education (ITE) (Lofthouse and Cowie, 2018). Lofthouse and others highlight that students need to be engaged in activities that are resolved and understood through dialogue with others (Fisher, 2011; McKenzie, 2015; Lofthouse and Cowie, 2018). Additionally, reflection is seen to encourage students to take ownership over their own critical development (Harford and MacRuairc, 2008). Indeed, McKenzie's work identifies that students value critical reflection and its contribution to their development.

However, McKenzie also acknowledges that students reflect in varying ways along a personal-social continuum (*ibid*). Korthagen's work similarly identified that students might be seen as having an 'internal or external orientation' to reflective learning processes. Internally-orientated students were viewed as wanting to use their own knowledge and values to structure experiences and externally-orientated students needing more guidance and structure from external sources, such as teacher educators (Korthagen, 2010a, p. 14). The central feature of discussion with others, however, remains an important feature of this reflective process.

There is some evidence, however, that students find analysing and critiquing practice particularly difficult (Eraut, 1994; Smith, 2005; Kersting, 2008). Smith's work with students on school-based practice identified that students found it difficult to 'notice' practice (*ibid*). The skills of analysis and critique of practice need to be developed over time (Eraut, 1994; Smith, 2005; Korthagen, 2010a; White, 2011), but are a crucial inclusion in the Initial Teacher Education curriculum (Burn and Mutton, 2015). It seems evident; therefore, that students need support and guidance to observe specific teaching strategies for them to incorporate them into practice (Eraut, 1994; Coffey, 2014).

Within this study, therefore, I will consider the prevalence of critical reflection within teacher educators' pedagogy and the value students' place on the process of reflection. It should be acknowledged that teaching for metacognition and reflection in students 'is a tight and skilled process' (Lofthouse and Cowie, 2018, p. 1) requiring careful intervention by teacher educators. Lofthouse's work with postgraduate students in Initial Teacher Education, however, identified that lesson study can have a profound effect on student teachers' development (*ibid*). Much of the work around models of lesson study has been developed in Japan and has risen to prominence in

recent years. Lesson study provides structured articulation of practice and collaborative opportunities for professional development. It involves small groups of teachers meeting regularly, with the purpose of helping them revise their professional knowledge and their theories of learning and teaching, in light of the evidence of practice (Davies and Dunnill, 2008).

Central to lesson study is the development of critical analysis and the synergy between theory and practice (Davies and Dunnill, 2008). Indeed, the important aspect of reviewing lessons collaboratively is that it encourages the development of a justification approach and seems to increase a move to more complex understandings of teaching, what Helgevold *et al*/ refer to as 'reform-minded teaching' (Helgevold, Næsheim-Bjørkvik and Østrem, 2015, p. 136).

Whilst Lofthouse and Cowie's work engaged student teachers in the process of lesson study, it provided the impetus for me to consider the approach with teacher educators (Lofthouse and Cowie, 2018). The value of lesson study informed my decision to undertake a stimulated recall method in my own study. The methodology would invite teacher educators to video their own lessons and undertake a critical analysis of practice with a colleague. This method would allow teacher educators to articulate how their pedagogy supported student understanding of theory and practice and allow us to gain a more complex understanding of the process.

## **2.5 How does the Literature Inform this Study?**

Research indicates that the integration of theory and practice is important to student teachers' development (Loughran and Mentor 2019, Hagger and McIntyre 2006); however, the process of integration remains a challenging area (Burn and Mutton

2015). This process remains a central issue for Initial Teacher Education and warrants further consideration.

From the literature, there is evidence that teacher educators' pedagogy has received little academic attention (Korthagen, Loughran and Lunenberg, 2005; Field, 2012); however the importance of teaching educators' modelling to the students' understanding of theory and practice is evident (Loughran, 2014; Philpott, 2014). It has also been said that teacher educators do not make explicit their pedagogical reasoning (Berry, 2004; Lunenberg, Korthagen and Swennen, 2007). Thus, the need for more guidance on how teacher educators can support students' development in this area has been called for (Mutton, Burn and Hagger, 2010). My research follows on from these findings as it seeks to investigate further the strategies that teacher educators employ to support students' understanding of theory in practice.

My first research question seeks to consider teacher educators' perception of themselves as role models and the significance they place on modelling practice for students. Research indicates the importance of 'congruent teaching' (Swennen, Lunenberg and Korthagen, 2008) and the implications this has on students' developing understanding. My research will seek further evidence of the significance of modelling on student learning.

My second question examines the strategies that teacher educators use to explore the theory in practice with students. This question will be explored by asking tutors directly, through one-to-one interviews, how they employ these strategies to clarify understanding; this will build on previous studies which have supported the importance of pedagogical reasoning (McIntyre, 1995; Loughran, 2019). I will seek to

identify the strategies employed and the opportunities presented to students to explore the teacher educators' decision-making.

My final questions consider the students' perspective on the process. Evidence indicates that students find deconstructing practice challenging (Smith, 2005; Kersting, 2008) and that such analytical observation requires support (Coffey, 2014). My research seeks to consider this evidence further and also consider the place of reflection in the process. This will involve examining evidence from student focus group interviews.

Within the next chapter, the methodological choices used to investigate these research questions will be explored and explained.

## Chapter Three: Methodology Chapter

The purpose of the study was to gain a detailed insight into the pedagogy used by initial teacher educators and to consider how this pedagogy supported student teachers' developing understanding of theory in practice. The use of meta-teaching and modelling by the teacher educator, as strategies to enhance students' understanding of pedagogy was considered, as were the teacher educators' perceptions of themselves as role models for students. Therefore, my research question was:

**How do university-based teacher educators support primary school student teachers' ability to recognise theory in practice?**

Through a range of research methods, I also explored the following sub-questions:

### Sub-questions

1. What are university teacher educators' perceptions of themselves as models of practice?
2. How do they use strategies of modelling and meta-teaching to make professional theoretical knowledge known?
3. Can students identify the pedagogy and links to theory within the practice of teacher educators?
4. Are students able to reflect on these practices in relation to their own developing pedagogical knowledge?

The qualitative design of the study intended to gather data that are rich in detail from a small group of participants and aimed to gain understanding of the above questions by analysing responses and perceptions of the participants. This study

drew upon a constructionist view of social reality, acknowledging that participants were constructing their own realities to the contexts and experiences explored (Bryman, 2016).

Within the chapter, I will explore, in the first instance, the theoretical perspective and the epistemological positioning of the study. I shall continue by examining the methodological process and range of methods used within the research.

### **3.1 Theoretical Position**

The qualitative research design is interpretative in nature, in that it is concerned with the individual understanding and perceptions of the participants. Interpretivism requires that one deals with the 'common-sense thinking' of participants and explores the interpretation of their social world from their point of view (Bryman, 2016, p. 27). It is acknowledged that there may be multiple constructions of meaning from one event and that any social interaction has inherent subjective meaning (Thomas, 2010; Robson, 2011; Bryman, 2016). Within this study, it was important to gain the multiple perspectives of both teacher educators and student teachers to the teaching event, as the research questions explored the possible connection between the two perspectives. The aim of my research was to uncover an understanding of the participants' perceptions rather than establish a fixed truth. Therefore, an interpretative approach was deemed suitable.

It is recognised that learning to understand pedagogy is a long and complex process for student teachers (Hagger and McIntyre, 2006) and that interactions with teacher educators will help to shape the construction of knowledge and understanding (Lofthouse and Cowie, 2018). In exploring the link between teacher educators' pedagogy and student teachers' understanding, the intention was to consider the

shared meaning that is constructed and sustained during taught seminars; this is what Crotty refers to as the 'intersubjectively' shared constructions of meaning (1998, p. 63). Meanings attributed to interactions have reference to the ordinary situations in which actions occur (Crotty, 1998) and, therefore, this research was situated in the familiar context of seminar teaching for the students and teacher educators. The overall aim of the research is to view this shared meaning with openness and potentially explore new and richer understandings; social constructionism, therefore, offers us the opportunity to take a critical stance on taken-for-granted knowledge (Burr, 2003).

Given the study aimed to gain a deeper understanding of the phenomenon from a subjective stance, a positivist approach was rejected, as such an approach seeks to deal with the objective reality of the situation and the objectivity of the researcher within the process (Bryman, 2016). An interpretive approach acknowledges the values of the researcher themselves as being important; as a practising teacher educator, it was important to acknowledge the influence I had upon the research process (Robson 2011). This researcher 'positionality' (Thomas, 2010, p. 109) is integral to the research process, and it should be acknowledged that the researcher presents a specific version of the social reality that is being studied rather than a definitive version (Burr, 2003; Robson, 2011) resulting from multiple layers interpretation of the data. This is something to which I will return later in the chapter.

Within constructionism, knowledge is contingent on human practices being constructed through interactions, within an essentially social context (Crotty, 1998; Burr, 2003). Additionally, it is acknowledged that meaning-making is an 'ongoing accomplishment' (Crotty, 1998, p. 47) and that our understandings of the world are seen not as fixed, but in a constant state of revision (Bryman, 2016). For these

reasons, it was important to draw directly on the perceptions of tutor and student participants within this study. For the purposes of this study, Burr's definition of micro-social constructionism was applied (Burr, 2003), in which social constructionism is seen as taking place in everyday discourse between people in interaction. In this perspective, the discourse is the only reality that we have access to, and no further claims can be made beyond this. We attempt merely to warrant the voices of the participants involved (Burr, 2003). For this reason, a case study approach was adopted to give voice to the individuals involved.

My research reflected the interpretivist approach in its methods selected, as it was concerned with the 'distinctiveness of humans' (Bryman, 2016, p. 26) and drew on the participants' own words from interview data as presented in my chapters on the discussion and analysis of results. It was important to present the experiences in a way that is faithful to the original. Thus, the choice of one-to-one interviews and stimulated recall method with teacher educators provided the study with trustworthy data collection methods. Additionally, in selecting the method of focus group interviews with students, I was able to replicate the discursive processes by which meanings are established. It was important to select methods that would allow the generation of the individuals' meaning, and, therefore, the focus group interviews of students were a suitable data collection method, as it allowed for a relatively unstructured insight into the opinions and understandings of the participants.

### **3.2 Researcher Positioning**

Within interpretivism, there is the notion of placing oneself in the other's position, to understand the multiple constructions of meaning and knowledge (Burr, 2003).

However, as a researcher, it was important to ensure that the participants' meanings

were those that remained central to the study. People make interpretations together, but it should also be acknowledged that the social construction of the reality will have already occurred before the researcher arrived, leading to the possibility of double interpretation (Crotty, 1998). It was important that I did not impose an artificial order on the participants' thinking within the interview process. Thus, a semi-structured schedule was applied to ensure the participants' views took prominence throughout. As a researcher, it was also important for me to set aside previous habits of thought and to attempt a fresh perception of existence (Crotty, 1998), thereby endeavouring to report on the authentic experiences of the participants (Denscombe, 2010).

Crotty identifies the impact that culture has on our meaning making, asserting that culture brings things into view and endows them with meaning (1998). It should be acknowledged that the teaching profession has its own culture, and, as a researcher, I am part of the 'culture' both as a teacher and teacher educator. It was, therefore, necessary to be alert to the assumptions the teacher educators held and acknowledge the phenomenon of 'reification' (Crotty, 1998, p. 59), by which the familiar makes us unquestioning of the truth.

It is important to acknowledge these assumptions and the need to bracket off such biases where possible (Robson, 2011). The importance of the supervisors' questioning of the data analysis and findings supported me to remain alert to this aspect. My reading has also influenced my perspective within the research. In preparing for the study, I have drawn on a range of reading including that of Swennen *et al's* and the notion of 'congruent teaching' (Swennen, Lunenberg and Korthagen, 2008) and McIntyre's work on practical theorising (McIntyre, 1995). These models and others have affected my own understanding of the process of teacher education, and, therefore, it should be acknowledged that whilst the

approach is inductive, it cannot be identified entirely as a 'grounded theory' approach literature must be acknowledged as affecting my engagement with the research process and the research design (Strauss and Corbin, 1997).

### **3.2.1 The Influence of the Insider Researcher**

As the research was undertaken within my own institute, it was important to be aware of the influence of an insider researcher. Insider research can be defined as 'research completed by members of organisational systems and communities in and on their own organisations' (Brannick and Coghlan, 2007, p. 63). Within this study, I interviewed colleagues and students with whom I had an existing relationship and commented on teacher pedagogy from the position of being a teacher educator myself. It was crucial, therefore, that I remained alert to behavioural impact on my research and to develop what may be termed 'methodological reflexivity' (Brannick and Coghlan, 2007, p. 60). Undertaking the research at my own institute highlighted a range of considerations, including familiarity, access, and role conflict.

My position within the institute meant that I was familiar with the context of teacher education and pedagogical approaches used. This was seen as advantageous, as time was not required to 'absorb the culture' (Mercer, 2007, p. 3). I had a clear awareness of the organisational processes and could quickly access tacit knowledge that may have been missed by those entering the organisation afresh (Brannick and Coghlan, 2007). However, my intimacy with the context could have resulted in assumptions not being challenged or there being a lack reflection on actions taken (van Heugten, 2004; Mercer, 2007). For this reason, I kept a reflective journal throughout the research to ensure that any thinking or interpretations were open to 'alternative reframing' (Brannick and Coghlan, 2007, p. 69).

Additionally, insider research provides good access to participants, who are central to the research focus and questions (Brannick and Coghlan, 2007). Within this study, I was able to draw on the perceptions of experienced teacher educators and student teachers, with relative ease given my position within the organisation. It should be acknowledged, however, that the existing relationships presented a range of considerations within this study. Insider researchers are often seen to have a greater sense of credibility and rapport with participants than researchers from outside (Mercer, 2007), and this can result in dialogue which is rich and detailed; offering thick description of the context and issues of the research. Conversely, familiarity with the participants may result in them not revealing information for fear of being judged and thus can distort data collected (Perryman, 2011). It is also possible that, given my relationship with teaching colleagues, I had previously shared my position on aspects of the research focus, which could result in a distortion of, or influence on, the data. The interview process and schedule supported my work in this area and is a consideration to which I will return in the discussion chapter. This 'role conflict' (Brannick and Coghlan, 2007, p. 70) between researcher and colleague is perhaps ameliorated by adopting Mercer's view that insider/outsider research is not necessarily a dichotomy, but can be viewed as a continuum. Mercer's more pluralist view of the insider researcher acknowledges humans cannot be assigned a single ascribed status (Mercer, 2007) and that as such, we should accept the 'blurring of boundaries' inherent in insider research (Perryman, 2011, p. 864), but must ensure that researcher subjectivity remains 'open to intensive scrutiny' (van Heugten, 2004, p. 208).

### 3.3 The Research Process

This section will outline the research process which was followed, clarifying the different stages of the research. Further detail will be given of each tool later within the chapter.

Initially, a pilot was undertaken of the stimulated recall method, using my own teaching practice to ascertain what might be possible in the research process. Having viewed my own video material, a semi-structured interview was completed with an academic colleague, utilising the pilot interview schedule. I was able to identify incidents in my teaching and discuss with my colleague, those teaching strategies significant to the research question. This was an important stage, as it allowed me to clarify the use of the technology, modify the interview schedule questions, and ensure that student reflection sheets were accessible and used appropriate terminology. The inclusion of video notes by the teacher educator prior to the stimulated recall interview was also found to be advantageous, from the pilot study, as it gave supportive contextual information to the discussion and remediated some of the potential for recall delay (Lyle, 2003). This stage also allowed me to clarify the research questions and lead to a more secure design of the subsequent case studies. The pilot study, however, revealed promising potential for teacher educators to explore their pedagogical reasoning.

Additionally, my work in my Institute Focus Study (IFS) had already influenced my choice of focus group interviews for this research and had offered me a secure understanding of their procedure, advantages, and short comings. This prior knowledge was valuable in undertaking the student focus groups.

A series of five cases were undertaken. These cases included teacher educators with a range of experience and drew on a breadth of subject areas. All cases took place as part of the natural setting of teaching seminars that was being undertaken. Each case was followed by a one-to-one stimulated recall interview with the teacher educator, which focused on the pedagogical reasoning of the teaching strategies employed and the importance of the teacher educator as role model for practice. All cases were recorded and transcribed. After each teaching seminar, the teacher educator collected student reflection sheets to provide students' perspectives on the taught seminar. Two student focus group interviews were also undertaken with students involved in the teaching seminar to explicate their perspectives on the teacher educators' pedagogy and their own developing understanding. Student focus group interviews were also recorded and transcribed.

### 3.3.1 Participants in the Study

Details of the case study participants used in the study are given in the table below.

There were five teacher educators in the study in total.

Participant	Years in teaching	Years in teacher education
Christine	16	6
Iona	27	8
Jennifer	15	12
Fiona	19	8
Rachel	4	7

Figure 2. Case Study Participants

The participants have all been given pseudonyms to provide confidentiality. It should, however, be acknowledged that total anonymity cannot be maintained. Participants were self-selecting from a population of teacher educators and student teachers. It should be acknowledged that the sample was restricted to female, white participants,

all from the primary phase of teaching. These represented the population of the institute, in which the research was undertaken. However, it should be recognised that wider application of the findings from this population may be limited. Teacher educator participants were introduced to the research purpose via email and an invitation to contribute was sent out. As a result of this, a number of teacher educators expressed a verbal interest in being involved (12 of a total population of 20). For a range of logistical reasons, the initial expressions of interest from the teacher educators resulted in five of the original offers being pursued. Logistical reasons included increase changes in workload demands on the part of the participants and staff leaving prior to the commencement of the study. Discussion with supervisors deemed that five cases would yield sufficient data and that further recruitment was not required at this point. Further recruitment might be necessary to achieve data saturation at a later stage in the process. This was not deemed necessary once data analysis had commenced. The candidates were provided with written information about the project (Appendix A) and opportunities were given to clarify the involvement in the study. A similar approach was taken to enlist student teacher participants within the focus group interviews. The project was introduced to students at an initial meeting, and students were able to express an interest in being involved. Further written information was sent out to those students who expressed an interest and an opportunity to clarify any issues was given. Within the population of potential participants, there are likely to be some do not wish to take part for a variety of reasons. From the initial expressions of interest, seven students were used in the focus groups interviews. A chronology of the research process is available in Appendix B.

The use of convenience sampling within small scale case study is suitable, as the sample participants are relevant to the research context and can provide access to in depth detail of information in relation to the research questions. This method cannot provide generalisations across the population of teacher educators and student teachers, and it should be acknowledged that the opinions expressed by the participants represent only their own (Bryman, 2016). However, the participants are representative of teacher educators and student teachers, as a population and, therefore, provide credibility to the data as they offer their own perceptions on the issues. The findings of the study, although not able to offer generalisations, may also offer opportunities for future research (Robson, 2011; Bryman, 2016).

### **3.4 Methodological Approach**

#### **3.4.1 Case Study**

A case study approach involves the detailed analysis of an individual case or cases (Bryman, 2016) . The important aspect of a case study is the exploration of the unique features of the case. A case study recognises the object of the study as important in its own right, and, therefore, intends 'to provide an in-depth examination of it' (Bryman, 2016, p. 61). This approach provides rich detailed qualitative data, and, therefore, was suitable for this study, as it could reveal detailed insights and further knowledge of teacher educators' (TEs) practices.

A case study approach draws on naturally occurring phenomenon (Robson, 2011). It provides a review of 'the subtleties and intricacies within complex social situations', such as teaching (Denscombe, 2010, p. 35). It was well-suited to the research question, as it investigated the existing practices of TEs and offered a detailed and holistic exploration of how or why certain practices may occur. Indeed, case studies

are seen as beneficial because they retain the holistic and meaningful characteristics of real life events (Yin, 2009).

My research used a 'multiple case design' (Yin, 2009, p. 60) approach to explore five TEs at a UK university. The focus of my research was to consider the TEs' ability to make explicit their pedagogical choices within their teaching seminars to support students' understanding of pedagogical theory. Accessing the reasoning and judgements of individual TEs in regard to their practice was important to my research. Therefore, the choice of case study as an approach was well-suited, as a case study approach explores the opinions of real people in a real life context (Robson, 2011). Selecting a few cases of TEs allowed me to focus on gathering detailed information compared to taking more participants and being able only to gather superficial data.

Bryman identifies that case study approaches derive from an inductive tradition, in which theories may be generated. Within this study, there was no intention to generalise in the positivist scientific sense (Thomas, 2010). This case study was what Bryman would refer to as an 'exemplifying case' (Bryman, 2016, p. 62), in that it was capturing the circumstances and conditions of an everyday situation.

Additionally, the individual cases of this study may be seen as instrumental (Stake, 1995; Yin, 2009) in that they were objects of interest in their own right; a case study approach thus allowed me to focus on a few instances in detail (Denscombe, 2010).

Whilst it is not the intention of this study to derive generalisations, findings may shed some light on effective Initial Teacher Education (ITE) pedagogy overall. Stake (1995) asserts that completely new understandings are rarely reached, but that a refinement of understanding can be achieved through case study. Additionally, it can

be seen that case study research can 'inform professional discourse' (Bassey, 1999, p. 51) and, as such, contribute to and inform this discourse. Indeed, the flexible and open design of case study allows for progressive adjustment of the research in response to participants and the growing understanding of the case (Simons, 2009). In contrast, Yin (1995) claims that case studies benefit from prior development of theoretical propositions to guide data collection and analysis. In planning the case study, I took advice from Simons to identify 'foreshadowing issues' (Simons, 2009, p. 32) which guided what I intended to explore, but do not constrain the focus of the research process to just these aspects.

Yin (2009) identifies three types of case study as (a) explanatory (b) descriptive and (c) exploratory. My own study had features of (c) exploratory case study, in that the initial piloting of the one case offered an understanding of the potential data to be collected and a further refinement of the interviews. The subsequent cases, however, were more descriptive in nature allowing for a clear description of the pedagogical choices of the TEs within their teaching and their perceptions of their position as role model.

The research within this study drew on the situated nature of the knowledge of the TEs involved. Exploring the lived experiences of the participants is seen as a clear advantage to case study approach; indeed, Flyvbjerg states that the case study offers an opportunity to 'close in on real life situations and test views directly' in relation to the phenomenon (2006, p. 235). Case study relies on providing detailed accounts as evidence to produce relevant and valid conclusions. Verbatim transcripts of interviews and video footage of teaching produced from my research provided such evidence.

Case study draws on the multiple realities 'the different and even contradictory views of what is happening' (Stake, 1995, p. 12). Within this study, the views of the TEs were important to the research question, as were the reflections of the students. Indeed, Simons would see case study as 'based in a democratic model of evaluation' (Simons, 2009, p. 36). It was my intention to include the stakeholders throughout the process in an attempt to document their perspectives by using accessible methods and language. Case study design allowed me to use a range of methods, as appropriate to the research question (Denscombe, 2010). The contemporary nature of a case study allowed for three sources of evidence to my research that of stimulated recall video observation from the tutors, focus group interviews with the students involved in the event, and student reflection sheets.

The UK-based university involved in this study has a long-established history of teacher training and was similar in size to other ITE institutions. It offers courses at undergraduate and postgraduate level and the staff involved in the study has extensive teaching and teacher education experience. This justifies the suitability of the cases, as they were typical of ITE teaching staff and similar to others that may have been chosen. The composition of the sample, therefore, reflects a specific and relevant population and, therefore, offers greater trustworthiness to the data collected.

It was important to be alert to the fact that case study approach can be vulnerable to researcher bias (Cassell and Symon, 2004). Yin identifies that case study is a demanding approach, as proximity requires the researcher to be aware of their own behavior and possible effects on others (Yin, 2009).

Similarly, case study is open to criticism of being vulnerable to verification and subjectivism. However, Flyvberg clarifies that such limitations apply to other qualitative methods and that case study as an approach can compel the researcher to question their assumptions. Flyvberg continues to explain that the most advanced form of understanding is achieved when 'researcher place themselves in the context being studied' (Flyvbjerg, 2006, p. 236) and that the opportunity for participants to amend and correct data means case study can often force falsifications on to the researcher rather than verification of their assumptions (Flyvbjerg, 2006). Similarly, Stake (1995) identifies that subjectivity is a central element of understanding a phenomenon. He identifies that in qualitative research the researcher is not necessarily looking for cause and effect, but sees the understanding of human experiences as 'a matter of chronologies' (Stake, 1995, p. 37), the exploration of key episodes. Thus, the relationship developed with the participants and my experience in relation to teacher education offered opportunities to develop shared understandings and language.

In an attempt to reduce the influence of bias, careful triangulation via multiple sources was used. The use of peer debriefing with my supervisors, as advocated by Robson (2011), offered an additional objective review to responses and interpretations. Also, the use of member checking of transcripts by the participants ensured that material gathered was valid (Robson, 2011).

### **3.4.2 Close to Practice (CTP) Research**

Many teachers and teacher educators are motivated to research their own practice by a desire to improve outcomes for their students and also a desire to improve their own practice through reflection (Leat, Reid and Lofthouse, 2015). Close to practice

research is defined as ‘research that focuses on aspects defined by practitioners as relevant to their practice and often involves collaborative work between practitioners’ (Wyse *et al.*, 2018, p. 15).

This research study fits this definition, as it evolved from a desire to consider how best to link theory and practice in student teacher development and involved the collaboration of a group of colleagues to research and to reflect upon their own teaching practice.

Close to practice research offers an opportunity to articulate and reaffirm personal philosophies, and thorough collaborative reflection provides opportunities to better align theory and practice, and explore the learning that is uncovered (Loughran, 2007). Indeed, it may be said that practitioners are best placed to research the process of teaching, as they are, in fact, the expert in the research area itself (Loughran, 2007).

However, there remain some tensions with the close to practice model that need to be carefully considered if research is not to be seen as merely ‘another story’ (Loughran, 2007, p. 14) or indeed self-justification. It is important to challenge personal theories and to ensure that outcomes to such research can genuinely have some affect ‘beyond the individual self’ (Loughran, 2007, p. 12).

It is clear that teaching is a complex process in which much of the interplay between teaching and learning remains tacit and invisible (Schön, 1991; Reitano and Sim, 2010; Vesterinen, Toom and Patrikainen, 2010). This may also to be true of teacher education as for teaching in schools (Segall, 2001; Hagger *et al.*, 2008; Dudley, 2018). It is important, therefore, for teacher educators to be able to consider their own philosophy by the exploration of their own practice. Dudley articulates the

importance of problematising practice of 'making the familiar strange' for practitioners to affect improvement or change (Dudley, 2018, p. 22). Collaboration through CTP research creates the conditions for supporting involvement, developing reflection and gives participants opportunities to make sense of their practice (Lofthouse and Thomas, 2017). The collaborative nature of the discussion, within the stimulated recall interviews, offered an opportunity for participants to challenge and review practice and philosophy.

Lofthouse articulates that such collaborative endeavours as CTP research have a range of advantages and can have transformative qualities on practice (Lofthouse, Flanagan and Wigley, 2016). Collaborative working involves joint labour towards a common goal and can bring issues to the fore that play an important part in the 'conceptualising of knowledge and practice in teaching' (Mansfield and Loughran, 2018, p. 246). Additionally, in such work, the participants often have a moral purpose for their work and, therefore, are driven to ask probing questions of themselves (Leat, Reid and Lofthouse, 2015).

The decision to use video-stimulated recall as a method drew on the benefits of CTP research and discussion of practice. The use of video-stimulated recall can provide a model of professional development which empowers participants to engage in professional dialogue (Bignell, 2012). Bignell identifies the importance of developing a shared language between researcher and participant which can heighten the participants' meta-awareness, as video makes teaching moves more visible. Using methods such as video discussion can offer colleagues a neutral non-judgemental space to discuss practice and lead to discussions of co-construction and may lead to professional knowledge creation (Lofthouse, Flanagan and Wigley, 2016). The use of the stimulated recall video meant that the reality of the context is jointly shared

rather than relying on the partial recollections or biased perspectives of individuals (Lofthouse and Thomas, 2017).

The methodology of close to practice research, however, needs to be rigorous to ensure that any findings are of public worth and open to public scrutiny. CTP research can be vulnerable to approaches that remain weak and can lack 'originality, significance and rigour' (Wyse *et al.*, 2018, p. 14). BERA's research project also identified weaknesses in CTP research design, as being the use of selective methodologies and data analysis processes that lack rigour (Wyse *et al.*, 2018). It remains clear that close to practice research requires a robust research design and methodology. For this reason, I sought to develop methods that were transparent and rigorous throughout. Ultimately, the findings of this study confirmed the benefits of the video-stimulated method in the professional development of teacher educators, supporting their analysis of practice and providing them with opportunities to discuss and develop pedagogy. This will be explored further in chapter four.

Within this section, I have considered the advantages and disadvantages of close to practice research. The following section outlines the tools used to gather data.

### **3.5 Research Tools**

To gather the perceptions of both teacher educators and students, three methods of data collections were undertaken. A stimulated recall method was adopted for discussion with teacher educators; a focus group interview method and student reflection sheets were used to garner the opinions of the students involved.

### 3.5.1 Stimulated Recall Method

Stimulated recall method (SRM) is used in a range of professions including counselling, medicine, and teaching. It allows videotaped passages of behaviour to be replayed to individuals to stimulate recall of their concurrent cognitive thinking (Calderhead, 1981; Stough, 2001; Lyle, 2003; Reitano and Sim, 2010). Within this study, video recordings were made of teaching across a range of subjects, and these recordings were followed by an interview with the teacher educator leading the session. The choice of stimulated recall method was appropriate for the research, since it allows the investigation of a naturalist event (Denscombe, 2010) and provides minimal interruption of the activity. Video cameras were positioned within the room and left to film the entire session. No technical support was required during the session. Therefore, the teacher educators and students were not influenced by the presence of a technician, and the session could proceed in as normal a way as possible.

The use of stimulated recall offered a method to examine the previously hidden thinking behind the teacher educators' work and the video acted as a 'questioning mirror' (Calderhead, 1984, p. 95) to support the reflection of the teacher educator. Indeed, Bertone *et al* refer to stimulated recall method interviews as 'self-confrontation interviews' in that they encourage participants to provide reasons between performed actions and motives for acting (Bertone *et al.*, 2006, p. 254). Stimulated recall methodology can play a valuable role in promoting teacher's reflective practice (Reitano and Sim, 2010; Stevenson, 2015), and it is acknowledged that stimulated recall interviews often give responses of greater length than other methods (Lyle, 2003). The nature of this study was exploratory, to seek to understand participants' perceptions and to encourage explicit reflection on

the part of the teacher educator. Thus, the use of stimulated recall interviews is apposite for the aims of the study (Ethell and McMeniman, 2000; Reitano and Sim, 2010).

The teacher educators had viewed the video privately prior to the interviews and had identified a range of excerpts for discussion. The interview schedule was, also, shared with participants in advance (Appendix C). At the commencement of the interview, I recapped the focus of the research and the teacher educator would then identify a chosen excerpt to discuss. This process was used consistently with each interview. The video viewing and discussion would take place simultaneously. The teacher educator would explain their reasons for selection and explore the successes of their teaching, in relation to providing a role model for teaching and exposition of professional theoretical knowledge with students.

The self-selection of the video excerpts may raise issues around trustworthiness. A criticism of stimulated recall method is that the self-reporting nature of the episode can distort the events (Calderhead, 1987). As a method, it may result in commentaries which are incomplete and may not be totally accurate (Calderhead, 1981; Lyle, 2003; Reitano and Sim, 2010). The selective nature of the video excerpts within the data collection method meant that other aspects of teacher educators' pedagogy may not have been addressed. Whilst the selection offers other insights into the teacher educators' views, it should be accepted that a partial picture for practice is all that can be reviewed.

However, the interpretative nature of the study acknowledges that the intention is not to seek truth but to explore the subjective perceptions of the teacher educators' experiences. Stimulated recall method provided the teacher educator with an

opportunity to reflect on their teaching according to their own agenda. The selections provided interesting insights into what aspects the teacher educator felt were important to consider (Reitano and Sim, 2010). This aspect of the method was felt to offer the teacher educator some ownership of the focus of the discussions, whilst maintaining a clear emphasis on the context of the research question. The video allowed the commentaries to focus on the 'domain specificity' (Lyle, 2003, p. 871) of what actually occurred in the teaching session rather than espoused theories that teacher educators may feel they need to offer. Thus, the method may operate not only as a mirror, but also a window on the beliefs and values of the teacher educator.

A further criticism of stimulated recall method is the recall change or decay that can occur between a teaching session and interview (Stough, 2001; Lyle, 2003). In the intervening timeframe, the teacher educator has time to rehearse or reorder their thinking, so that responses are reflections on rather than stimulated by the video extract. In this particular study, however, the focus of the research was on the teacher educators' ability to articulate the pedagogical choices of the teaching rather than the thought processes of in-the-moment decision-making; therefore, the significance of this effect is minimised. However, to ameliorate the effects of recall decay, the teacher educators were encouraged to draw on plans of the session, as support if required and notes created during their viewing. Additionally, interviews took place as promptly as possible after the seminar to reduce recall delay and increase trustworthiness in the data (Lyle, 2003). Conversely, Vesterinen *et al* found that a time delay can actually be beneficial to data collection, as it allows practitioners to see 'practical reasoning in a new way' (Vesterinen, Toom and Krokfors, 2014, p. 631).

As the teacher educators were all known to me, it was important to acknowledge the influence of myself as insider researcher on the stimulated recall interviews (Lyle, 2003; Reitano and Sim, 2010). Lyle prompts interviewers to remember that their role requires them 'to reduce the intrusion into the action' (*ibid* p. 865) and to allow the participants a relatively unstructured response. Therefore, care was taken over the structuring of the interview schedule (Appendix C); questions were framed in an open-ended, non-judgmental manner to encourage teacher educators to be as honest and self-critical as possible. An additional aspect for consideration was my potential familiarity with the context, resulting in the possible intrusion of my assumptions around the teaching. It was important for me to act as a facilitator where possible. In reviewing the audio recordings, teacher educators were found occasionally to address other areas, than those specified on the schedule. Further review of the recordings demonstrated that the majority of the discussion remained with the research question.

In contrast, this insider relationship may also be considered an advantage, as both participants and I shared a common language and understanding of the context (Reitano and Sim, 2010). Indeed, Miles and Huberman advocate that an interview can be seen as a 'co-elaborate act on the part of both parties', not merely a gathering of information by one party (Miles and Huberman, 1994, p. 8).

My familiarity with the context presented an interesting dilemma, as to whether I offered participants certain teaching strategies that I had identified as important to ITE pedagogy from literature or whether to allow teacher educators to reconstruct their own theories of action (Calderhead, 1988). Returning to the purpose of the study and my reading reminded me to focus on an exploration of the teacher educators' own perspectives of ITE pedagogy, and, therefore, the personal

narratives of the participants remained paramount. The issue of researcher bias was thus adjusted for by the limited use of probe questions in the interview schedule to ensure that my role remained to 'stimulate rather than present novel perspectives' (Ethell and McMeniman, 2000; Lyle, 2003, p. 865). In reviewing the data, the influence of my presence as interviewer was occasionally evident. As a result of my familiarity with the context, I built on the responses of participants in our discussions. It is important to recognise that this may have created a weakness in the data, as it moves the data away from the originality of the participants' response.

### **3.5.2 Semi-Structured Interview within SRM**

As part of stimulated recall method, a semi-structured interview technique was used to facilitate the discussion. Semi-structured interviews aligned with the social constructionist positioning of the study, as what the participants say is viewed as having some significance and that there may be a relationship between what is said and the beliefs or psychological constructs that the participant can be said to hold (Smith 1995). Additionally, it is acknowledged that these meanings are negotiated within a social context (*ibid*) through the discussion with me and, therefore, drew on social constructionist principles inherent in the research design.

The focus of the research was to explore the pedagogical reasoning of tutors, which may be tacit in nature; such knowledge can be often semi-automated and difficult to fully articulate (Schön, 1991; Stough, 2001). As a result, it was felt that a one-to-one interview approach would be advantageous in allowing the questioning to evolve and be modified to allow the tacit nature of such knowledge to surface (Gazdag, Nagy and Szivák, 2019). The approach of the semi-structured interview would allow the line of enquiry to be modified and interesting responses to be followed up.

The use of one-to-one interviews was important, since teacher tutors are seen as key players in the process. Additionally, the personal nature of the content means that tutors were more likely to feel comfortable discussing their own practices on a one-to-one basis. The interviews were audio recorded, as this allowed me to return to and review responses. However, it should be recognised that audio recording has a bearing on the freedom with which people feel able to speak (Smith 1995). In contrast, the direct contact with the participants offered a degree of trustworthiness in the data collection (Fenstermacher and Richardson, 1993; Smith 1995).

The semi-structured nature of the interview schedule was supported by the work of Smith and the pilot, in that a 'funnelling technique' (Smith 1995, p. 15) was adopted. This encouraged open elicitation of the teaching by the teacher educators and an opportunity for them to explore their actions. Similarly, the interview probes drew on the 'practical arguments' work of Fenstermacher and Richardson (Fenstermacher and Richardson, 1993, p. 101), in which elicitation allowed for the 'accounts of action that serve to explain or justify what the agent did' (Fenstermacher and Richardson, 1993, p. 104).

The use of direct observation was considered as a method for this study. However it was deemed that direct observation might place the participants in a more vulnerable position as the presence of the observer within the session may affect the content and delivery. Also, data collected from direct observation focuses on describing behaviour rather than intentions behind the behaviour (Denscombe, 2010). In contrast, stimulated recall method allows for a better connection between actual events and teacher educators' thinking than observation alone (Vesterinen, Toom and Krokfors, 2014).

For the purpose of triangulation, two sources of data were gathered from students. Firstly, a post seminar reflection sheet was completed anonymously by students present in the teaching seminar. Secondly, a focus group interview was undertaken from a volunteer convenience sample group of students.

### **3.5.3 Focus Group Interviews**

Focus groups are frequently used when exploring people's experiences of services or events (Kitzinger, 1994; Parker and Tritter, 2006) and can be defined as an in-depth exploration of a topic about which little is known (Stewart, 2007). As a method, it allowed me to explore the collective responses of the students to the teaching seminar (Parker and Tritter, 2006) and mirrored the research aims effectively, as Krueger identified that focus groups should seek to understand and to provide insights into how people perceived a situation (Krueger, 1994).

Focus groups encourage participants 'to verbally formulate their ideas and draw out the cognitive structures, which previously have been unarticulated' (Kitzinger, 1994, p. 106). Thus, focus group interviews allowed for an inductive approach to be adopted, since they ensured priority was given to the group's own framework of understanding and allowed participants to use their own language (Kitzinger, 1994). Within this study, the participants were drawn from pre-existing teaching sets to formulate a relatively homogeneous group with existing familiarity (Kitzinger, 1994). This is a particularly useful element of focus groups, since it offers a natural social network and offers the possibility of 'collective remembering' (Kitzinger, 1994, p. 105).

The evolutionary nature of focus groups interviews provided a dynamic forum in which students could express opinions and ideas which are organic and

interconnected (Kitzinger, 1994). Focus groups allow participants' reasoning to be explored as interactions evolve and joint meaning is constructed, but focus groups also permit individual responses (Krueger, 1994); for these reasons, it was deemed a suitable method to explore students' responses to the teaching seminar. It should also be acknowledged that in using focus groups, some information may be censored by the group (Kitzinger, 1994). Some members may feel that it is not appropriate to express particular opinions and the weight of the group's opinions may make other members reluctant to participate. On reviewing the audio data, it was found that one participant displayed strong opinions within the group. However, others in the group were able to counter the opinions of the individual, and in the presentation of data, I ensured that responses from all participants were explored and presented. Focus groups were selected in preference to one-to-one interviews, as whilst the information was not sensitive in nature, power issues existed between the students, the teacher educator participants and myself as the researcher.

These power issues may have impacted the trustworthiness of responses that could have been gained in a one-to-one interview. To ensure such issues of power were addressed, informed consent was gained from all participants, and they were made aware of their right to withdraw.

The researcher's role within a focus group is to facilitate the discussion rather than to prompt or structure the dialogue (Parker and Tritter, 2006). However, drawing on both my reading and experience from my Institute Focus Study (IFS), I found it useful to structure the initial discussion with an activity (see appendix D). Such 'activity orientated' questions offer special benefits (Krueger, 1998, p. 63), since they allow greater time for reflection by the participants. For this reason, the students undertook a diamond nine activity, in which the dialogue was supported by the

ranking of particular pedagogical features that had arisen from discussions with the teacher educator, as part of their one-to-one interviews. Two additional blank cards were also offered so that students were able to offer their own contributions to the pedagogical features (See Appendix D for details). This activity provided a useful orientation to the topic of teacher educator pedagogy; subsequently, the activity was complemented by an unstructured discussion, in which students were free to explore any other issues that they wish to raise.

### **3.5.4 Student Reflection Sheets**

Given the self-selecting nature of the focus groups participants, it was important to gain further student perceptions where possible. Kitzinger identified the importance of combining focus group interviews with other methods to give voice to further participants (Kitzinger, 1994). To that end, a student reflection sheet was completed by students at the end of each teaching seminar. The reflections sheets (n=338) were voluntary in nature and focused on the key ideas learned in the seminars and how the teacher educators' pedagogy had supported student learning (see appendix E). Piloting the completion of the sheets enabled me to ensure the language remained accessible (Robson, 2011). The sheets were deposited in a box outside of the classroom as students exited the seminar, to reduce the possible pressure to complete the forms. Completion within the session was, however, advantageous and improved response rates.

### 3.6 Trustworthiness of Data

Validity within social sciences refers to whether a 'method investigates what it purports to investigate' (Kvale and Brinkmann, 2015, p. 282) and should permeate the entire research process (*ibid*). Validity provides a 'quality control' throughout the stages of the research, and it was important that I continuously checked and questioned the emerging findings. Similarly, reliability can be seen as the concern with whether a method produces consistent results (Robson, 2011). However, in naturalistic research, such as case study, these definitions have evolved into a concept of 'trustworthiness' (Bassegy, 1999, p. 75). Lincoln and Guba identified trustworthiness as ensuring that 'the findings of an inquiry are worth paying attention to' (Lincoln and Guba, 1985, p. 290) and that it addresses issues of credibility, dependability, confirmability, and transferability (Nowell *et al.*, 2017). My research endeavoured to secure 'trustworthiness' in the following ways:

- The participants of the study were teacher educators of an established UK-based university and student teachers undertaking an initial education qualification. As such, they were a relevant population.
- The research was undertaken in the naturalistic setting of a teaching seminar. I, as the researcher, was not present in the session to avoid influencing the interactions of the students or teacher educators.
- The use of semi-structured interviews and focus groups allowed the participants to follow their own agendas within discussions. All interviews were audio recorded and fully transcribed to produce reliable accounts of the discussions, to which I could repeatedly return to check for accuracy.

- The stimulated recall method allowed me to question directly the teacher educators. Teacher educators selected sections of the videos to be viewed. This meant that discussions were specific and relevant.
- Member checking of transcripts was used in both student focus group discussions and teacher educator semi-structured interviews.
- The findings chapter drew extensively on direct quotations from the interview transcripts to ensure the interpretations could be directly linked to raw data.
- A detailed audit trail was maintained throughout the study and its data analysis to record decision-making and cross reference emerging themes.

### **3.6.1 Triangulation**

There were three differing sources of data methods, which came together via different modes (stimulated recall method, focus group discussions, and student reflection sheets). The selective nature of the video excerpts and the self-reporting nature of stimulated recall method may be seen as vulnerable to bias. It was, therefore, important to include further sources to increase confidence in the data (Bryman, 2016). Similarly, the research questions were concerned with the multiple perspectives of the teaching seminar; thus, the students' opinions were central to the study. The use of the focus group interviews allowed data to be collected from students. The addition of student reflection sheets to the other data collection methods meant that a stronger more trustworthy view could be established. Therefore, methodological triangulation of varying sources provided additional understanding of the differing perspectives. In the analysis of the data sources, the constant cross checking of themes allowed for an iterative development of concepts

and gave confidence to my conclusions, as they were rooted in the original raw data of various sources.

Within this section, I have outlined the methods used to collect the data for the study.

Within the following section, I will consider the decision-making undertaken during the process of data analysis.

### **3.7 Framework for Data Analysis**

A qualitative approach to the analysis was used, which involved generating themes or categories from the data. The data was subjected to thematic analysis, since it allowed me to identify salient points that were pertinent to the research questions.

The reasoning for the use of thematic analysis will be outlined in the following sections and will include a step-by-step review of the process undertaken in this study.

A range of qualitative analysis approaches exist (Wolcott, 1994) and were considered for this study, including grounded theory. However, grounded theory is primarily concerned with the construction of theory in which data collection and analysis operate simultaneously (Bryant and Charmaz, 2007). In this study, it was not expected that the data should serve to generate new theories. Rather it was expected that it would provide insight into the current situation of one particular context that may shed some light on further cases. As the purpose of the study was to document the shared meaning constructed by student teachers and teacher educators to a specific given context, it was considered important to utilise thematic analysis. Thematic analysis maintains the integrity of the teaching context and 'provides accessible and systematic procedures for generating themes from qualitative data' (Clarke and Braun, 2017, p. 297).

### 3.7.1 Thematic Analysis

Thematic analysis allows a researcher to identify, analyse, and interpret patterns of meaning within qualitative data (Clarke and Braun, 2017). During a process of coding, researchers identify important features in the data and attach labels to index them, as they relate to a particular issue (King, 2004). Within thematic analysis these codes develop into themes which capture something important in relation to the research question (Nowell *et al.*, 2017). It is possible to use thematic analysis across a range of epistemologies and research questions because of its flexibility and accessibility (Clarke and Braun, 2017; Nowell *et al.*, 2017). However, thematic analysis is particularly useful to identify patterns in data in relation to 'participants' lived experiences, views and perspectives', and can be used in research which 'seeks to understand what participants think, feel and do' (Clarke and Braun, 2017, p. 297). As the focus of this study was to examine the perspectives of teacher educators and students to a teaching seminar, thematic analysis allowed for a range of interpretations and perspectives to be explored (King, 2004), and as such is well-matched to the interpretative stance of the research overall. Similarly, thematic analysis is a useful approach in inductive studies where researchers are exploring 'new terrain' (Clarke and Braun, 2017, p. 298). The area of teacher educator pedagogy could be viewed as new terrain, as limited research has been undertaken in this area (Loughran, 2014). It is hoped, therefore, that thematic analysis of the participants' perspectives will yield new considerations within the field. Similarly, Wolcott acknowledges that in using thematic analysis to identify patterned regularities in data, it is possible to use one case to shed light on to other cases, thus adding to the body of knowledge in this area (Wolcott, 1994).

The process of thematic analysis can be undertaken using a variety of models, including the six phased approach offered by Braun and Clarke (Braun and Clarke, 2006) or Walcott's description, analysis, and interpretation approach (*ibid*). Similarities apply to all, in that they describe codes, note patterns and make connections to create meaning from the data. Within this study, Walcott's model was adopted to provide a systematic approach to the analysis.

### *Description Phase*

The importance of the description phase of analysis is identified across a range of approaches to thematic analysis (Boyatzis, 1998; Braun and Clarke, 2006). For this reason, I started by reading the transcript data numerous times and following Boyatzis' advice to summarise the individual pages of data. In repeatedly reading the data, I gained greater familiarity of the data set, and this allowed me to identify initial patterns within it (Nowell *et al.*, 2017). It was important to hold back from over interpretation at this early stage and not to impose my own values and assumptions around the data, as it was vital to stay faithful to the accounts and voices of the participants to increase the trustworthiness of the data (Nowell *et al.*, 2017).

The process of description, however, recognises that the researcher will focus on particular aspects and draw them to the fore and that other aspects will be left to the background. It has to be acknowledged that in selecting aspects to be described, the researcher is already beginning to code and attribute meaning (Wolcott, 1994). Additionally, the selection of excerpts or events by the research participants meant that discussion of the data had focused on particular aspects important to the participants and thereby may skew the range of data explored. However, it should be acknowledged that qualitative researchers will naturally ground their reflections in

'observed experience' (Wolcott, 1994, p. 17), and that thematic analysis is a useful method for examining the perspectives of different research participants and repeated readings of the data allowed for 'silent voices or perspectives' to be identified and heard (Boyatzis, 1998, p. 30).

### *Analysis Phase*

Once the transcripts were summarised, it was possible to identify codes for analysis. It was important to establish whether I should apply a theory-driven approach to analysis or a data-driven approach, or, ultimately a hybrid approach, as advocated by Swain (Swain, 2018).

### Theory-driven Approaches

Theory-driven approaches rely on the application of theories, literature, or research to the data, to identify themes that can substantiate the theory or prior research (Boyatzis, 1998). This study, however, was not able to draw on an extensive field of literature in teacher educator pedagogy, nor a single theory about the effective pedagogy needed to enhance the synergy between practice and theory. Instead, it attempted to unearth the features of teacher educator pedagogy and explore what supports students' understanding of school pedagogy.

Boyatzis warns that theory-driven analysis can often lead a researcher to accept the assumptions and biases of previous research (Boyatzis, 1998). Within this study, it is accepted that my prior reading had focused and foregrounded elements, which may have influenced my thinking as I began the process of data analysis; however, I endeavoured to be cautious of theory-driven data analysis, since it can also exclude things that may be relevant and found within the raw data (Wolcott, 1994; Boyatzis,

1998). Similarly, I was alert to the fact that, as an insider researcher, I have my own cultural biases and assumptions to the research question and that in any element of analysis a degree of selection would be inevitable (Boyatzis, 1998).

Furthermore, I was alert to the fact that theory-driven codes can lead to codes being developed out of context (Boyatzis, 1998; Nowell *et al.*, 2017). The context of this study was important, as it is a consideration of participants' perceptions to a teaching seminar. Therefore, staying as close to the original data as possible was paramount to retain the relevance of the context (Nowell *et al.*, 2017).

### Data-driven Approaches

Data-driven approaches use codes which are constructed inductively from the raw data to explore both explicit and latent meaning (Braun and Clarke, 2006). It is subsequently the researcher's task to interpret meaning and construct a theory from the findings in the data (Boyatzis, 1998). Such organic approaches emphasise the active role of the researcher in the processes (Braun and Clarke, 2006; Nowell *et al.*, 2017) in which the researcher becomes the 'instrument of analysis' making judgements about coding the data (Nowell *et al.*, 2017, p. 2). Whilst the inductive data-driven approach was reflective of the interpretative nature of this study, it should be acknowledged that such a flexible approach can lead to inconsistency and a lack of coherence in developing themes (Nowell *et al.*, 2017). To retain a degree of rigour in the code development, a hybrid approach to the analysis was adopted.

### Hybrid Approach

A hybrid approach views the process of thematic analysis as an 'ongoing, organic and iterative process' (Swain, 2018, p. 3). It acknowledges that prior reading guides

the analysis of the data by providing some preconceived codes (King, 2004), as it had in this study, thereby providing some initial interests to pursue (Nowell *et al.*, 2017). However, it also recognises the need for the researcher to be reflective, and identifies the strength of an inductive hybrid approach, as being the way in which things emerge in the data, and this can be the starting point for the code development process (Swain, 2018). The exploratory nature of this study required that I acknowledged that there was data 'yet to be discovered' (Swain, 2018, p. 5), and, therefore, a hybrid approach was deemed appropriate.

### The Process of Coding

To facilitate the analysis of the data, all the transcripts were analysed using Nvivo software. Within my IFS, I had manually coded transcripts for data analysis.

Attending a data analysis workshop and undertaking two Nvivo training courses gave me the confidence to develop myself as a researcher and use software for analysis. It proved successful in managing larger data sets and effectively facilitated the cross checking of themes.

Having read the data numerous times, emerging patterns were established as codes or nodes. Within data-driven approaches, it is acknowledged that codes evolve over time as part of the process of the enquiry (Braun and Clarke, 2006). The process of merging and creating nodes enabled me to define codes more accurately and identify 'flags' that were key to identifying what each code represented and what I needed to be alert to in the data (Boyatzis, 1998, p. 31). The use of clear labelling techniques for coding and clarity around the language used in labelling were used to ensure the trustworthiness of the data. As Boyatzis identifies, a good thematic code captures the richness of a phenomenon, but it was also important that I adhered to

the language of the raw data to avoid reflecting my own values and theories (Boyatzis, 1998). Similarly, the language of the code can often be language of the specific research field, and this will include special meanings or jargon. It was important, therefore, to be aware that the meanings of labels and themes need to be clearly understood by all readers (Wolcott, 1994; Boyatzis, 1998).

Frequency tables were used to identify the emergence of prevalent themes. King (*ibid*) warns that the prevalence of themes should not be seen as a pure indicator of significance; however through the analysis and the coding process, the themes and their inter-relationships began to take form (See appendix F for code development reference). Four major themes, in regard to the development of students' understanding of theory and tutor pedagogy, emerged from the tutor transcripts.

These included:

- Meta-teaching
- Links between theory and practice
- Modelling
- Links to classroom practice

An additional theme also emerged in relation to tutors' own professional practice.

These themes were used to cross reference the analysis of the students' transcripts and reflection sheets to identify similarities and anomalies within the data set.

Additional codes were added where students identified other significant themes. I will explore these themes in greater depth in the findings and discussion section of the thesis.

At this stage in the process, discussion with my supervisors also provided an opportunity to undertake a peer debriefing (Robson, 2011). As experienced researchers, the discussion helped me review the process of analysis and offered some substantiation to the trustworthiness of the data. During the analysis process, I had kept a rigorous audit trail of decision-making in the form of a coding manual and was able to demonstrate that my initial interpretations were built on robust data analysis processes. This fulfilled one of Lincoln and Guba criteria for the concept of trustworthiness in qualitative data; dependability (Lincoln and Guba, 1985).

### *Interpretation Phase*

Braun and Clarke identify the importance of the move beyond description of the data to where the researcher attempts to theorise the significance of the patterns and enabled meanings and implications to be made, often in relation to the literature (Braun and Clarke, 2006). The interpretation stage was a means of organising my thoughts to help me reach an understanding of the situation. I was, however, alert to the warning offered by Wolcott that 'the researcher should be careful to avoid the tendency to employ research as a method of self-validation' (Wolcott, 1994, p. 38).

Therefore, my process of interpretation involved a constant iterative process return back and forth to the raw data. This 'progressive focusing' allowed me to zoom in from a broad context, to particulars in a transcript and zoom out to include more of the context (Wolcott, 1994, p. 18). This constant return to the raw data was intended to provide clear links between data and interpretations (Nowell *et al.*, 2017). The interpretation stage should tell the story of the data for a researcher (Wolcott, 1994). I therefore, selected illustrative examples within the findings chapter to shed some understanding on the research question. These examples, whilst selective, were

intended to 'be judged by their explanatory power and their capacity to inspire others' (Wolcott, 1994, p. 38).

### **3.8 Ethical Considerations**

I sought ethical approval from UCL and the study institute to undertake my research. Both institutions gave approval with no amendments to the initial proposal. UCL provided email approval via their ethics committee (See appendix G) and the host institute emailed a letter of approval. These approvals provided me with confidence that the plans for selection of, and working with, participants were acceptable and in line with university ethical guidelines.

As a member of staff in the study institution, I held an insider researcher position. This enabled me to collect data freely and quickly and meant I had established relationships with colleagues that made communication easier. However, it was important to ensure that steps had been taken to confirm that participants were fully aware of the implications of being involved in the study. Bryman identifies that principles of informed consent require researchers to ensure participants are fully informed about the research process and that a researcher is responsible for safeguarding participants from harm (Bryman, 2016). For this reason, I undertook a number of steps to ensure that participants were fully informed and remained safe throughout:

- As an insider researcher, I had existing relationships with participants. Whilst this was advantageous in many ways, it was important to ensure that participants were not coerced to participate and that participants should be willing and interested volunteers. My ethical responsibility was to allow participants to be self-selecting rather than the sample being chosen. It is

acknowledged that the self-selecting nature of the group may skew data found, and this is discussed in section 3.3.1.

- Additionally, the presentation of the research's intentions and the purpose of the study to both students and teacher educators made clear that participants were not obligated to take part. Participants were also made aware of the publication of the findings as being for an EdD research study.
- Participants were provided with a full information sheet and informed consent was gained (see appendix H).
- Students were made aware that participation or lack of participation would have no detrimental impact on any assessments in which they were involved. This was important, as I taught the students and would be involved in future assessments. It was clear that the data collected would only be used for the research purpose outlined in the information sheet.
- Time limits were set on interviews, and these were adhered to throughout. This was to ensure that participation in the research process did not contribute a detrimental workload for students and teacher educators.
- Right to withdraw made clear at start of each interview. Permission to record interviews was gained.
- Student reflection sheets were anonymous and voluntary in nature and were deposited in a drop box outside of the classroom.
- Tutors had access to the totality of the video recording, but chose extracts for discussion. In doing so, participants stayed in control of the data viewed.
- Transcripts of interviews were available to participants for member checking.
- Confidentiality was supported by the use of pseudonyms when writing up the findings, and all data was kept securely on a password protected computer.

- In writing up my findings, only generic principles of practice were articulated so that individual practice was not overtly judged.
- My own knowledge of the context helped me to identify potential ethical issues, and the pilot study raised no further ethical considerations. Drawing on my reading of BERA's guidelines for ethical research (BERA, 2018) and my own knowledge of the context, I felt confident that my ethical decisions were appropriate.

Within this chapter, I have outlined and justified the decision-making process undertaken to address the research questions. Data collection methods of stimulated recall with semi-structured interview, focus group interview, and student reflection sheets have been explored, as have ethical considerations arising from the study. I have explained and illustrated the process of thematic analysis, and I have outlined ways in which the study has been designed to increase trustworthiness. In the following chapter, I will present and analyse the findings of the study.

## **Chapter Four: Presentation of Findings and Discussion**

This chapter is structured around the research questions presented in section 1.2 and the concepts identified within literature, drawing on all the combined data sources. The initial sections will address key emerging themes from the data, including meta-teaching, modelling, and reflection. The following section will explore the use of the stimulated recall method (SRM) as a process for developing teacher educators' pedagogy, and the centrality of ownership and discussion to that process.

Thematic analysis was used to decipher meaning from the data. The range of responses was mapped across the four themes to ensure that the findings reflected a representative sample of the participants (Braun and Clarke, 2006). Full transcripts of the student and tutor interviews were made; an example of this is located in Appendix J. Themes from the data will be presented by mind maps within each section, and this chapter will explore, firstly, each theme and, subsequently, draw on supportive sub-themes to deepen the analysis and discussion.

In line with the interpretative stance of the study, it was considered important to give voice to the participants' opinions and perceptions. For this reason, the chapter will combine the data and discussion of the findings. In doing so, the trustworthiness of the data is secured by direct quotations from the participants involved. It should, however, be recognised that the participants within this study were all primary phase practitioners. The findings presented, therefore, may be limited to primary ITE contexts. This is, however, consistent with case study methodology in which the focus remains on one instance of investigation (Denscombe, 2010). I will present the findings of the study, in relation to the literature and provide a commentary on my

initial considerations. Further considerations will be presented in the subsequent conclusions chapter.

### **Reflection on the Literature**

Consideration of the literature highlighted issues surrounding the connection of theory and practice in initial teacher training, with students often seeing the two components of university-based teaching and school-based practice as separate and unrelated (Cheng, Cheng and Tang, 2010; Hennissen, Beckers and Moerkerke, 2017). This perceived 'unbridgeable gap' (Loughran and Berry, 2005, p. 196) is compounded by issues of relevancy and timing of theory within ITE curricula (Eraut, 1994; Korthagen and Kessels, 1999) and the difficulties of tacit professional knowledge in teaching (Hagger and McIntyre, 2006). However, the importance of students understanding pedagogical reasoning remains (Loughran and Menter, 2019), and the intention of this study was to consider the role of the teacher educators' pedagogy in developing students' pedagogical understanding.

Within the literature review, three elements of teacher educator pedagogy were noted as significant in developing students' understanding of school pedagogy: the analysis of tasks undertaken by students helping them to identify reasons for choice; modelling of pedagogy; and student reflection (Segall, 2001; Wilson and Bai, 2010). Within the literature, however, less was found in relation to the interplay of these elements. Little attention had been given to the pedagogy of the teacher educator to see how prevalent each element might be and how the elements were connected for the students (Loughran, 2014; Hennissen, Beckers and Moerkerke, 2017). For this reason, this study examined the pedagogy of teacher educators, to add to the body

of knowledge in this area and to consider how this pedagogy might best support students' understanding.

From my review of literature and the analysis of the study's findings, four major themes arose in relation to the area of teacher educators' pedagogy:

1. Meta-teaching
2. Modelling
3. Reflection
4. Tutors' reflection on their own practice

Theme one meta-teaching refers to the deconstruction of tasks to support students' understanding. In doing so, tutors rationalise decisions and relate these decisions to educational theory. Meta-teaching offered an opportunity to explore why tutors teach in the way that they do. Within section 4.1, I will consider evidence of meta-teaching within the data and relate this to literature where appropriate.

## 4.1 The Theme of Meta-teaching

### 4.1.1 Introduction to the Data of Meta-teaching

Within the following section, I will consider the findings in relation to research sub-questions two and four:

*How do they (tutors) use strategies of ... meta-teaching to make professional theoretical knowledge known?*

*Are students able to reflect on these practices (meta-teaching) in relation to their own developing pedagogical knowledge?*

From the data analysis three main findings emerged in relation to meta-teaching.

These were:

- Meta-teaching was present in all the tutor participants' teaching seminars, and this was valued as an important aspect in synergising the theory with practice by tutors and students.
- Meta-teaching was seen as crucial to developing and challenging students' understanding of theory, and offered opportunities to explore reasoning and choices within pedagogy.
- Meta-teaching was evident in seminars, although not always explicitly planned for. It is seen as increasing student engagement and making clear links between practice and theory by tutors.

In initially analysing the data, the transcripts provided a range of evidence in relation to a term, which was subsequently labelled meta-teaching. The term meta-teaching was initially derived from my reading; however, analysis of the data allowed me to develop this term further. Drawing on Boyatzis' work, I identified aspects offered by

the participants in transcripts to hone the definition and clarified the term in relation to teacher educators' pedagogy (Boyatzis, 1998). The combination of data analysis and further reading reinforced my understanding of the concept of teaching about teaching in an explicit way. Meta-teaching was identified by a range of teaching aspects summarised as the sub-themes: analysis of the teaching, highlighting theory in tutors' own practice, and linking theory to classroom practice as identified in Figure 3 below. Each of these sub-themes will be considered in turn.

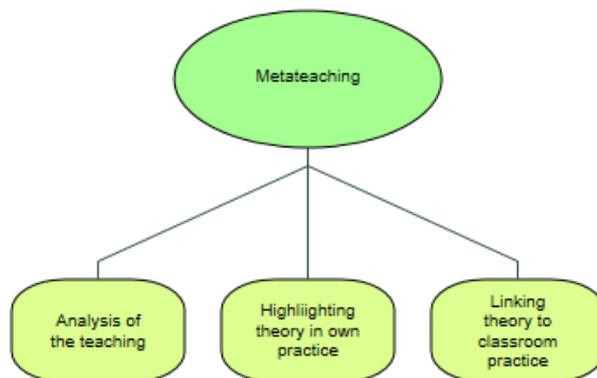


Figure 3. Meta-teaching

#### 4.1.2 Analysis of the Teaching

Tutors identified that analysis of teaching was an important part of their role in teaching students. They considered that mere participation in an activity was insufficient to develop the understanding of the pedagogy used. They realised that experiences needed to be supplemented by the use of the above aspects of meta-teaching to extend understanding. Fiona identified the importance of analysis as: 'It's

really kind of picking it apart ... that's the crucial bit because if they just have the experience, I don't think there would be anything further to get from it.' The meta-teaching was acknowledged by Fiona as the link between experience and understanding commenting: 'It's to really kind of guide them into understanding what it is they've done, and how it's impacted their understanding of the book.' Similarly, Jennifer illustrates how her explanations of practice supported students' understanding and clarified the teaching process: 'I talked about the choice and I made an explicit reference to the fact that I chose 'twenty-nine' to guide them to compensate to the thirty... and I talk about the increased cognitive load because of the larger numbers.' This reflects research highlighted in the literature review, that identified the importance of ITE pedagogy offering opportunities for students to deconstruct teaching (Tang, Wong and Cheng, 2012; Beach and Bagley, 2013) and that these opportunities were crucial to challenging students' perceptions of teaching and aided students' understanding of pedagogy (Brownlee, Purdie and Boulton-Lewis, 2001; Sullivan, 2011).

At this stage, it is important to note that teacher educators did not use the term meta-teaching in their SRM interviews. My analysis of transcripts and reading was developing this term. The collaborative nature of the SRM interview allowed me to achieve a firmer definition of the term, through the course of this study.

The idea that experience in itself was insufficient was reiterated by a number of tutors and that they viewed time given to the analysis within the session was important. Whilst modelling an activity was also a prevalent theme, it seemed that meta-teaching needed to be incorporated if the novice students were to appreciate the subtlety of the teaching process. This echoes the work of Hagger and McIntyre, who identify that modelling alone is not enough to support student development and

that theorising of practice was crucial to closing the theory/practice gap (Hagger and McIntyre, 2006). Tutors identified this complexity in their interviews and that exposure to the tacit decision-making of the tutor's pedagogy had supported the students in their understanding. This echoes the work of Eraut, who outlines the difficulties of gaining access to the expert's thought processes, but recognises the importance of this in the process of developing students' understanding (Eraut, 1994). This interplay was identified by Iona as students: 'stepping back and analysing' and her 'being a role model and thinking, 'what did I do?' so they can reflect.' This was reiterated by Jennifer who identified the importance of students: 'Deconstructing the task and having the opportunity to talk about the concepts when you're using the new vocabulary.'

Christine reported that when students were discussing her use of open-ended tasks, they were able to recognise that it was more challenging, commenting: 'The first thing they said was it made them think, which is quite interesting, and so it was redefining that element of pupil engagement, isn't it; what does engagement mean.' The deconstruction of a challenging, open-ended task seemed to enhance the students' understanding of cognitive dissonance, and they were beginning to connect their experience with associated theory (Hogg and Yates, 2013; Felton *et al.*, 2015).

Furthermore, Fiona identified the dangers of not using meta-teaching alongside modelling, adding: 'You can just come away thinking, 'oh that was fun', but not actually really thinking about it ... it was fun, but was it effective, or has it in some way enhanced your interpretation?' This reiterates a point which arose from Dziubinski's research on social constructivist approaches in HE, in which the lack of explicit teaching can be seen as a reductive model in HE pedagogy, as it merely

'oversimplifies educational theory' (Dziubinski, 2015, p. 319). Thus, it may be considered that a careful interplay of modelling and meta-teaching is most productive as a pedagogical approach with students.

Indeed, the use of modelling in a number of transcripts is crucially followed by analysis to explore the reasoning that underpins teachers' decision-making. Rachel highlighted that 'Sometimes, I do things badly on purpose, and then we talk about what went wrong and which one worked in terms of actually doing and understanding, and then we talk about what pedagogical choices I've made as teacher to come to that.' Additionally, this unpacking extends beyond the actual activity to the process of planning and exploring the choices the teacher makes at a planning stage and throughout a lesson. Rachel explained how: 'At this point in my lesson plan, this is quite an open section, and I do talk about my lesson plan and how there's a gap in it really, where in fact, I come to it at the end.' This was also particularly evident in a transcript where the tutor had made a deliberate decision for the students to explore an activity at the outset of the seminar with no explanation. Christine noted: 'I thought right get rid of me talking altogether at the beginning and go straight in with an activity, and then ask them why I did it, so it makes them think about what we're doing.' Both of these tutors demonstrate the adaptive nature of teachers' decision-making and explored this explicitly with the students. Both noted the impact this had on students' understanding, highlighting that it generated greater discussion and a greater depth of answer from the students.

The analysis of teaching can be viewed as an opportunity to process the experience for the students and reflect on the effectiveness of the observed teaching strategy. This demonstrates that the tutors were considering the use aspects of meta-teaching alongside the modelling of activities and seemed to indicate their own pedagogical

understanding. This may be as a result of their previous teaching experience, but counters previous studies that identify, that teacher educators are not always clear about what to model with students (Loughran and Berry, 2005; Hogg and Yates, 2013). However, at this stage, it appeared to be an intuitive process for teacher educators rather than explicitly planned. Jennifer admitted that: 'Whether I've ever said 'that's what I'm doing in the seminar', I am not sure.' Participation in the stimulated recall interview allowed tutors to explore the explicit use of meta-teaching.

Students were also able to identify the importance of meta-teaching. Student focus group transcripts reflected its importance, highlighting: 'If they (tutors) analyse a task with you, they go into why they are doing it and how it could help you as a teacher' and 'showing you what to teach also involves unpicking the curriculum'. Similar evidence was found in the student reflection sheets, in which students commented that tutors: 'explained reasons behind actions' and 'you gave us the key theories behind the approach and then activities to help us explore the topic for ourselves'.

Within the data, it was clear that tutors used meta-teaching within seminars and that this was an opportunity to consider the pedagogical decision-making in practice. Students were able to 'notice' the meta-teaching and saw its relevance to classroom practice.

#### **4.1.3 Highlighting Theory in Practice**

The study was also concerned with the extent to which tutors incorporated theory explicitly in their seminars, to develop the pedagogical understanding of students. Previous studies had indicated that students often viewed theory as irrelevant to their teaching, creating a division between the university and school-based elements of their courses (Hagger and McIntyre, 2006; Hennissen, Beckers and Moerkerke,

2017). Similarly, Korthagen's work had identified that deductive approaches to theory/practice integration had proved unsuccessful (Korthagen, 2017). For this reason, I explored how tutors incorporated the theory into the teaching seminars, by reviewing instances within transcripts where teacher educators raised the theme.

The use of meta-teaching was seen by tutors as the perfect opportunity to make explicit the links between pedagogical theory and the activity that students were undertaking. All tutors made reference to the use of theory in their seminars and the importance theory played in the development of students' understanding.

Tutors drew on general theories of learning and, also, more specific subject orientated theories. Several references were made to theorists such as Vygotsky, Bruner, and Bloom, and the important role of social constructivism in supporting student learning, as demonstrated in Iona's transcript: 'We talk about Bloom's taxonomy and where we are in our own learning here, I use it a lot for them to see how children will progress... and we look at social constructivism.'

Meta-teaching combined with the modelling allowed tutors to make explicit links to theories of social constructivism within their seminars (Sullivan, 2011; Bråten and Ferguson, 2015). Rachel identified that: 'I want to relate it back to social constructivism and thinking about the linking back to what the children already know, finding their misconceptions, scaffolding them to something, the next thing.' She expanded on this, identifying that the students' activity within a seminar should exemplify the research, commenting, students should be: 'Living the research, being the embodied version of it (research) in subject knowledge sessions ...they're almost kind of living the research a little bit, seeing it come to life and seeing how it works.'

Student focus group transcripts identified that students also saw the importance of learning theory as a novice teacher, highlighting: 'Making links to research is quite important; if you understand why you are doing the stuff, it does help when you go into practice.' Acknowledging that initially the theory may seem irrelevant, the students quickly realised where having a secure grounding in theory supported their development and understanding, stating: 'Why have I got to learn the theory... actually once you see it, it puts it in perspective, yeah actually it's quite relevant... you can stop your own misconceptions.' Students identified that the theories proved most helpful in giving them a 'wider perspective' and a range of options when challenged by situations in school. This was linked to tutors making explicit links to the research and how it will help them understand pedagogy and children. One student identified that it helped to develop a sense of professional criticality, stating: 'If you are doing something new as a teacher, you'd have to support it with research.'

It should be acknowledged that my position as a tutor in the university may have influenced the students' responses in relation to this theme. However, the discussion from the students showed students' appreciation of the theory. An initial comment of 'you're not going to give Vygotsky to children' developed during the discussion to the same student, stating later: 'If children are behind or struggling, it might be easier to see, well that's because of x or y with some theory you've learnt at Uni rather than going into a setting.' The structure of the focus group discussion allowed me to step back and not influence the process too heavily and the discussion evolved as part of the focus group. This evolution of ideas and the construction of joint meaning are seen to be distinct advantages of the focus group approach (Kitzinger, 1994; Krueger, 1994).

Tutor transcripts highlighted that even with the support of theory and literature students were in a difficult position to challenge practice when in school and, therefore, when in seminars there was a 'oppositional space' (Segall, 2001, p. 237) in which students could challenge theory and practice and develop their skills of criticality, stating that in school: 'I think it's quite difficult for new trainee teachers to challenge what they are seeing.' and student reflection sheets highlighted the importance of time to 'discuss and reflect on what we think works well.'

In addition to references to general theorist within tutor transcripts, there were references to subject specific theories, such as self-determination theory in PE and pedagogical theories specific to mathematics teaching. Jennifer highlighted that her practice was clearly linked to mathematical theory, stating: 'We have the theory of maths teaching and the theory of mathematical concepts ... we draw a lot on CPA, the idea of concrete, pictorial and abstract...we talk about the connections model all the time.' It was evident from tutor transcripts that tutors deliberately plan to make the links between theory and practice and that they see the structure of their planning as a spiral curriculum for the students, containing repeated exposure to theories. Jennifer viewed the position of her own practice as an exemplification of the research, stating: 'Even the process in which we deliver the content is through the research.'

An interesting anomaly to the integration of theory into seminar modelling came from Fiona who saw her subject as being distinct, in that the modelling required an immersive commitment to the activity. She acknowledged that she did not make explicit links to theorists in the seminar and that the theory was provided in a separate lecture post the seminar. She felt: 'I'm not sure it's the right time to make it more explicit than it is.'

Fiona recognised that within this subject (drama), a time to reflect was important and that she would highlight both general and subject specific theories at a later point. However, 'If I were to do that during this, it might distance them too much, there's something about preserving what they've created... I think it would make them feel that it wasn't an original experience.'

This echoes issues raised by Korthagen about the integration of theory and practice and how this is best positioned in the learning process. Similarly, Eraut's work identified that it is important to contextualise the theory within seminars to support clear integration; however, the question of reflection on theory and practice and its place and position in the linkage of practice and theory remains unclear (Eraut, 1994). This is a theme to which I will return.

#### **4.1.4 Linking Theory to Classroom Practice**

An examination of the transcripts, also, revealed that the tutors addressed the issue of linking the theory to classroom practice within both the meta-teaching and also modelling. As can be seen in the following quotation, whilst modelling, Fiona explicitly allowed students to analyse tasks and make links with classroom practice, as a means of clarifying how the theory is relevant: 'I will keep stopping it, stopping them at this point, and we do a freeze, and we'll say what did you notice... and looking at the pros and cons of what that might offer children.' This was also recognised by students in their focus group discussions, where they identified the break points in seminars for analysis as helpful: 'Then she took short breaks in between bits, to explain why you would do that in a class.'

This link between modelling and meta-teaching was repeated in a number of tutor scripts, where the explicit connection was made between theory and classroom practice.

Jennifer commented that: 'We deliberately make those links very strong. Plus, we also talk about how that would look in a classroom...I would say deconstructing the task but, also, thinking about the practical application within the classroom.' Jennifer continued to note that this encouraged greater engagement with students; this may be because the relevancy of the theory was, explicitly, shared with the students who feel that they are able to apply the theory to practice. She states: 'I think the engagement is better generally because they know not only are we doing maths, but they are going to need it.' Evidence from the analysis suggested that the prevalence of linkage within this study may counter some of the previous research that indicated that students do not see the relevance of theory within practice (Hagger and McIntyre, 2006; Bråten and Ferguson, 2015). However, it should be acknowledged that participation in the research may have heightened tutors' awareness to the use of meta-teaching, a point to which I will return. The link between theory and practice was eloquently summarised by Jennifer as a shifting move between two positions: 'We put them in the position of a learner, and, then, we put them in the position of the teacher'. This dual positioning was also evidenced in relation to modelling and appears to support the application of theory to practice for students. I will explore this point in the section on modelling.

From the findings of this study, it may be seen that meta-teaching was a useful way to explore the tacit knowledge and decision-making of tutors within seminars. Tutors were clear that such exploration was an important aspect of their role and that they

strove to ensure that their thinking was evident to students (Segall, 2001; Smith, 2005).

Christine's comment on viewing her video was that: 'I thought I'm assuming too much here. I need to be more explicit' demonstrates the position that many tutors articulated: that teaching about teaching is a complex and multi-layered process, which often needs the tutor to focus explicitly on what is happening within seminars. This links to Vanassche *et al's* work on 'pedagogical enactment' (Vanassche and Kelchtermans, 2014, p. 124) in which teacher educators of reflective teachers were fully aware of the important messages their own teaching presented students and that teacher educators should teach 'about practice in ways that highlights the complexity of teaching' (Loughran and Menter, 2019, p. 218). Tutors had developed teaching methods to expose this meta-teaching, which included the structure of the seminar planning and deliberately-chosen teaching strategies.

Whilst there are many aspects to teaching that can be modelled with students, it appeared that tutors viewed meta-teaching as particularly helpful in making clear the links between theory and practice. It seemed that the explicit deconstruction of the tasks, and analysing why tasks are taught in that way, helped students to see the connection to pedagogical theory more effectively. This was seen by tutors to have an added advantage of increasing the students' perceptions of relevancy of theory, and subsequently increasing student engagement. Schön highlighted the importance of relevancy in bridging the theory and practice divide (Schön, 1991), and my research supports this view of learning, as both tutors and students transcripts stressed that meta-teaching clarified the important influence of theory on practice (van den Bos and Brouwer, 2014).

The evidence from this study also seems to echo Korthagen's 'realistic' approach to teacher education in which the exploration of theory is concurrent with the teaching of practice. Korthagen and Kessel's work expands on the concept of theory, as theory with a small 't' theory from practice and theory with a big 'T' the episteme of the subject (Korthagen and Kessels, 1999). They identified that to access the theory (Big T) students need to have an affective connection with practice to understand the relevancy of the theory (Big T). This was reflected in the data from this study, in which meaningful, relevant experiences were explored through meta-teaching as a means to anchor the theory (Big T) in students' developing understanding.

An additional consequence of the explicit teaching of theory alongside tutor practice appeared to be that it supported students' observation skills. The students in the study were able, through the use of meta-teaching, to observe and deconstruct practice and see its purpose and underpinning. Student reflection sheets highlighted that tutors, 'properly explained the concepts and gave examples of them' and 'explained clearly and gave reasons why we were doing activities.' My reading of literature indicated that students often were unable to 'notice' practice effectively (Hogg and Yates, 2013) and that teacher education needed to focus on developing a disposition for theorising and deconstructing practice .

However, this study suggests that the early introduction to the practice of meta-teaching provided students with models and a common language, with which to discuss pedagogy and that in doing so provided an additional dimension to pure observation of practice (Eraut, 1994). Loughran and Berry's work indicated that we should, however, be alert to merely teaching students 'what to notice/learn' which could diminish the opportunity for learning (Loughran and Berry, 2005, p. 197). They identified the importance of building teacher knowledge, embedded in genuine

learning experiences, with purposeful debriefing, as a productive method of developing students' understanding (Loughran and Berry, 2005).

My research data highlighted the importance of tutor teaching strategies, such as mini plenaries, prompt observation questions and tutor 'stepping out' as contributing to securing students understanding of pedagogical practice. These strategies reflect those identified in Swennen *et al's* work on congruent teaching as being crucial to supporting students' ability to critically observe practice (Swennen, Lunenberg and Korthagen, 2008). Additionally, as evidenced in both student and tutor interview responses, these teaching strategies are seen as supportive of developing students' professional criticality. Students were beginning to make connections to the fact that, as professionals, teachers decisions should be rooted in research and pedagogical understanding (Loughran and Menter, 2019). This appears to be an important aspect to develop in professionals if we are to avoid the technical rationalist approach to teaching to which Schön alerted us (Schön, 1991).

Two additional aspects that contributed to this developing criticality within students are the opportunities to discuss and reflect on the experiences that they have undertaken in seminars. Reflection will be addressed in a separate section.

However, discussion was seen in all data elements to be significant to challenging and extending students' thinking. My research supports that of others, in which the use of a dialogic teaching approach appears to be appropriate to developing student understanding of pedagogy (Fisher, 2011; Simpson, 2016).

By using dialogic teaching pedagogy (Alexander, 2010), tutors acknowledged that they were able to challenge the thinking of students and that this challenge was beneficial. My research highlights the importance of what Mansfield and Loughran

identify as 'disturbing the equilibrium' of practice. In Christine's transcript, she identified how the dialogic approach had challenged students as: 'the other students on the table were pushing and definitely challenging each other,' and that when this disturbance occurs, Mansfield and Loughran state it unsettles existing knowledge. In dealing with this disturbance, 'better states of equilibrium are achieved', and this can be seen as the root of a development in understanding the teaching process (Mansfield and Loughran, 2018, p. 247).

#### **4.1.5 Consideration of Participation in the Research Process**

Within this study, it can be seen that the use of meta-teaching was prevalent within tutors' practice, if not termed such at that point. The exploration of tacit knowledge of tutors and tutor decision-making was evident in seminars, and tutor interview transcripts identified that it retained an importance to the tutors. However, this seems to counter some literature which indicates that students would like tutors to make their thinking more explicit (Smith, 2005; Berry and Russell, 2013).

There are three possible reasons for the prevalence of meta-teaching within the tutors' practice in the study. Firstly, it could be that the tutors all volunteered to be involved in the research project, which indicates a level of commitment and interest to the focus of the study, such convenience sampling must be taken into account when considering the findings and a wider range of participants may offer very different results. Additionally, in participating in the study the tutors developed a sense of raised consciousness around the issue of tacit pedagogical knowledge, and this heightened awareness may have influenced their practice choices. Secondly, the tutors are all experienced tutors, some currently undertaking doctoral study in education. This may well contribute to their own pedagogical understanding, as was

evidenced by their transcripts. They were able to analyse their practice effectively and, thus, demonstrated a level of self-reflection. Thirdly, the choice of stimulated recall method, with me as a knowledgeable other, encouraged the discussion around tacit knowledge raising it in the consciousness of the participants. The term meta-teaching was beginning to form and develop as a concept in our discussions.

#### **4.1.6 Summary of the Role of Meta-teaching Within ITE**

Within this study, students were able to identify the instances of theory in the tutors' practice. However, this data not only demonstrates that students identified theory, but that they were also able to identify more subtle aspects within teaching, such as creating an ethos that is supportive of learning, and pedagogical choices made by tutors. It is interesting to consider whether this was as a result of the targeted questions on the post-seminar reflection sheets. However, such strategies, in addition to the explicit meta-teaching of the tutors, seem to give weight to the premise that if practice is made explicit to students, such deconstruction and reflection may well become second nature to students and, thereby, focus their skills of observation.

My research highlights the importance of the use of meta-teaching as a tool to linking theory and practice with students. It is valued by tutors, and they employ key teaching strategies to explore their implicit decision-making. These strategies appear to support students' understanding around pedagogical choices and additionally seem to influence student engagement, understanding of relevancy of theory, and develop skills of professional observation and criticality. In the following section, I will explore the influence of modelling on the link between theory and practice.

## 4.2 The Theme of Modelling

### 4.2.1 Introduction to Data on Modelling

Within the following section, I will consider the findings in relation to research sub-questions one and two:

*What are university teacher educators' perceptions of themselves as models of practice?*

*How do they use strategies of modelling (and meta-teaching) to make professional theoretical knowledge known?*

From the data analysis, three main findings emerged in relation to modelling. These were:

- Tutors valued the use of dialogic teaching approaches to support students understanding of school pedagogy; identifying that its use offered awareness of the importance of talk to learning; greater understanding of the teachers' role in dialogue; and the awareness of the importance of a supportive ethos in classroom practice.
- Modelling active participation was seen to be crucial to developing students' understanding of appropriate primary pedagogy, additionally in relation to understanding of pupil empowerment.
- Tutors considered modelling important, in relation to decisions around planning the structure of lessons, formative assessment, and linking to classroom practice. These were also valued by students.

Within this study, data indicated that references to modelling were prevalent in both student and tutor transcripts. In reading the data, it was clear that modelling referred to a range of teaching aspects. These aspects have been summarised as sub-themes below:

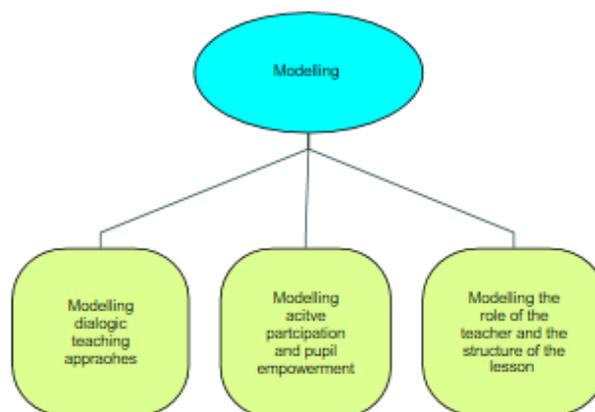


Figure 4. Modelling

Each sub-theme also contained a range of sub-aspects which were repeatedly raised by tutors, as significant to their modelling identified in figure 5 below.

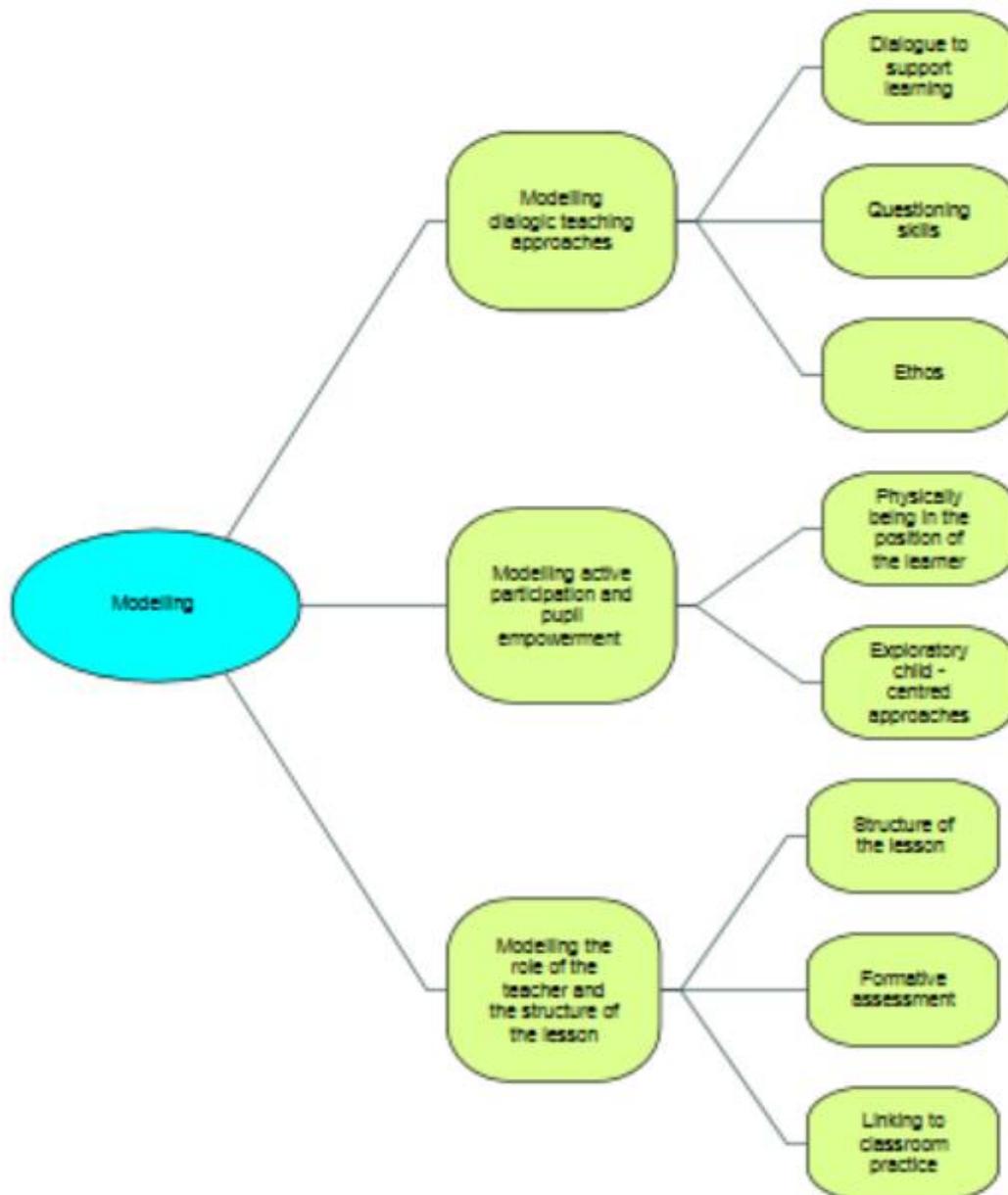


Figure 5. Modelling Sub-Themes

Each sub-theme will be explored in turn, with its subsequent teaching aspects.

#### **4.2.2 Sub-theme One: Modelling Dialogic Teaching Approaches**

All tutors made reference to teaching based in a dialogic approach. Value was ascribed to the importance of students' talk about the activities that they had undertaken in two forms, helping them to develop their own understanding and, also, as a model of pedagogical approach applicable to children in school. The first of these will be addressed in the section 4.3 on reflection below. Within this section, I will draw out the use of talk as a pedagogical tool in school.

##### **Dialogue to Support Learning**

The dialogic approach was seen to be an important approach to introduce to students. All tutors highlighted the significant influence it had on their teaching with students and identified its importance in developing student understanding of the appropriateness of such approaches with children.

Having undertaken activities, which were applicable to a primary classroom, tutors used these opportunities to highlight the advantages of dialogic approaches.

Christine highlighted with the students how open-ended discussions allowed a teacher to get to know their classes in school more effectively and that participating in discussion also allowed children to get to know each other as a consequence of the approach. She identified that this approach was a: 'much richer pedagogy ...that enriches the learning experience generally rather than being the acquisition model of teaching.' This point was further reiterated in Iona's transcript where dialogue is valued: 'They begin to understand that the opportunity to have dialogue with others can help them learn... so, therefore, I talk about how that works with children.'

The student reflection sheets also evidence the value of dialogic approaches where, in relation to the question 'What did the tutor do to help you understand these key aspects?', students identified, 'allowed us to debate our own viewpoints' and 'allowed us enough time to discuss and without many interruptions' which one student identified as 'being open- minded when discussing new ideas'.

Within the dialogic approach, tutors highlighted two additional aspects as crucial models for the students to experience: these were the use of questioning by the teacher to develop thinking and the establishment of a secure learning ethos.

### **Questioning Skills**

In relation to the teacher's role within a dialogic exploratory approach, Rachel explained that she was very explicit about the need for the teacher to consider the questions that they use to move the thinking forward. She identified from her video that: 'You're not just drifting around; you're actually going, finding the misconceptions and knowledge, and moving them (the children) on and in the next bit. I am modelling that to them.'

In other instances, Christine made clear that the open-ended nature of her activity was underpinned by very careful questioning skills. She commented that, 'It's the questioning and knowing where you want to take that specific lesson ... I've got to think really carefully about this. I've got to know quite a lot about it. It's not just an open-ended question, let's go with it.' Thus, the approach is very carefully underpinned by modelling of the teacher's role within the process. Similarly, Rachel identified that she never just answered a question, but modelled how to get the group to think collectively first about all the possible and plausible answers. Thus, tutors modelled the importance of handling responses from these discussions, to

demonstrate how classroom discussion might reflect exploratory talk more effectively.

## **Ethos**

Additionally, tutors viewed the use of dialogic teaching approaches as valuable in understanding how to develop a supportive learning ethos in a classroom. Fiona raised the significance of modelling that: 'everyone's contribution is valid' and that she uses 'a pedagogical approach that allows them (the students) to explore their experiences and that you (the teacher) have to be accepting of things.'

These responses reflect Alexander's principles of dialogic teaching: collaborative, cumulative, and supportive talk, a pedagogy used in primary school (Alexander, 2010). However, it is evident here in the modelling of ITE tutors and reflects the call from literature to include such approaches in HE pedagogy (Fisher, 2011; McAlister, 2012). In doing so, student teachers can be introduced to new ways of thinking (Simpson, 2016) and develop their own understanding of the importance of a supportive ethos in learning (Fisher, 2011).

Evidence from the data identified that modelling was a significant aspect for teacher educators and that its purpose was to replicate how we teach in primary school settings. Within the study, it is evident that tutors modelled pedagogy drawing on social constructivist principles and dialogic approaches. It seemed to reflect the importance that tutors placed on these aspects in learning. As experienced teachers, the tutor participants evidently drew on their own beliefs and teaching experiences, and identified dialogue with others as an important aspect in the learning process. This links clearly to the literature in the area of primary pedagogy, which calls for social constructivist approaches to teaching (Alexander, 2010; Littleton, 2013).

Within the transcripts, tutors highlighted how this pedagogical approach was important in developing understanding. The prevalence of dialogic pedagogy in tutors' practice reflects the principle that it will aid the children's understanding, and it is helpful to clarify for students, the important role it has in the process of learning. Several tutor transcripts also referred to the importance of cognitive dissonance (Alexander, 2010) within seminars. Tutors actively encourage students to be challenged and to challenge each other, particularly in Christine's Philosophy for Children seminar, whilst offering a supportive environment in which to learn. This reflects the work of Mercer and Alexander in the area of dialogic pedagogy and illustrates for students the importance of this aspect of cognitive challenge in classroom teaching (Mercer, 2000; Alexander and Wolfe, 2008). It also echoes Berry's work (2007) that teacher educators need to create teaching situations that disrupt students' existing views and challenge their existing opinions (Berry, 2007). Within Christine's seminar, students were able to identify that involvement in these challenging activities had influenced their future practice, stating: 'I will involve more class-based activities which involve independent thinking and debating of ideas' (student reflection sheet) as a result of their learning. It is evident from this study that principles of primary pedagogy are strongly represented in the TEs' pedagogy, as tutors' modelling of classroom practice was seen by tutors as an embodiment of the theory of teaching and learning and is clearly valued by the tutors within their pedagogy.

### **4.2.3 Sub-theme Two: Modelling Active Participation and Pupil Empowerment**

#### **Active Participation**

The involvement of the students in active learning situations was raised by all tutors as an important part of the modelling of primary teaching strategies. A range of explanations were given to support how this might develop student understanding. For two tutors, the physical aspect of the learning was a significant feature. The physicality of their subjects of drama and PE made the active participation, a particularly important contribution to students' understanding. Fiona commented that: 'I take their experiences and put them into a hypothetical experience that might happen to Beegu (character in text), so taking their actual experience and then play that back to them.' Fiona identified that the active involvement is key to improving students' motivation and understanding of the approach because: 'They've made choices, they have a sense of their own motivation. They have a sense of their own response and reactions, so they can voice that.'

Fiona's own expertise was also highlighted here, as she related the approach immediately to dramatic theory: 'So a sort of Stanislavsky approach of being in the moment ... creating a moment from your own personal experiences, if you like, bringing you own emotional memory.' Fiona identified the importance of being 'present' and analysing why it is important as an approach. She then linked the model of the approach, skilfully, to the theory, thereby, demonstrating a clear theoretical underpinning to her pedagogy with students.

Similarly in PE, Iona highlighted the importance of the students' physical embodying the movement within a seminar. She considered how the physical activity was crucial to the students appreciating how the language of movement can be taught and

developed by active participation, commenting: 'They are able to actually describe it and understand it, so they can take their learning further; we get that kind of thread throughout the lesson.'

There appears, also, to be benefits from active participation, in terms of memory for students, who identified that 'things go in better if I'm doing' and 'in an ideal world you would be modelling, doing the activity, explaining why you're doing this, analysing it, whilst giving people the chance to do it themselves' (Student Script two).

This idea was replicated by Christine, who commented on students will learn more and remember if 'they are actually playing out what I want them to play out.' This chimes with literature in which it is acknowledged that understanding about teaching is heightened when teaching approaches advocated are also modelled by tutors (Korthagen, Loughran and Russell, 2006; Hogg and Yates, 2013).

The idea of memory seems to be related to the activity and emotion of the teaching situation, with several tutors commenting on the students being placed in the position of the children and feeling how it is to experience it from that perspective. Christine made this position explicit with students, commenting that her teaching required them to consider, 'How did you feel during that? Well, that's how the children will be feeling as well; you're feeling quite animated and engaged, and that's how you'll get the children.' Within this study, students identified that they were often placed in the position of children in seminars, and they thought this was a successful teaching strategy. They recognised the importance of active learning, but acknowledged that: 'It's interesting to see why that activity's important or why you would do a maths activity like you've just done it.' The students in this discussion acknowledged that it was a balance between activity and analysis.

Additionally, there were some interesting comments, which would counter the idea that the active model is universally beneficial. In one student script, it was noted that, whilst activity was important, they also enjoyed opportunities to just sit and write notes. Similarly, an interesting counter argument from Fiona was that at points in the seminar, students were acting as observers of others. Students' feedback to Fiona was that they thought this was too passive. Fiona commented in her interview that, whilst not active in the physical sense, there was an active engagement cognitively as students observed, evaluated, and reflected on the work of others. Similarly, within Jennifer's transcript, she highlighted the importance of cognitive engagement and considering meta-cognition's place in learning. She asked the students to consider their own strategies for a particular problem and identified the importance of this to helping the students' understanding of the child building their own repertoire of problem solving strategies. From her video, she noted: 'I've just asked them to compare their strategies because what I am doing there is putting them in the position of a learner. Not just doing it for themselves and feeling what that feels like, but also thinking about the strategies they've used, but that there's a range of different strategies.' This is an interesting observation on the position of engagement and that participation might also be achieved through cognitive participation.

This also reflects the importance of teaching in seminars not merely being active, but highlights the significance of having these experiences theorised (Segall, 2001; Loughran and Berry, 2005).

## **Pupil Empowerment**

A number of tutors highlighted the importance of modelling pedagogy that encouraged pupil empowerment in the learning experience. Within their pedagogy, they highlighted its importance to students.

Christine compared a child-centred approach to a more didactic approach with the students and, having given them an opportunity to experience it, explored its possible advantages. She explored what the impact of this might have on students' understanding, commenting: 'It puts the ownership on them (the children) and how to actually structure a lesson, where the children could be very animated. Saying let's have a look at this, what are you interested in... makes it more child-directed.'

Similarly, within Rachel's video, the students clearly were developing an understanding of the importance of a child-centred approach to teaching when considering an exploratory activity they have just undertaken. Rachel selected an instance in which the student had commented on the importance of pupil empowerment in learning and highlighted the student's comment: 'She says the knowledge is in the children, not us. The knowledge is in the children,' as evidence of the student's growing understanding. Rachel articulated that this seemed to demonstrate that the student was beginning to understand the importance of children's prior knowledge and ownership of exploratory activities such as they had just completed.

It is evident that tutors made clear the importance of pupil empowerment in their own pedagogy. Iona also highlighted how such child-centred approaches encouraged students to think of the linguistic development of children and how supporting this can give children greater confidence. She stated: 'I've tried to get them to

understand that by doing the word wall, instead of children just doing the movement by following the teacher; they're having to think for themselves and then think how to interpret those words through movement themselves.'

The development of understanding of the child-centred approach seems to align with tutors' use of activities requiring active participation by students. In Rachel's transcript, she had modelled two different approaches to the students. One approach involved active participation, and one involved demonstration. She commented: 'We are often talking about how children have to physically be given the equipment to do something. I'm talking about how you learn something more if you see it with your own eyes... You need them to be as involved as possible. It's quite a boring demonstration and the children can't play with it ... so what's the point?' This demonstrates a clear link between the way in which students are learning and how children might benefit from such approaches. The explicit clarity with which this is presented reflects the shared understanding between the tutor and students about what they are learning, intended to support students' understanding more effectively (Hagger *et al.*, 2008).

A significant feature of modelling was seen to be the active participation of students within learning. The transcripts of both students and tutors identified the importance of being in the position of the pupil as the learner. It appears that the experiential learning approach of the teacher educators' pedagogy was supportive to developing students' understanding of the perspective of the child in learning.

This understanding also encouraged students to reflect on the learning from the perspective of the teacher. Students drew on their own experiences to explore the differing perspectives and, thereby, analyse the decision-making process of the

teacher. Tutors' modelling was deliberately combined with meta-teaching to support this shift in positioning. Lunenberg *et al* identify the importance of the process of teacher education as an important factor in shaping teacher behaviour (2007). In providing active participation of students through modelling, tutors avoid a teaching by telling model, allowing students to be 'active learners constructing their own understandings' (*ibid* pg 587).

#### **4.2.4 Sub-theme Three: Modelling the Role of the Teacher and the Structure of the Lesson**

##### **Modelling the Structure of a Lesson**

Within their role, tutors highlighted the importance of modelling the structure of a lesson. Fiona referred to her own lesson as: 'facilitating their (the students) understanding to give them a structure, to give them a frame to do it'. Jennifer also highlighted the importance of referencing the planning of the seminar and making this explicit to the students and to support their understanding of the progression of learning. She comments: 'I talk about the concrete materials shouldn't interfere with the mathematical concept of the game and that the formalised methods come further down after you have done all the playing.'

Thus, tutors make clear the decisions surrounding the progression of learning within a seminar, that topics are linked and that this structuring across a sequence of seminars is an important consideration. Rachel identified how: 'You can't teach sound until you have an understanding of particle physics, so you have to have taught solids, liquids, and gases first and then sound afterward.'

This structuring of the seminar was made very explicit and appeared to have had a clear impact on students' experiences. In their post-seminar reflections, the clarity of structure and objectives within a lesson were repeatedly highlighted as very important features for the students' evaluation of a seminar. Additionally, this was also evidenced in the student focus group discussions where students stated: 'I was looking at the clearly structured and planned lessons with clear objectives; I think we need to have that,' and 'Yeah, the best lessons are the ones where the teachers have put on the board 'This is the expectation.'

It is interesting to note that the student focus group discussions were stimulated by the use of a diamond nine ranking activity, in which students ranked some of the emerging themes from tutors' transcript data (appendix D). This concept of an initial stimulus was designed to generate discussion and proved useful in focusing the initial considerations (Kitzinger, 1994; Krueger, 1994). Evidence from the groups' conversations showed planning, and clear objectives were ranked as key to good tutor pedagogy by both groups (Figure 6 below). It is interesting to consider the commonality of the two groups in placing structure and clarity of objectives at the pinnacle of the diamond. This may reflect the emphasis that tutors possibly place on the purpose of seminars or teaching activities, both in their own teaching or in students' initial attempts at planning. Similarly, students may have selected the aspect that they considered me as a teacher educator and as the researcher might wish them to choose. This is an aspect of focus group discussion highlighted in my methodology chapter where participants offer the societal norms (Kitzinger, 1994) and is an influence to which I was alert.



Figure 6. Diamond Nine Activity

## Use of Formative Assessment

Tutors also modelled the use of formative assessment within seminars and highlighted how this impacted on the development of their lessons. Iona noted how she makes clear the importance of formative assessment in the teaching process and again makes this explicit for students. She stated: 'The teacher is assessing speaking here rather than the doing. So I am, then, showing them that I'm not so much, at this point in the lesson, interested in their performance. I'm not assessing the performance; I'm assessing the understanding.'

Iona continues to make clear the distinction between teaching the students and teaching children. She explains clearly the additional learning that modelling for them will achieve, stating: 'I model, I say to them that I'm labouring the point at this point; this is not a lesson this is a teacher training workshop, so I am showing you how you will go about constructing the evaluative part of the lesson.' This clearly reflects one

of Swennen *et al's* criteria for congruent teaching in which Iona 'steps out' with the students to exemplify the importance of formative assessment (Swennen, Lunenberg and Korthagen, 2008).

Supporting students with their understanding of formative assessment was seen as an important but challenging aspect for students. In one seminar, students were asked to identify success criteria and evidence of success for the seminar they were about to undertake. Christine acknowledged that: 'They found it very difficult ... really difficult, but I will be doing that more and more often.' She recognised the practice supported students in clarifying learning and that was a crucial aspect of the teacher's role.

Similarly, Rachel identified the teacher's role in monitoring children's understanding and clearly modelled how to note and use formative assessments. During the seminar, she modelled how to annotate lesson plans, noting: 'So while I'm talking about what I would do with my lesson plan following this seminar, I've written down, as I was going along, what they asked. I am saying, 'I could write down that they have asked me this question or that question, and it might be that, that's leading into my next sort of learning.'"

Student focus group discussions highlighted the tutors' ability to adapt lessons in such a way, and identified that it was a crucial aspect of modelling and meeting the needs of the students within a seminar. Rachel acknowledged that she applied social constructivist principles of activating prior knowledge and building on from the students' present understanding, particularly in subject specific subjects, where prior knowledge can be diverse. She commented that: 'I am getting them to think back

about their prior learning in school, so effectively we're doing some social constructivism. We're looking back, so I can take them from where they are.'

### **Modelling Classroom Practice**

Within student transcripts, it was evident that students recognised and appreciated this modelling of practice, stating that a good teacher educator was: 'A good role model, that's like leading by example ... showing what we need to be doing when we're going into classrooms.' Students also recognised the importance of the meta-teaching alongside modelling, with one student, identifying that: 'I would personally prefer to be put into the shoes of a child for most of the lesson, with buffers of why we do this, in between it.'

This balance of modelling and meta-teaching is reflected in the tutor transcripts with, Rachel highlighting the need to prepare students for school: 'They are testing', in role as the children, a range of activities that they can use in school ... I want them to leave with something tangible they can do in school.' Iona, similarly, identified the importance modelling had on the transfer of understanding for the students, taking the teaching strategy straight from the seminar to the classroom, acknowledging: 'Sometimes, I say I'm gonna be a Key Stage One teacher and I'll treat you like children, not for long, so I get them to do the tasks.' This reiterates again the importance of modelling the teaching and learning approaches.

However, it was identified in several tutor transcripts that modelling for students presented challenges. Iona comments on one task as: 'It (the task) develops vocabulary, and it develops creative thinking, and they find that task difficult ... they don't find it particularly easy,' but that this was an important part of the development of students' understanding. The value of this element of challenge was seen in a

range of transcripts, but can be summarised by Jennifer, who stated: 'That's the challenge, isn't it. It's to kind of make them think about what it's like to actually be a learner.'

It appears from the findings that tutors modelled a range of teacher practices, including planning and formative assessment. The purpose of this modelling of practice was to demonstrate the role of the teacher in the learning process. It also offered an opportunity to address the area of teacher decision-making in action (Eraut, 1994; Hagger *et al.*, 2008). These practices may be seen as more tangible for students to observe and could be addressed whilst on school-based practice. However, within this study, it was evident that the tutors applied meta-teaching to the deconstruction of these practices to support students' understanding. The decision-making process was explored, and structures and alternatives considered, developing the thinking of the students. The combining of modelling and meta-teaching allowed the tutors the opportunity to rationalise their choices. The seminars appeared to offer a reflective/evaluative space in which to make explicit decision-making and extend beyond mere emulating of practices to develop a clearer understanding. Loughran and Menter identified that pedagogical reasoning of teaching alongside modelling within teacher education is crucial if students are to move beyond 'tips for teachers' and begin to understand such reasoning as an 'important foundation for quality teaching and learning' (Loughran, Keast and Cooper, 2016; Loughran and Menter, 2019, p. 222).

#### **4.2.5 Additional Evidence of Strategies to Support the Linkage of Theory and Practice**

An additional teaching strategy, which evolved from the data, and which had not been anticipated was micro-teaching. Micro-teaching is a teacher training method, in which real teaching situations are employed to develop students' teaching skills (Remesh, 2013). In the student focus group data, the use of micro-teaching was highlighted as a supportive teaching strategy to aid their understanding of the needs of the learner. Within seminars, tutors had employed micro-teaching (where students teach peers in small groups) to support student understanding of the teaching process. Students felt that assuming the teaching position, in small, non-threatening scenarios was particularly helpful. The student focus group transcripts identify that students thought that these teaching opportunities were beneficial because they allowed them, 'to go over what we've actually learned and put it into practice.'

Microteaching offers a safe and fruitful context to practise teaching (Ralph, 2014; Kula Ünver, Özgür and Bukova Güzel, 2020) providing students with the opportunity to discover some of the complexities of practice in a controlled setting (Yan and He, 2017; Kula Ünver, Özgür and Bukova Güzel, 2020). It has been seen to impact positively on the development of content and pedagogical knowledge and appears to support the connection of theory and practice for beginner teachers (Karlström and Hamza, 2019; Kula Ünver, Özgür and Bukova Güzel, 2020).

Working with peers in a familiar setting helps to develop confidence, and the use of paired microteaching can also benefit the development of collaborative skills important in later teaching roles (Ralph, 2014). Feedback from peers as 'mutual

observers' (Yan and He, 2017, p. 212) offers opportunities to learn from each other, as microteaching reduces some of the complexities of the classroom setting (Karlström and Hamza, 2019). Microteaching approaches have developed to include the use of video technology to support the consideration of practice and develop reflective skills. Similarly, feedback from more experienced tutors has been seen to be a significant factor in the development of students' learning during these sessions (Yan and He, 2017, p. 212).

The importance of reflection within the microteaching approach has been viewed as enhancing the 'reflective stance' (Yan and He, 2017, p. 211) of students and the collaborative planning stage of the process has the potential to expand students' thinking and extend the range of possibilities within teaching (Karlstroma and Hamza). Indeed, microteaching offers opportunities to 'conduct reflective and contemplative practices' (Yan and He, 2017, p. 214)

Whilst acknowledging the benefits of microteaching, it is important to be alert to the limitations of the approach. The chief criticism of microteaching is the artificiality of the context, which is not an authentic representation of the classroom. The inherent risk of such an approach is that students are not prepared for the complexities of the classroom and microteaching may lead to an oversimplified version of teaching. It has been seen that microteaching can lead to stereotypical and superficial representations of the process of teaching (Yan and He, 2017) with peers giving only positive feedback and thus the complexities of teaching are not deeply explored.

Microteaching also raises the issue that peers are not children and, therefore, are representing 'fake' participants and are not learning as children would in class (Yan and He, 2017, p. 212). This may result in students who are less able to adapt to the

needs of the individual learner or indeed are unable to respond to the thinking of the 'children' in an authentic way. Work by Kula Ünver et al identified that students demonstrated a poor understanding of the misconceptions, that may occur in topics taught through microteaching and had a weaker knowledge of the learners involved overall (Kula Ünver, Özgür and Bukova Güzel, 2020). Students, also, identified that teaching peers can be very stressful and, therefore, can inhibit the teaching approaches adopted (Ralph, 2014).

Additionally, it should be acknowledged that microteaching often is limited to short 10/15 minute inputs (Deneme, 2020). This again does not reflect the reality of a classroom and may cause students to underestimate the complexity of sustained teaching (Yan and He, 2017). The limited timeframe means that reflection is restricted and the lack of repeated cycles of teaching results in a constrained opportunity to practice or address weakness identified (Yan and He, 2017).

These limitations, including the position that microteaching merely focuses on the acquisition of teaching skills has seen microteaching wane in popularity since its inception in the 1960s (Ralph, 2014). However, it can be seen that the benefits of microteaching can offer initial 'helpful approximations of teaching' (Kula Ünver, Özgür and Bukova Güzel, 2020, p. 83). Ralph urges us to 'apply microteaching only where it fits' (Ralph, 2014, p. 24) and that it should form part of a mix of methods adopted to encourage student teachers' reflective practice (Karlström and Hamza, 2019; Kula Ünver, Özgür and Bukova Güzel, 2020).

Whilst teaching activities were used as a mode of assessment within the university, a teaching seminar was noted to have less pressure to succeed and provided an opportunity for tutors to instantly provide feedback on students' teaching. Students

particularly highlighted the importance of this teaching strategy in giving them confidence prior to going out into schools and that micro-teaching could provide them with a progressive practical experience in a supportive context. The use of micro-teaching was not prevalent in the case study data; however, it is a strategy that was valued by the students and builds on the position of learner/position of teacher identified above. It appears to offer an opportunity to consider teacher decision-making first hand and, in doing so, provided students with a further understanding of the relevancy of the theory. This reflects Korthagen and Kessel's position on the importance of not polarising the two elements of theory and practice, but rather the importance of providing an integrated practice (Korthagen, Loughran and Russell, 2006).

Korthagen (2010) and others identify that whilst reflection is important within student teachers' learning; it appears to have little effect in the first stages, as students are actively and consciously constructing understanding of new experiences (Korthagen, 2010a). The students involved in this study were in the early stages of their course and valued the feedback given by tutors to their micro-teaching. This reflects Korthagen's research that 'externally orientated' (*ibid* pg16) students may need more structure to connect theory and practice and that feedback on practice may be more useful at this stage than self-reflection. Certainly, the data from the student focus group discussions, whilst minimal, reflects that immediate feedback offered opportunities for students to recognise the need to integrate theory into their practice.

#### **4.2.6 University Teacher Educators' Perceptions of Themselves as Models of Practice**

In relation to modelling it was also important to consider tutors' perceptions of themselves as models of practice. Within the tutor transcripts, it was evident that tutors saw themselves as models of practice for students. They identified that their pedagogy should reflect and model practice that would be seen in primary schools. Jennifer made this clear in her comment: 'It underpins the way in which you work and mirrors how you'd expect them (students) to work in classrooms really.' Christine similarly identified: 'the direct links about the model you are providing and how this relates to the classroom.'

However, tutors explored aspects beyond pedagogy that might be termed professional behaviours, in which they modelled elements such as enthusiasm, developing a supportive ethos and coping with uncertainty. Tutors expressed that they felt it was important to model these aspects, as they supported the professional development of students. Iona expressed that she saw herself as a role model representing her subject, stating: 'me being an enthusiastic, inspiring teacher; it's so important because they may devalue it (the subject) themselves.' Rachel also identified enthusiasm for her subject to be key to supporting students' confidence, stating: 'I like to be passionate about what I am teaching them...then they can be excited about teaching the children something perhaps.'

Whilst the research question focuses on the tutors' perceptions, the findings were substantiated by student reflection sheets in which they repeatedly identified the 'enthusiasm' and 'kindness' of the tutors, as contributing to their learning and that tutors 'engaged with us as individuals'. This was additionally recognised in a student

transcript quotation in which they stated: 'Lecturers here are very knowledgeable and like... really engaging' (student transcript two).

This study highlights the important affective elements involved in teaching. Tutors were alert to the needs of the student as learners, and it can be seen that they actively planned and executed seminars that encouraged a supportive learning context, whilst encouraging students to take risks in their learning. Fiona highlighted this as important in her drama seminars, identifying: 'It creates a sort of safe environment for them to work in and for them to know that they're not going to be exposed.' These results reflect the complex second-order nature of teacher educators, in which educators engage in the discourse of practices in school and, also, the discourses of education, their subjects, and their students' needs.

Addressing the students' needs had the potential to develop the students' understanding of the needs of the child learner. This was an aspect of the study that was not anticipated in the students' responses, but highlighted that being a learner relies on the emotional engagement with the subject for the conceptual knowledge to be assimilated (Korthagen and Kessels, 1999; Brownlee, Purdie and Boulton-Lewis, 2001). Evidence from this study reflects that of others, which emphasise the importance of providing students with meaningful learning experiences to support students' engagement and support their developing understanding of the role of the teacher (Lee, 2005; Kostianen *et al.*, 2018). Whilst modelling aspects of classroom practice, the tutors were also addressing the importance of placing the students at the centre of learning (Lee, 2005; Tang, Wong and Cheng, 2012). Thus, we see that through the use of meta-teaching and modelling the tutors were able to alert students to the need for classroom teachers to be concerned with the needs of the individual learner.

It appeared that tutors' modelling also focused on the students' understanding of the position of the teacher. Rachel explored the uncertainty which is often present in teaching (Berry, 2004; Mansfield and Loughran, 2018), through her modelling within seminars. She identified an excerpt from her video where she asked: 'What would you do if you didn't know the answer?' Such a question explored with students how teachers are often in situations, which expose them as individuals. Students needed to recognise that such uncertainty is part of teaching and that teachers are not always reacting to planned rational encounters (Loughran and Menter, 2019). This notion may not be explicitly explored in classroom practice in school-based training (*ibid*). Within this study, however, Rachel saw the value of exploring such uncertainty and viewed that part of her role was to model how teachers can often be in exposed and challenging positions. Students may assume that teachers are making rational decisions based on experience, but this study demonstrates the importance of students being made aware of the 'in the moment' decisions of classroom practices (Schön, 1991; Eraut, 1994). Modelling and meta-teaching facilitated this exploration, and Rachel viewed that an awareness of the uncertainty of teacher decision-making was important to acknowledge with novice practitioners (Loughran and Menter, 2019).

#### **4.2.7 Summary of the Role of Modelling within ITE Pedagogy**

From this study, the use of primary school pedagogy within seminars appears to be important to the development of students' understanding of theory and practice. In providing an ITE pedagogy, which involves active participation, dialogic approaches, and activities that are exploratory in nature, tutors encouraged students to develop ownership of their own learning experiences. Such approaches appeared to empower students to experience, consider, and challenge pedagogy, within a

supportive environment. Additionally, students were supported to understand the pedagogical choices of the teacher and experience learning from differing perspectives. The teaching seminars appeared to provide a testing ground for students to expand their understanding in ways that school-based practices may not. The supportive environment, devoid of judgement or assessment, may allow students greater freedom to develop their criticality of approaches than classroom-based practice. This echoes Aleccia's work, which identified the transformative nature that teacher educators' modelling can have on students' understanding (Aleccia, 2011). The case studies from this study illustrate that modelling by tutors has a significant influence on students' understanding of the link between theory and practice. Throughout the transcript data, it appeared evident that tutors used both modelling and meta-teaching combined to allow students to explore the difficult decision-making processes of teaching.

A further theme of reflection appeared in the data as significant, and in the following section, I will consider the place of reflection in the process of developing students' understanding.

### **4.3 The Theme of Reflection**

#### **4.3.1 Introduction to Data on Reflection**

Within the following section, I will consider the findings in relation to research sub-question four.

Are students able to reflect on these practices (meta-teaching and modelling) in relation to their own developing pedagogical knowledge?

From the data analysis, three main findings emerged in relation to reflection. These were:

- Tutors valued opportunities for reflection and deliberately planned it into their seminars.
- Dialogic approaches were seen to support students' reflection and aid their thinking as learners. Reflection was also seen to support the linkage of theory and practice.
- Students valued reflection, but raised the question of when and how to undertake it.

Within this study, it was evident that reflection was seen as an important component of teacher education. Both student and tutor transcripts identified reflection as a key aspect in helping students to understand pedagogy. This chimes with evidence drawn from a range of literature on reflection, which cites opportunities for reflection as crucial to the development of understanding in professional learning (Harford and MacRuairc, 2008; Nelson, Miller and Yun, 2016). The purpose of reflection can be seen as critical inquiry, a way in which students develop their reasoning about why certain teaching strategies are employed and how these can have a positive impact on children (Lee, 2005). It, therefore, is also closely linked to meta-teaching.

Within the data, several references were made to the importance of reflection on the tasks to consolidate understanding. The method of reflection took various forms; however, giving specific time within seminars was emphasised as important. Additionally, as previously highlighted, the use of talk to develop understanding was

seen as a significant feature, as was whether reflection was appropriate at particular points in the learning process. These are identified as sub-themes in Figure 7 below.

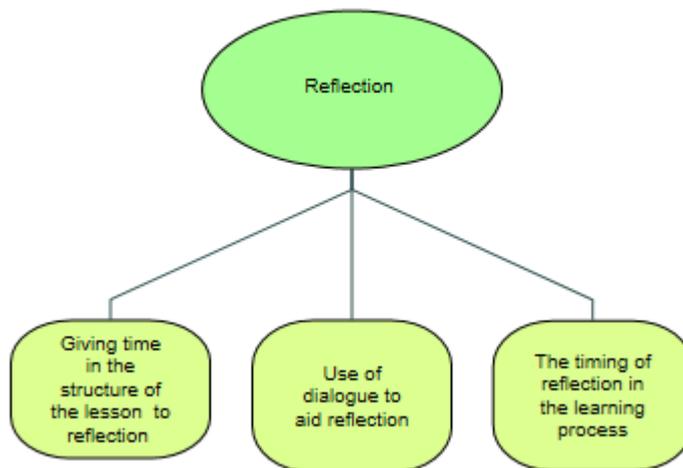


Figure 7. Reflection

Each of these aspects will be considered in turn drawing on the perceptions of both students and tutors.

#### 4.3.2 Sub-theme One: Giving Time for Reflection in Seminars

Within seminars, tutors actively planned sections where students were given time to reflect on their learning. Tutors referred to 'mini plenaries' in seminars as a time when they (tutors) gave deliberate consideration to when and how to encourage reflection and linked this to modelling strategies of primary pedagogy. Iona commented: 'I asked them to reflect on their own strategies ... we also reflect on when is a good time to say, to reflect on your own, in twos, threes, talk partners, etc.' This again reflects Swennen *et al's* work on congruent teaching where the learning

of the students is directly attuned to classroom practice (Swennen, Lunenberg and Korthagen, 2008).

One tutor (Christine) commented on the fact that they thought reflection enhanced the students' understanding of what they had learned about pedagogy, but acknowledged that this was a complex aspect: 'So they had actually learnt something at that point. So for them to review it and to reflect back on it... but that's very subtle in lots of layers, not only in their own learning, but own pedagogical understanding.' Reflection was identified as supporting understanding of pedagogy and students' own learning, and, additionally, Christine identified that reflection enhanced the students' ownership of their understanding: 'Then each group came back with why they thought I had done it; I felt they had a bit more ownership of it.'

Similarly, comments were evidenced in the student focus group transcripts, where students acknowledged that reflection time was an important aspect of their learning. Students identified that: 'We need to reflect because otherwise if we go away, not knowing what we have learnt from a seminar, it just escalates' (Student Script one), and reflection 'is important to consolidate your knowledge and where you can go and develop' (Student Script one). Within the student reflection sheets, similar comments were found where in response to the question 'What did the tutor do to help you understand these key aspects?' Students responded with, the strategy of 'allowing us time to discuss and reflect on what we think went well'. Students also made reference to seminar structure identifying 'recaps' within the seminar to support understanding and 'breaking it up into smaller activities to expand on ideas' (Student reflection sheets).

Thus, it can be seen that tutors actively planned opportunities for reflection in seminars; incorporating mini plenaries, discussion groups, and individual and group reflection sheets, as methods to enhance reflection. Tutors' transcript data identified that reflection was seen as a crucial aspect in supporting the linkage between theory and practice. Similarly, student transcripts valued the opportunity to reflect on the learning and student reflection sheet data identified that teaching strategies, such as mini plenaries and discussion, helped them evaluate approaches and consider theories.

Additionally, student focus group data identified that students saw a clear link between reflection and improving their practical skills (McKenzie, 2015). Hogg and Yates' work identify the importance of modelling reflective practice as a teacher educator, but these instances also present a model of how such teaching strategies for reflection may contribute to children's learning in the classroom (Hogg and Yates, 2013). In planning for reflection, the tutors clearly are operating as second-order practitioners (Murray and Male, 2005) in both providing students with a 'space to struggle' with concepts and ideas (Nelson, Miller and Yun, 2016, p. 659) and a model for classroom practice. The duality of this role identifies that reflection is linked to modelling (Aleccia, 2011), an idea to which I will return later.

#### **4.3.3 Sub-theme Two: Use of Dialogue to Aid Reflection and Support Students' Pedagogical Understanding**

In regard to developing the students' own understanding, tutors identified the importance of allowing students opportunities to explore their own thinking through talk within the seminar. Fiona identified that: 'They were talking and helping each

other... and that they were talking and coming up with various interpretations' within the seminar.'

Experienced tutors understood the value of talking to developing students' understanding and actively encouraged the hesitant exploratory talk advocated by Alexander and Mercer within their teaching (Mercer, 2000; Alexander, 2010). They acknowledged that such dialogic approaches support student thinking, but also created further opportunities to model appropriate pedagogy for children's learning, as evidenced by Jennifer: 'It was a conscious decision to allow her to carry on talking because it links nicely to the idea that this is the experience you give to children... it was a useful teaching point.'

In a further transcript, the use of dialogic approaches demonstrated how theory and practice could be significantly linked. The exposure to the dialogic teaching approach led a student to query whether there was any further research that she could explore around dialogue and its role in teaching. Rachel had modelled the practical experiences that the students had undertaken in the lesson as a 'thinking, doing, talking' approach. Rachel then identified within the video what she termed a 'magical moment' in which the student stated: 'So doing practical things with children is better because it helps them develop their understanding of difficult concepts. Has there been a research project on that?'

The tutor considered that this active engagement with the pedagogy and then discussion with peers and the tutor had led the student to the research. It modelled both the use of dialogic approaches to reflect on pedagogical choices and additionally had empowered the student in their own learning. As Rachel stated: 'It is nice that they came to that really, because we hadn't done the session on that actual

research, so that was good.’ The use of dialogic approaches may be viewed as a contributory factor to the ‘relevancy’ issue raised by Hennissen *et al* (Hennissen, Beckers and Moerkerke, 2017). By providing opportunities for discussion, tutors allowed students to make the link between theory and practice for themselves, ensuring that its significance was clear.

This data reiterates that the students were encouraged to reflect on their own learning and that reflection seems to support understanding and motivation to investigate the theory further. Within student reflection sheets, it was evident that students valued the dialogic approach adopted by tutors. Numerous comments were made in response to the question ‘what did the tutor do to help you understand key aspects?’ which can be summarised by quotations such as ‘mediate discussions and debate to accommodate all views’ and ‘allowing us time to discuss and evaluate.’ Student focus group transcripts substantiate the importance of discussion identifying tutors encouraging students to ‘not be nervous to speak up in seminars’ (Student script one). This echoes McKenzie’s work, which identifies that students do see the value of reflection, and they recognise the importance of talking to others as contributing to their development (McKenzie, 2015).

As highlighted in the previous sections on meta-teaching and modelling, tutors drew on dialogic teaching approaches, and their importance can be seen in tutors’ and students’ data. The use of dialogic approaches enabled students to reflect on the ‘questions and uncertainty’ (Harford and MacRuairc, 2008, p. 1886) within teaching, and the use of such approaches seemed to allow students to deepen their understanding of the purpose of the reflective process. Indeed, Philpott highlights that the role of the teacher educator is to disturb the ‘habitus’ of the students’ learning (Philpott, 2014), and that in doing so, students are also provided with

opportunities to reflect on their own beliefs around teaching and learning (Bråten and Ferguson, 2015). Discussion helped to present students with a view of teaching that is complex, can be interpreted in multiple ways and is seen as an ever-changing, dynamic discipline (Bråten and Ferguson, 2015; McKenzie, 2015). In providing such discursive pedagogy, teacher education can prepare students for a wider variety of teaching settings, and, as Harford emphasises, it is important to acquire the habit of reflection, as this offers students the opportunity to take ownership of their own critical development (Harford and MacRuairc, 2008).

Within this case study, it was evident that tutors planned and drew on pedagogy, which encouraged the use of discussion for reflection. This was valued by the students, who reported that reflection supported their understanding of teaching as a complex process. The implications from this study would indicate that any future development of teacher educator pedagogy should incorporate the use of dialogic approaches to support the development of students' pedagogical understanding (McKenzie, 2015).

#### **4.3.4 Sub-theme Three: Reflection and its Timing in the Learning Process**

Student focus group data introduced an additional aspect to reflection for consideration that of the timing of reflection in the learning process. Student data recognised that the timing of the reflection was crucial. Student data identified that they often needed 'an hour or two for things to sink in' (Student Script two) or that 'I am better going home and writing my reflections sheets. When I am writing my reflection sheets, I can unload it there' (Student Script two). Indeed, one student was clear that it did not need to happen within the teaching time, but that, 'You don't need to do it in the lesson you can do in your flat with peers' (Student Script two).

Additionally, the same student also raised the issue that reflection might be a personal area of development, with students considering different aspects that challenged them and that reflection might need to be done individually at times to cater for differing needs. This links to McKenzie's work on reflection, which highlights that there is often a personal preference to ways to reflect (McKenzie, 2015).

Thus, the use of reflection as an aid to connecting theory and practice echoes the comments from the tutor transcripts above. There appeared to be benefits for students to have reflection points to support their developing pedagogical understanding. Within the student transcripts, students were generally positive about the use of reflection to support their pedagogical understanding. However, some comments indicated that they occasionally felt that it was not always useful. Again, this echoes McKenzie's work, which identified that students were often not clear about what reflection was and what was expected of them, and it appeared that students may not have a clear understanding of the relevancy of reflection. A range of studies suggest that ownership of the reflection may be the key to developing its effective use (Lee, 2005; Smith and Hodson, 2010; McKenzie, 2015).

Korthagen's work on reflection has influenced my consideration of the data found in the area. In his work, he, too, acknowledges the importance of reflection, but makes the distinction between action-orientated reflection and meaning-orientated reflection (Mansvelder-Longayroux *et al.*, 2007). Action-orientated reflection focuses on what the teacher has to 'do' to improve practice, whereas meaning-orientated reflection requires the teacher to reflect on 'dimensions of thinking, feeling and wanting' in teaching, from the perspective of both the pupils and the teacher' (Korthagen, 2017, p. 8). Korthagen's ALACT model of reflection (2001), which underpins teacher

education in the Netherlands, identifies the significant influence of the individual's beliefs and motivations in their ability to reflect.

Within his 'realistic model' of teacher education, he identifies an onion model of reflection (Figure 8 below), in which he advocates a process of layers to reflection at the centre of which is the individual student's core qualities. This is reflected in data within this study. From the student focus group transcripts, students identified that reflection time was, 'giving you time to reflect on your own learning' and was 'good 'cause it's catered to yourself' and 'is important to consolidate your knowledge and where you can go and develop.' This reflects the personal aspect of reflection.

However, students remained ambivalent to reflection within teaching seminars and questioned the timing and lack of differentiated use of reflection.

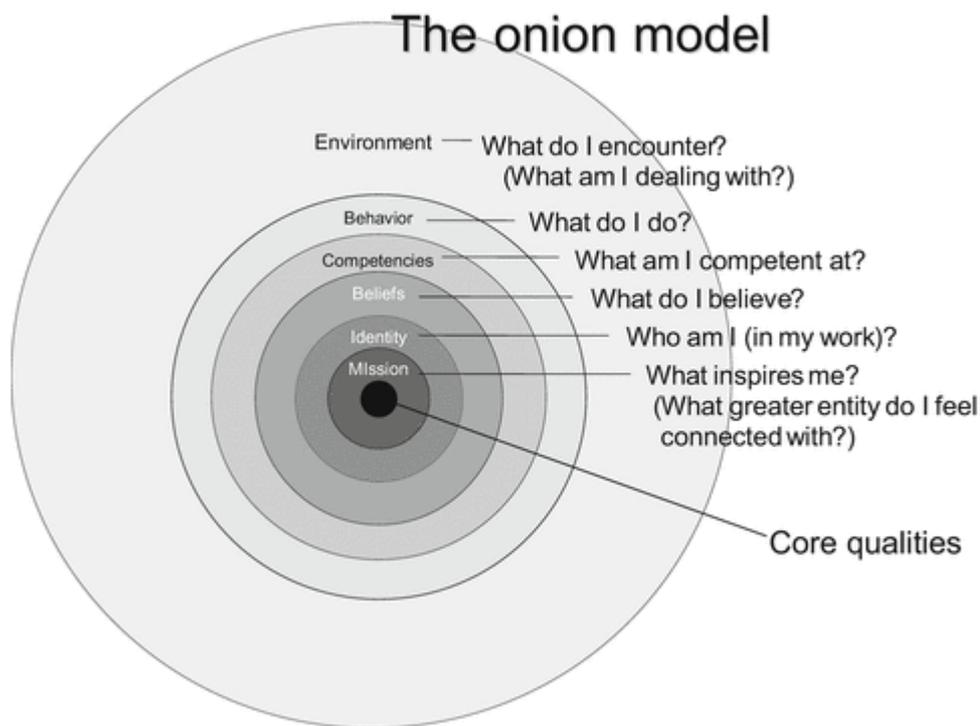


Figure 8. Korthagen's Onion Model of Reflection

One tutors' transcript (Christine) also began to identify the importance of ownership in reflection by reiterating points made in literature, which advocate the need for tutors to know their students well, so that they provide appropriate and meaningful opportunities to reflect (Lee, 2005; Kostianen *et al.*, 2018), and that ownership of reflection is central to supporting student engagement with and development of reflective practice (Harford and MacRuairc, 2008). Mansfield and Loughran's work similarly urges teacher educators to avoid a 'one size fits all approach', highlighting the need for a more differentiated consideration of the position of reflection in teacher education (Mansfield and Loughran, 2018, p. 251).

#### 4.3.5 Summary of the Role of Reflection within ITE

Several studies have identified that reflection has an individual and differentiated element to it (Smith, 2005; McKenzie, 2015), and these findings are reflected in the

student and tutor data within this research, which identified that timing of the reflection, and subsequently ownership of the learning, is key to connecting the theory and practice. This point is similarly highlighted in Korthagen's model that the 'self' sits at the centre of reflection and, thus, reflection has an affective element as well as a cognitive element to it. The centrality of meaningful experiences and ownership are seen as crucial to the internalisation of reflections.

The findings from this study are broadly in line with previous studies (van den Bos and Brouwer, 2014; Vanassche and Kelchtermans, 2014) in that they identify the value placed on reflection, as a tool to developing pedagogical understanding.

However, the findings of these data would suggest that reflection is an area that may need further consideration and that whilst the scope of this research did not allow me to pursue this aspect in depth, it is worthy of further investigation in terms of relevancy and timing for the students. Interestingly, I did not find reference to the timing or placement of reflection in the tutor transcripts or in the student reflection sheets. The design of these tools did not anticipate the emerging theme. However, its absence from tutor data may reflect the need for further investigation in future research as to its prominence in the linkage of theory to practice.

The study has drawn me to consider the position of reflection within the process of teacher education and whether practice could be developed to utilise it more effectively. This is something to which I will return in the conclusions section.

A fourth theme evolved from the data, which was unexpected in relation to the initial research question: the influence of the methodology on the tutor participants' own professional development. As the main research question was orientated towards

the practice of the teacher educator, the tutors' own reflective practice is worthy of discussion.

Section 4.4 focuses on the influence of the SRM on tutors' reflective practice.

## **4.4 Tutors' Reflection on own Practice**

### **4.4.1 Introduction to the Data on the Use of Stimulated Recall Method (SRM)**

Within the following section, I will consider the findings in relation to the research method of SRM.

From the data analysis three main findings emerged in relation to the use of stimulated recall method. These were:

- The use of SRM allowed tutors to view and confirm their own practice
- SRM allowed tutors to evaluate and consider future practice
- SRM and involvement in the research process was seen as a collective and supportive mechanism to evaluate and improve practice

#### Introduction

In undertaking the analysis for the main research question, an additional theme in relation to the method of stimulated recall (SRM) came to the fore. It became apparent through the tutors' transcripts that the method of stimulated recall had been an important tool in supporting tutors' analysis of their own practice and, therefore, related to the broader research question surrounding teacher educators' pedagogy. As the theme was not entirely anticipated, it led to a number of new insights for me to consider, and for this reason, it was decided that it would be pursued as a fourth theme. The findings illustrated that the method of SRM had offered tutors an

opportunity to consider the explicit use of meta-teaching in their practice and seems to have supported tutors' reflection and evaluation. It, therefore, seemed important to include it in the analysis, as it may offer some understanding of tutors' analysis of their practice and illuminated how tutors' pedagogy may support the synergy of theory and practice for students.

Given the main method of data analysis was a hybrid approach to thematic analysis, the fourth theme provided me with new lines of enquiry and consideration, and this could be accommodated by the inductive nature that the hybrid approach undertaken. The same process was applied to this theme as with other themes, with the identification of references to SRM within tutors' transcripts.

#### Participants in the Study

It is important to identify the biographic details of the tutors involved in the study to provide some context to the discussion around the influence of SRM on tutors' practice. The majority of tutors were experienced teachers prior to entering teacher education, and a number of them also had experience in teacher Continuing Professional Development, working as advisory teachers in Local Education Authorities (see methodology chapter for biographic details).

It is important to note that many studies on teacher educator development have been conducted on participants, who are new to teacher education (White, 2011; Field, 2012). However, the participants in this study were established in both teaching and teacher education. This study, therefore, adds to the literature on teacher educator development, as it considers the practice of practitioners at a later stage in their careers. Many participants in this study teach on subject specific modules, but also on professional studies modules addressing pedagogy. All participants had higher

degrees or qualifications, and all had undertaken a Postgraduate Certificate in Higher Education, as a requirement by the university. Several of the participants had undertaken teaching fellowships, and two are currently studying education at doctoral level.

This information is important to demonstrate that the participants are all research active and have a commitment to their own professional development. This may also be a contributory factor in their volunteering for the research project and should be acknowledged as an influence on the sample. The effect of the backgrounds of the sample involved is, additionally, seen in the data, which demonstrates that participants had a strong understanding of theory within their own subjects and a wider understanding of pedagogical theory in general. The consequence of this expertise may account for evidence in the tutors' interview transcripts, in which tutors were able to access theory easily within seminars and within the analysis of their practice. They were well-placed to use meta-teaching to ensure that the link between theory and practice is made clear for students, and such secure subject knowledge can be seen as essential to flexibility of tutors' practice.

However, it could be said that experience in itself is insufficient to make the link between theory and practice, since the impact of theory on teacher education has historically been seen to be limited (Segall, 2001; Cochran-Smith, 2005a; Burn, Mutton and Hagger, 2015). It could be considered that teacher educators mirror teachers, in that much of their decision-making remains implicit and sub-conscious (Hagger and McIntyre, 2006; Swennen, Lunenberg and Korthagen, 2008; Loughran, 2014). This may, therefore, imply that teacher educators are also vulnerable to the assumption that the linkage between practice and theory is evident for the students. This assertion was one consideration that initiated the research study for me. The

SRM method, however, provided an interesting 'window' into the pedagogy of the tutor and how theory and practice may be best linked. In the next section, I will consider the impact of the SRM method on the tutors' thinking and practice.

#### Data from the Study

Analysis of tutors' transcripts demonstrated that use of SRM as a self-reflective tool could be divided into three key aspects: an evaluation of current practice, an evaluation of practice to inform future practice, and an appreciation of the SRM and the involvement in the research; these are identified as sub-themes in Figure 9 below.

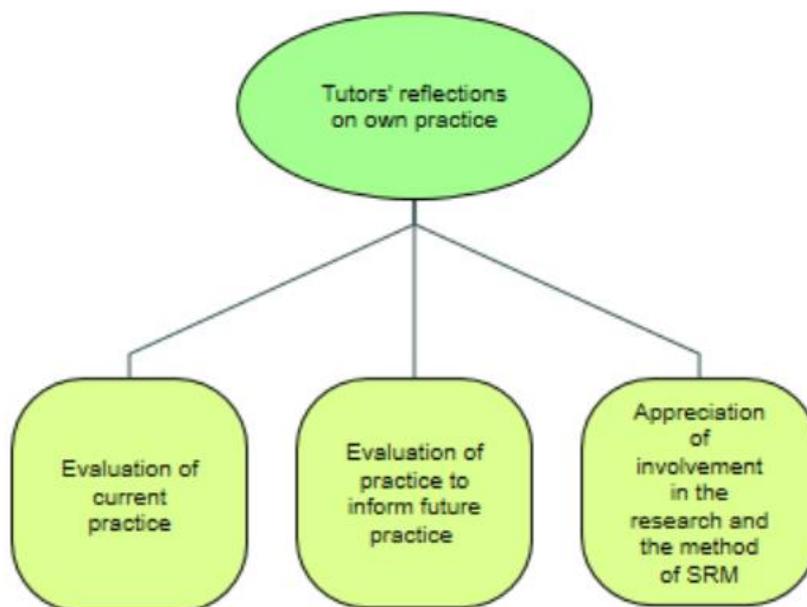


Figure 9. Tutors' Reflections

#### 4.4.2 Sub-theme One: Evaluation of Current Practice

As the following quotations show, the use of video confirmed for a number of tutors how much explicit teaching they undertake within seminar teaching. For many tutors

it appears to have been a surprising amount, and the video seemed to have allowed them to identify and confirm its appearance in their practice. Fiona comments: 'Now I have had this explicit feedback, it is that you might think that you are not doing anything, but you actually are.' Similarly, in Jennifer's transcript she notes: 'I was looking through, and I was thinking, my goodness I mentioned there, and I mentioned it (research) there, and I explain why I've chosen those numbers. There is a lot of linking... I was surprised how much we really embed the mathematical concepts,' and 'it made me realise how much we do cram into those seminars and how much we're constantly drawing on different elements.'

The use of the video prompt in SRM appeared to enhance the memory and analysis of tutors' practice. This reflects literature which highlights how the video ensures that 'the reality is shared' (Lofthouse and Thomas, 2017, p. 52) for the participant and me within the SRM interview. The video was crucial in supporting the clarity of memory and maintaining the focus on details of practice.

In discussion with my supervisors, I felt it important to return the transcripts to review the points at which tutors explored meta-teaching with me. Whilst tutors were exhibiting and able to explore the concept, the term was not used within interviews. I introduced the term meta-teaching into the interviews with Jennifer, my final interview. This reflected the evolution of the term for me which developed out of my discussions with colleagues and associated reading. My data analysis allowed me to identify what might define meta-teaching and has subsequently supported collegiate discussions around teacher educator pedagogy.

Indeed, Christine acknowledged from the outset that the purpose of the research and the videoing had altered her planning of the seminar, commenting: 'Well to start with,

when I was planning it, I started to think about, you know, because you were going to video it, it made me think even deeper about what I was doing.’ Whilst the participation in the research and videoing of the seminar may be seen as a rehearsal of the teaching event and, thus, may compromise the trustworthiness of the data, the use of the SRM method can be seen as a positive influence. It appears that the use of the SRM method resulted in Christine remaining focused on the research question and targeting its focus in her planning exemplifying that SRM can allowed the tutor to see things in a new way (Vesterinen, Toom and Patrikainen, 2010) and, therefore, allowed the tutor to address issues in practice immediately. Additionally, this raised consciousness meant that Christine started to make focused evaluations of her practice and how it could be improved for the next session, commenting: ‘Having done the first session ... just thinking about it analytically and that time to think about it, I realised I wasn’t actually linking things up.’ As a method for accessing participants’ analysis of their own practice SRM appeared effective.

Within the study, tutors were able to identify instances where they explicitly used meta-teaching, and were able to evaluate their practice and see it more clearly. It appears that the SRM acts as a ‘mirror’ to tutors, which reflects their practice and allowed the tutors to rationalise their decision-making processes more effectively. Tutors’ transcripts identified that the ‘mirror effect’ of SRM allowed them to be more objective and stand back from the practice and view it, as though an observer. This method, therefore, reflects what Schön refers to as ‘reflection on action,’ in which practitioners consider practice after the event. This echoes Vanassche *et al*’s view that teacher educators of reflective teachers positioned themselves as ‘continually questioning existing practices’ (Vanassche and Kelchtermans, 2014, p. 123) reflecting themselves as reflective practitioners. Fiona’s transcript reflects this. When

asked if she made explicit the value of students operating as audience members in a drama session, she responded: 'Probably not. Well I make it explicit that I want them to watch certain things but (that's) what I don't make explicit and perhaps I should.'

SRM permits tutors to view practice with a more heightened awareness and, therefore, be more conscious of the choices that they make whilst teaching.

Evidence from this study indicated that SRM can offer teacher educators the opportunity to reveal previously hidden aspects of pedagogy (Calderhead, 1987); additionally, it was found that SRM interviews provided the tutors with occasions to consider their actions and recall their 'concurrent cognitive activity' (Lyle, 2003, p. 861). This was evident in all of the tutor transcripts, as they were able to talk at length about their planned and spontaneous decision-making in seminars. Initially, In Jennifer's transcript she questioned whether she was explicitly exploring theory: 'Do I do that? Is that something I do?'

However, SRM allowed us to confirm her practice. Indeed, Hadar and Brody identified that experienced teacher educators seemingly develop a disposition to draw on theory to offer deeper insights into their practice and to better understand their students' learning (Hadar and Brody, 2016). As a method, SRM interviews offered the opportunity for tutors to respond in depth (Lyle, 2003) about critical instances to verbalise tacit knowledge and co-construct meaning with me (Bertone *et al.*, 2006).

Calderhead identifies that within SRM, it is important to allow professionals the opportunity to reflect on their practice according to their own agenda (Calderhead, 1987). For this reason, the choice of semi-structured interview was appropriate, as the questions allowed the tutors to lead the discussion, and this offered a valuable

insight into what they held important in their own practice. However, the participants were all aware of the focus of the research, as the link between theory and practice. In providing the area of research study, tutors may have given prominence to this particular aspect within their teaching, raising it in their consciousness.

On the other hand, in Jennifer's transcript it was evident that she had deliberately tried to 'immerse myself in the session because I want to actually see the reality, so it wasn't like I was doing anything differently.' Subsequently, she also identified that she was pleased by the evidence that she had observed in her practice and that there were numerous incidents of meta-teaching to consider. The given focus may have contributed to more explicit practice, but providing the focus on meta-teaching within the interview opened up opportunities for professional discussion and the value of viewing practice as the external observer. The reflection of practice offered by the SRM 'mirror', combined successfully with a clear observational focus, to allow tutors to make clear and effective evaluative judgements on their practice (Gass, Mackey and Taguchi, 2002).

#### **4.4.3 Sub-theme Two: Evaluation of Practice to Inform Future Practice**

The SRM method appeared to support improvement in future practice for a number of participants. All participants were experienced teachers and the evaluation of practice to inform future teaching may be viewed as an embedded skill. The use of video, however, appears to have enhanced this skill of evaluation, as evidenced by Fiona's comments: 'I'm watching myself, I'm thinking gosh, I'm paraphrasing a lot, and I'm doing a lot of leading questions...I need to be careful when I am questioning ... maybe plan my questions more.' Similarly, Christine's transcript illuminated that the

video had supported her in viewing her practice objectively and gave her an opportunity to question her own practice.

Unprompted she queries: 'You know, why did that happen? Which is what I did with the video, I suppose... What happened then? What did I do there? The more I look at it I'm thinking 'I wish I'd gone straight to that table... but I didn't.'" It appeared that the SRM interview had enable both tutors to explore and evaluate aspects of their seminar more effectively. This accords with findings from Stevenson (2015) and Stough (2001), who reported that SRM can be a particularly effective tool in reflective practice. The use of SRM appears to have the potential to allow tutors space to question their professional practice and perhaps 'activate a more sophisticated knowledge' (Gazdag, Nagy and Szivák, 2019, p. 69).

The SRM method was also supported by a semi-structured interview schedule shared with participants in advance (see Appendix C). A number of the participants had prepared notes beforehand, and one had shared their seminar plan with me. Preparation prior to the interview can be viewed as beneficial, as the interview content remained relevant to the focus of the research initially set out. The selection of the excerpt by the participants also allowed for the discussion to be directed by the participants, which appeared to support the analysis of the practice. This echoes the literature for the method, which identifies the ownership of the research allows for a greater depth of analysis (Reitano and Sim, 2010). Christine's repeated viewing of the video resulted in a change of practice. Her transcripts identify that she has made what she refers to as a 'switch' in practice: 'That was the switch it wasn't a massive switch. It was just me asking them ... I've done it now. I keep doing it in all seminars. I keep going, 'So why did I bother doing that? So why have I asked you that question' and 'The other thing I've done recently, since this as well, 'cause it

triggered it off was just when you put up the aims of a session. I've said to them, 'Right, take an aim each, and I want you to tell me, discuss it on your table.' The use of SRM appears to support the tutor in making the learning more exploratory in nature for the students and gives opportunities for students to explore tutors' pedagogy. These examples seem to support the view identified in literature that SRM allowed the teacher educator to develop her practice by exposing teacher behaviour within complex interactive contexts, such as teaching (Lyle, 2003).

It would have been beneficial to have had follow-up interviews with participants to see if this alteration of practice was more prevalent. Whilst not within the ethical remit of this study, it may have provided further evidence of the impact and position of the SRM interview.

Schön advocates that reflection-on-action, such as that used in SRM, allows educators to inquire into personal theories and change future actions (Schön, 1991). Using SRM as a 'mirror' allowed tutors to extend beyond merely consideration of practice to reviewing and improving practice. In tutor transcripts, it was apparent that tutors were altering or intending to alter practice in light of what they had viewed. All the participants were experienced teachers, and some had previous experience with video stimulated recall. The objectivity of viewing practice, combined with honed observational skills via their experience, meant that tutors were able to 'notice' elements of their practice very effectively. This reflects literature which indicates that experienced practitioners are able to deconstruct practice more effectively than novices (Kersting, 2008; Star and Strickland, 2008). My research demonstrates that SRM has considerable potential in teacher educator professional development to offer opportunities to develop practice. It may also offer opportunities to isolate the key elements of teacher educator pedagogy and provide recommendations on

effective practice. A review of teacher educator pedagogy may offer further opportunities to connect theory and practice.

#### **4.4.4 Sub-theme Three: Appreciation of Involvement in the Research and the Method of SRM**

Being involved in a research process was seen in a very positive light by all those involved and comments in transcripts identified the value placed on opportunities for working in this way, in terms of Continuing Professional Development (CPD).

Iona noted that despite having taught for a number of years, she had not reflected on her own practice academically for some time. Successful in her teaching, she identified the importance of being involved in the research, commenting: 'It is these processes that make you go back and think, 'What am I actually doing here'. Jennifer also noted being part of the study, 'gives you a chance to look at your own practice doesn't it, in quite a bit of detail'. Jennifer highlighted that the video had provided her with a clear opportunity to review the practice objectively. She stated: 'Before I videoed it, I'd have been naturally cautious. I would have said I'm not sure I really do, but seeing that and seeing that it's (research) embedded all the way through... that makes me feel positive.' The use of the video appears to have been particularly supportive to each practitioner as a mechanism for self-reflection and professional development.

Previous experiences of using video in school practice were referred to as a model that Jennifer had found particularly helpful to improve her practice and that was her motivation for joining the research project. A number of tutors acknowledged how much they had enjoyed being part of the process of self-reflection and the interviews. Iona stated: 'This is why what you're doing is wonderful; I would love to have more

time to do it.’ Whilst Jennifer commented that: ‘One of the strengths of doing this with you has been that I can see for myself that I, I do actually do it... I’m pleased to know how much I am doing.’

The video and preparation for the discussion appeared to have offered a time for reflection and consideration of practice with a knowledgeable other. The position of an insider researcher means that, as a fellow practitioner, this shared dialogue was supportive of the self-reflection process. Additionally, the 1:1 interview maintained the safe space advocated by Lofthouse and Thomas needed for these discussions, and sustained the collaborative partnership of the participant and I working towards a common goal (Lofthouse and Thomas, 2017).

Similarly, the design of the research interviews allowed participants to select sections of the video that they wished to discuss, and this strategy had been a deliberate choice (refer to methodology chapter) that was, subsequently, found to be effective. In allowing the participants control of the sections to be viewed, they came to the interview ‘open’ to discussion and not threatened by the occasion.

Anecdotally, participants said they had enjoyed talking about their practice with me, and this appears to be linked to their ownership of the discussion. Many of the participants were well prepared for the interview. This preparation allowed them to lead the interview in directions that they felt were important. It must, however, be acknowledged that commentaries via SRM may not be entirely complete or totally accurate, as considered in the methodology chapter (Calderhead, 1981), but that such limitations are evident in all self-reporting tools. The limitations of the commentaries were outweighed by the valuable insights into the aspects that the participants had held as significant. Additionally, the elements of ownership within the SRM led to more open and honest discussions with me, thereby, increasing the

authenticity of the data. Interjections into the discussions from the researcher varied, with some participants viewing the discussion as a professional dialogue, whilst others came with a story to tell. However, in both instances the ownership of the discussion lay with the participant (Lofthouse and Thomas, 2017).

Similarly, tutors were allowed to identify excerpts in the video from their own practice. The focus of the interview was to look at instances, where they had viewed positive connections between theory and practice. Hence, participants were discussing successes within their teaching. This resonated with my reading of Korthagen's work on reflection, in which he determines that most progress in learning is made when discussing the successes within a teaching event (Korthagen, 2017). The use of positives instances immediately reduced the 'risk' that participants may have felt in exposing their practice to scrutiny.

Whilst ownership and focusing on successes may be useful aspects of the SRM method, I was alert to the fact this may be seen as selective in the use of data. It was, initially, recognised in the methodology chapter that self-reporting methods such as SRM can be viewed as less trustworthy. However, the interpretative nature of the study drives the methodology. Within this study, the research questions focused on the perceptions of tutors and students to the teaching seminar and were intended to garner the opinions and reflections of the participants; therefore, SRM was an appropriate method to employ.

Additionally, tutors articulated that the dialogue pertaining to their practice, initially from the video, had extended to other times when planning with colleagues and that the discussion had been an enjoyable experience. They acknowledged that it had helped them improve their practice. This links to literature in which the collective

language of our profession appears to be important as part of our CPD (Stevenson, 2015). Discussions with a knowledgeable other mean that there was a common language and that the interview alongside the video allowed for a greater depth of dialogue than a mere question/response interview. The discussions appear to raise the concept of meta-teaching in the consciousness of the participants and allowed us to clarify our understanding of practice. This reiterates Miles and Huberman's findings that interviewing with a knowledgeable other can be an exciting 'co-elaborative act' (Miles and Huberman, 1994, p. 8), as the following quotations demonstrate: 'I love talking to you (the researcher) we get to talk about our pedagogy' (Field notes) and Iona reflected that the discussion ultimately, 'makes us all better teachers'.

It should, also, be understood that, as the interviewer, I also benefitted from the conversations around pedagogy. The instances discussed with colleagues helped clarify my thinking around teacher educator pedagogy and provided me with ideas to develop in my own practice. These benefits may remediate some of the criticisms of 'insider researcher', in that it was acknowledged from the outset that I, as the researcher, was involved in the reality of the phenomenon and that I, too, will benefit as an external observer (Gazdag, Nagy and Szivák, 2019). One of the benefits of insider research is that it can lead to participants learning from themselves (McKeon and Harrison, 2010) and can offer 'objective understanding to subjective and situational reflection' (Vesterinen, Toom and Patrikainen, 2010, p. 188). Although these colleagues were experienced in teacher education, many had not considered their practice for some time. The lack of focus nationally on teacher education pedagogy illustrates that it is an area that requires further research (Philpott, 2014; Loughran, 2019). Whilst the findings from this study are tentative, it is clear that

given the right context and methodology, colleagues are open to and eager for the development of understanding around effective teacher educator pedagogy.

#### **4.4.5 Summary of the Role of SRM in Tutor Reflection**

The findings of this study highlight the important role that SRM may offer to the consideration and development of teacher educator pedagogy. The viewing of practice allowed tutors to confirm their own practice and evaluate and change future practice. SRM also raise the conscious level of tutor pedagogy in the minds of teacher educators and helped them consider their position as role models of practice. The process of involvement in SRM and the research overall was viewed by tutors to be beneficial. SRM and involvement in the research process was seen as a collective and supportive mechanism to consider and improve practice. The methodology of the study provided colleagues with a common agenda and, perhaps, a common language with which to discuss teacher educator pedagogy. It has also offered me a privileged window into others' classrooms and a window into the colleagues' thinking about ITE pedagogy.

This chapter has outlined the main findings from the case studies and supporting data and provided some initial discussion of the considerations of the research. In the following chapter, consideration will be given to the lessons learned from the data and the implications, and recommendations will be presented. Further reflection on the methodology used will be made, and consideration of dissemination of the findings and further research will be offered.

## Chapter Five: Conclusions

### 5.1: Introduction

The purpose of this study was to consider how tutors support the development of students' ability to theorise practice and to identify what aspects of tutor pedagogy might underpin this development.

The first section of this conclusion intends to recognise the lessons learned from the analysis of tutor pedagogy in relation to the development of students' professional theoretical knowledge. In this section, I will also examine the use of the stimulated recall method and its potential to develop ITE tutors' self-reflection and CPD. In the second section, I will reflect on my own methodology and consider improvements with the research design. In the final section, consideration will be given to the dissemination of the findings and future research and recommendations will be offered.

### 5.2: Section One: What has been Learned?

#### **5.2.1 How do university-based teacher educators support primary school student teachers' ability to theorise practice?**

In relation to the main research question, four aspects of tutor pedagogy were found to be important; these were meta-teaching, modelling, reflection, and micro-teaching.

Each aspect of tutors' pedagogy will be taken in turn to consider how it develops students' professional theoretical knowledge and supports affective dimensions of student learning.

### 5.2.2: Meta-teaching

This research has shown that meta-teaching was valued by tutors and students and that it was prevalent in tutor practice within the data. It was seen that meta-teaching supported students to make the link between professional theoretical knowledge and primary school practice. Whilst professional theoretical knowledge is often implicit in tutor practice, the use of meta-teaching strategies afforded opportunities to make this theoretical underpinning explicit.

This study identified that exposure to explicit deconstruction of the teaching made students aware of the relevancy of the theory within their education, with students' reflection sheet data and focus group interview data demonstrating that students were beginning to connect theory to the practice they encountered in seminars. Additionally, the explicit deconstruction appeared to support the development of students' analytical observation skills and professional language around practice. Meta-teaching afforded opportunities to gain theoretical insights, which McIntyre suggests at this point in the students' development may be presented as guiding practice (McIntyre, 1995). Meta-teaching appeared, from the data presented in this study, to support meaningful and embedded learning for the students increasing the relevancy of theory to classroom practice.

Evidence from this study indicated that specific strategies in line with Swennen *et al's* work on congruent teaching (Swennen, Lunenberg and Korthagen, 2008) supported meta-teaching, including 'think aloud' and 'stepping out' strategies, and extensive use of dialogue. An understanding of meta-teaching was developed by the identification of further strategies such as mini plenaries, exploratory activities, and the use of contrasting pedagogies. Whilst this may not be a definitive list, this study

has achieved a new and refined understanding of meta-teaching. Collectively, tutors and I used stimulated recall method (SRM) to uncover the tacit expert knowledge of teacher educators and specify key teaching strategies that support the integration of theory and practice.

Within this study, meta-teaching was considered important in developing students' criticality of approaches and in offering them opportunities to develop a professionally questioning disposition. Incorporating such strategies, as those identified above into tutor pedagogy, was found to support students' ability to engage critically with theory and practice. This research highlights the importance of meta-teaching, and it could be considered that this aspect of teacher educator pedagogy is fundamental in developing the 'criticality of the teacher'- understanding the 'why' of teaching.

### **5.2.3: Modelling**

Modelling was found to be prevalent in ITE tutor practice. It was particularly valued by students, as it provided an evident link between their learning and that of children in school. The aspect of modelling was seen as important for exploring teacher decision-making and to develop students' understanding of the position of the learner. Modelling offered opportunities to explore the structure of activities, classroom organisation, and developed ownership of the learning within students by creating an emotional memory of the activity/experience. This had a clear impact on students' understanding of the affective elements of learning, and the student focus group interview data confirmed that students valued the opportunity to connect with this through an 'emotional memory' of the activity. It can also be inferred from the data that modelling allows the introduction of challenge for students. It presented

students with models of disturbed equilibrium (Mansfield and Loughran, 2018) and shows how this is crucial to learning.

This research, however, identified that its potential can be optimised when combined with meta-teaching identified above. The combination of modelling and meta-teaching was considered by tutors as crucial in making full advantage of the theory/practice connection. Tutor data identified that it offered an opportunity to make the implicit explicit in practice. In doing so, the students were able to develop skills of analysis of practice. One aspect of my work from my Institute Focus Study (IFS) of my Doctorate in Education had considered the use of frameworks to support students' observational skills. A framework was subsequently used within this study (Appendix E). Evidence from this study also indicates that the use of focused questions on the student reflection sheet had supported students with the analysis of tutors' pedagogy. It was seen that such structures supported students' ability to deconstruct tutors' practice.

It can be seen that modelling presents more than enacting of the pedagogy for students; modelling appears to offer opportunities for teacher educators to explore the wider 'role of the teacher' including the development of ethos. Thus, modelling develops an understanding of the 'how' of teaching.

#### **5.2.4: Reflection**

Students and tutors appreciated the value of reflection; however, the aspect of reflection remained contentious in this study. Some students felt that reflection did not address individual developmental needs. The use of discussion to support reflection was prevalent within the data. This research echoes that of others in suggesting that students need time and the supportive space to reflect critically on

practice (Harford and MacRuairc, 2008; Nelson, Miller and Yun, 2016). The benefits of peer discussions appear to be in developing criticality of practice. Indeed, McIntyre's work identified the importance that such practical theorising has in helping students to engage in the process of criticality and encourages them to act effectively and intelligently as teachers (McIntyre, 1995). Greater exposure to dialogue with others, including those who are more experienced, needs to develop in tandem with the practical experiences for reflection to be successful.

### **5.2.5: Micro-teaching**

This research raised the use of micro-teaching (peer teaching small sections of lessons) as a potentially powerful teaching strategy that supported the development of students' professional theoretical knowledge. The potential of the strategy was evidenced in student focus group interview data in which one group were particularly enthusiastic to increase the amount of micro-teaching in seminars. Student focus group interview data indicated that it supported students by providing meaningful and embedded learning experiences that addressed the needs of the individual student. The students in the focus group identified that feedback on their teaching from the tutor made the learning specific and immediate. Additionally, working with peers in small non-threatening groups was a more supportive, affective experience than teaching in school or teaching as part of an assessment.

Micro-teaching appeared to offer students a clear opportunity to integrate theory and practice. Having micro-teaching interspersed between the theoretical inputs may make the theory relevant and present a clear link to practice. This provides evidence for the consideration of an integrated programme of practice and theory (Korthagen and Kessels, 1999).

The use of micro-teaching identified above may offer opportunities to make reflection more tailored to individual needs. By reflecting immediately on students' own practice in such sessions, reflection becomes more meaningful for the students as they gain experience and knowledge of teaching. It appears to offer opportunity to integrate reflection directly at the point of practice and seems beneficial.

From my own experience on the doctoral programme, completing the reflective statement allowed me to reflect on the cumulative experiences in totality, which offers a different perspective to the individual components. The view from the top of the mountain is very different to the achievements on route. For students, too, it appears that in offering opportunities for reflection throughout the course, and in differing forms, supports our aim to gradually hand over the baton of criticality, to develop independent, self-reflecting, critically informed colleagues. In doing so, students will be better prepared for the uncertainty of teaching in the future (Mansfield and Loughran, 2018).

In summary, within the data, the tutors skilfully combined both meta-teaching and modelling to develop both practice and criticality simultaneously. This may reflect two fundamental functions of teacher educator pedagogy as the development of understanding around the 'how of teaching' and the 'why of teaching'. The exploration of theory was evident in tutors' practice. Within this study, it can be seen that the use of reflection was used to connect the two elements. A model is presented in which the seemingly dichotomous position of theory and practice can be seen, as clearly supported by the use of reflection (Figure 10).

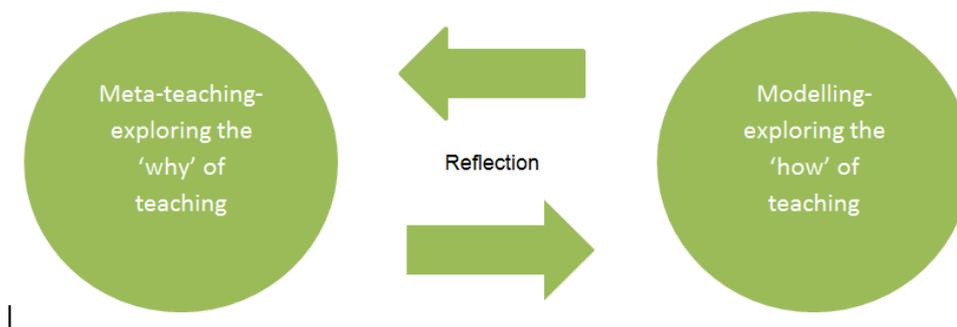


Figure 10. The Position of Reflection

However, the mere presence of reflection is insufficient to operate effectively as a support, if principles of ownership and meaningful engagement are not similarly addressed (Kostiainen *et al.*, 2018). If reflection is to make its potential contribution to the process of linking theory and practice, it is important to note the significance of a supportive learning environment and meaningful learning experiences as evidenced in the data of this research.

### 5.2.5: Analysis of the Teacher Educators' Pedagogy

In chapter four, I considered the use of the metaphors of a 'window' and a 'mirror' in relation to Stimulated Recall Method (SRM). As an English tutor, I draw on the work of Rudine Sims Bishop (Bishop, 1990) in relation to reading in which she considers that books act like 'windows' on other worlds, but, also, they offer 'mirrors' to reflect back ourselves as readers. The use of SRM offers similar effects in relation to developing professional practice. Within the tutors' transcript data, it was clear that the video operated as a 'mirror', reflecting the otherwise unseen practice of the practitioner. This 'mirror' offered the time and space for tutors to reflect on their own decision-making processes and consider the otherwise tacit nature of their work. The

video extracts discussed in the interviews also offered me a 'window' into several tutors' teaching worlds. I was privileged to view practice, and it allowed me as a researcher time to reflect and collate commonalities of practice for consideration.

The use of SRM seems to replicate some aspects of the student model presented above, in that it made evident the link between professional theoretical knowledge and practice for tutors, through a reflective mode. Thus, we may apply the same framework to tutors' understanding of their own pedagogy.

The three components (identification of instances of professional theoretical knowledge; identification of instances of modelling practice and self-reflection) were evidenced in the tutors' pedagogy, and the use of SRM appears to have the potential to support to all three.

#### *Identification of instances of professional theoretical knowledge*

In viewing the videos at their leisure, the use of SRM appears to have supported tutors by allowing them to deconstruct their teaching objectively. Tutors are given time to reflect on their practice, post the teaching event undertaking reflection-on-action (Schön, 1991). In doing so, it allows them to access conceptual knowledge or episteme. They are able to identify the rational, decision-making process of their teaching and provide explanations. Given this opportunity to reflect on their practice, it was clear from the data that tutors had a strong theoretical underpinning to their teaching and were able, through SRM, to articulate this conceptual understanding. The video was a crucial tool in supporting tutors' own understanding of their own pedagogy. It could be argued that the involvement in the study and the use of SRM had raised the tutors' awareness of meta-teaching, but has also alerted them to the importance of meta-teaching to their pedagogy.

Whilst it should be acknowledged that the ability to rationalise your own actions in the moment of teaching is challenging (Lunenberg, Korthagen and Swennen, 2007); video methodology offered the opportunity for tutors to see themselves in the 'mirror' and consider their teaching anew. As highlighted in the impact statement, when planning seminars with colleagues, the discussion now immediately turns to the necessity of providing opportunities to make the meta-teaching more explicit for students within the seminar structure. This research has offered a clearer definition of the key strategies within meta-teaching and a professional language with which to discuss it.

#### *Identification of instances of modelling*

Loughran identifies the need for teacher educators to access both the perceptual understanding (phronesis) and the conceptual understanding (episteme) when working with students of teaching (Loughran and Berry, 2005). Much of the research with early teacher educators indicates that modelling appropriate school pedagogy is an area teacher educators rely on heavily in their transition into teacher education (McKeon and Harrison, 2010; Field, 2012). It should be acknowledged, however, that teacher educators develop over time (Loughran and Menter, 2019). In this study, many of the tutors were experienced in teacher education, and the data suggests that tutors had developed from merely replicating school practice for students (Field, 2012). Tutors appeared to draw on previous teaching experiences both within school and university to model practices that were important to their philosophy around teaching and were grounded in theoretically substantiated approaches when working with students. Korthagen and Kessel state that the theoretical elements offered by teacher educators should have the 'characteristics of phronesis rather than episteme' (Korthagen and Kessels, 1999, p. 13) if students are to make a clear link,

and this was evident in the data from this study. Tutors had skilfully combined meta-teaching and modelling.

The data suggested, however, that tutors have learned to include meta-teaching into their pedagogy by experience. It appears that they had also learned what is significant to make explicit to students and when and how much to include in their seminars. The lack of research in the area of teacher educator pedagogy means that much of the understanding of how best to work with students results from tutors' self-reflection and self-study. This could be referred to as the ability to access their phronesis, the wisdom of practice in teacher education. The use of SRM in this study allowed tutors to consider the pedagogy in detail, and transcripts revealed that tutors were considering wider philosophical stances on their teaching and evaluating how to make the teaching more meaningful for the students. It was clear that they were able to consider, also, how they might place students at the centre of the process and were deliberately considering how best to avoid a 'telling as teaching' practice (Loughran and Menter, 2019, p. 217). A key component of this self-study research was the consideration of congruence as defined by Swennen *et al* (2008), and teacher educators within this study strove to enhance the levels of congruence in their practice (Berry and Russell, 2013).

There appears in teacher education pedagogy, an opportunity to bridge the two aspects of theory and practice. The bridge appears to be providing tutors with time and space to work alongside colleagues in discussion and reflection of practice. This mirrors the same conditions as those needed for novice teachers to connect theory and practice.

Evidence from this study suggested that there are three aspects within the use of SRM that are crucial to the success of tutors' reflection. These were ownership of the critical instances to be discussed, a focus on the successes of teaching, and the discussion with a knowledgeable other. The collegiate nature of the last aspect allowed colleagues at my institute and I to develop a common language around pedagogy, and this collegiate work enhanced a common goal in developing our pedagogy, and this collegiate work enhanced a common goal in developing our pedagogy. It is clear that involvement in the research has encouraged a collective approach to understanding teacher educator pedagogy and has inspired an ethos of improvement from within.

To improve practice, it is evident that this collegiate approach is crucial (Hadar and Brody, 2016). The trust that was developed from this study between colleagues has given rise to more team-teaching opportunities and a willingness to 'take more risks' in our practice. Additionally, colleagues have offered to mentor each other in reviewing their own practice; this is a refreshing and energising experience, which is drawing others into the work. Extending the framework offered in relation to students' professional development to tutors' professional development, the same important aspects of meaningful and relevant influence on own practice and supportive and collegiate ethos apply.

Currently, there is little research around the pedagogy of teacher education, particularly in England (Loughran, 2014; Vanassche and Kelchtermans, 2014).

Whilst an attempt has been made to address the content of an ITE curriculum via the ITT Core Content Framework, less guidance has been provided on the delivery of the curriculum and professional development of the teacher educator in England. The findings of this study would suggest that SRM may have much to offer in the area of teacher educator pedagogy.

Evidence from my research indicates that similar conditions support the development of tutor practice to those of students' pedagogical understanding. Tutors need and appreciate the reflective space to discuss their practice, as evidenced in transcripts. They also benefit from focused observation frameworks; in this case, the use of an interview schedule, to provide a clear focus. Additionally, the dialogue with a knowledgeable other provided the opportunity to co-construct an understanding of the position of meta-teaching within tutor practice. The identification of successful episodes of meta-teaching ensured a positive emotional response in tutors, which supported meaningful conversations around learning.

### **5.3: Section Two: Reflections on Research Design**

The research for this study is embedded in an interpretive paradigm, and, as such, the conclusions are an expression of my own interpretation of the data. I have striven to present accurately the realities of the participants and have drawn directly from the data to provide a basis for my interpretations. In using full quotations, I have endeavoured to remain true to the context and the contributions made by the participants. I presented inferred ideas which are justifiable to others and participants have had opportunities to cross check data via member checking. My supervisors have also verified data collection and findings to ensure rigor in the process. I recognise, however, that in my writing I present only one reality. Through the use of audio transcripts, field notes, the re-viewing of video recordings and multiple reviews of audio recordings, I have tried to remain faithful to the original source data. The interview data is highly focused on the research questions and is relevant and applicable.

The sampling technique was purposive and convenience, which resulted in self-selecting groups of students and tutors. Whilst this had its limitations, the data collected was rich and highly relevant to its field. It is hoped that participation in the study was also of value to the participants themselves.

In considering the interview data, it can be seen that differing approaches evolved with some tutors prepared to 'tell their story' and others responding more to the open-ended questions of the interview schedule. Some tutors had prepared considerations of their practice and had notes and lesson plans available to discuss their excerpts. Other tutors had clearly selected excerpts and were willing to spontaneously discuss the excerpts with me. It is important to acknowledge the influence of 'interview reciprocity' (Mercer, 2007, p. 8) in the process of interviewing where the interviewer comments upon what the interviewees have said. In re-reading transcripts, it was evident that I commented on the answers given in some instances. In the evolution of the research design, I had considered offering tutors criteria, which had been identified as significant from my reading, to note in their practice. However, the construction of the schedule, using open-ended questions rather than pre-determined criteria, proved to be valuable. The schedule provided some structure where necessary, but still allowed tutors to reconstruct their own reasons of action. The conversational style of interview accepts a degree of digression but can provide more extensive data (Smith 1995; Brannick and Coghlan, 2007). A review of the data demonstrated that tutors remained highly focused on the research question despite differing approaches evolving in the interview technique. It may have proven valuable to return to the participants to collect their reflections of the interview process and to analyse my contributions to the conversations. Whilst not within the

scope of the ethics proposal of this study, for future research, it should be acknowledged that it may have unearthed differences in the data obtained.

Additionally, tutor interview data indicated that tutors were intending to change practice in light of their involvement in this study. It would have been beneficial to undertake further follow up interviews to determine the extent to which new understandings from this study had impacted on longitudinal practice.

#### **5.4 Section Three: Dissemination of Findings and Opportunities for Further Research**

The findings of this study have already been shared within my own university, with teaching colleagues at faculty and department level and have had an immediate impact on the school-based curriculum. As a result of the findings of this study and the introduction of the Core Content Framework, I was commissioned to undertake a review of the school-based curriculum and have worked with a core group of colleagues to redesign the activities undertaken by students in school. The conclusions from this research have shaped the approach taken, ensuring that students are supported with the critical analysis of teaching via the use of structured observation frameworks, the implementation of reflective journals, and the use of critical coaching discussions with mentors. These aspects draw directly on the findings of this study to reflect the three aspects of modelling, reflection, and meta-teaching, which were found to be instrumental in this study to the integration of theory and practice. These initiatives within the school-based curriculum will be reviewed, and the evaluation of these processes would be a useful future research study to consider their impact on student teacher learning.

The conclusions from this research have also had an impact on the school-based mentor training in the university, for which I am responsible. Mentor training now focuses on the importance of a meta-teaching element in post observation discussions. Mentors anticipate that students will engage in critical analysis discussions of the mentors' teaching as a model for developing their own practice. Mentors have been extremely positive to this development, identifying that the practical theorising that students undertake is challenging, but exciting, as it requires mentors to rationalise and justify their own practice to a greater extent.

The methodology of this study has had a further impact on the university's school-based work in that we are using SRM in schools as a coaching tool. Students are videoing their practice and using the critical instances from their teaching to form the basis of their coaching discussions with mentors. The advent of Covid 19 has meant that we were unable to gather an effective evaluation of this strategy. However, mentors were extremely positive in training to the use of video as a coaching tool with students, with many drawing on their own experiences of IRIS technology in school.

As a consequence of this study, the faculty are supporting an ITE pedagogy development group in which this work can be extended and further strategies can be developed. The findings of this study have offered an opportunity for colleagues and me to consider the position of theory within our practice. The research allowed us to reflect on the importance of meta-teaching to support students' understanding of the place of professional theoretical knowledge in classroom practice and has helped us identify a common language, with which to explore our pedagogy. The sample of this study focuses on primary practitioners and incorporated a small range of subjects. From the findings, a range of meta-teaching strategies and practices were identified.

It would, however, be beneficial to explore further other subject areas to consider the possibility of a more pluralistic definition of meta-teaching.

Additionally, further consideration of this topic has the potential to develop a more integrated model of theory within ITE (Korthagen and Kessels, 1999; Korthagen, Loughran and Russell, 2006). Whilst this study identified the prevalence of a theory/practice connection within our programme, it would be interesting to consider the progression, timing and development of theory, across the programme. Whilst a coherent sequence of skills, knowledge and behaviours has been acknowledged as important by the DFE (Department for Education, 2020d), the findings have prompted us to review our programme, in view of a cumulative, developmental approach to professional theoretical knowledge within our students.

Aligned to our university-based considerations, we have reviewed the timings and duration of our school placements. The potential remains for placements to incorporate a focus on specific elements of teaching. This would provide opportunities for the university-based and school-based elements to draw on a specific and common focus of theory and, thereby, offer both an application and transfer of professional theoretical knowledge within school, and the 'oppositional space' (Segall, 2001, p. 237) within university, to explore the challenges of theory and practice further. This may reflect the intentions of the 'intensive practice' placements advocated in the recent Market review (Department for Education, 2021).

It should, however, be acknowledged that mentoring students in schools is challenging. We have begun to consider the use of meta-teaching as a coaching practice with our mentors. However, issues of capacity and expertise remain. It is

important to recognise that leadership in schools is key to effective mentoring of all staff (Milton *et al.*, 2020) and that professional learning of young practitioners needs to be integrated into the wider social context of the school (Milton *et al.*, 2020).

Whilst schools are supportive of ITE placements, we should recognise the recommendations of the recent market review, to establish qualified lead mentors in all schools will be demanding. However, it may be an opportunity to ensure that schools develop an 'adaptive system' (Milton *et al.*, 2020, p. 3) of professional learning, in which schools and universities come together to exchange understanding of professional theoretical knowledge. Adopting an 'educative mentoring' approach (Milton *et al.*, 2020, p. 4) could offer opportunities for a more fully integrated programme of placements, whereby schools have a greater awareness of university-based programme progression and theory can be incorporated more effectively through a spiralling, developmental approach.

It is hoped that the conclusions of this study can, also, add to the wider body of knowledge on ITE pedagogy. This work could be disseminated through peer-reviewed journals to gain wider circulation of its findings.

### *Follow up Lines of Enquiry*

It is apparent from the conclusions of my research that tutors saw themselves as models of practice for students (research sub-question one) and that they used strategies of modelling and meta-teaching to make tacit professional knowledge known (research sub-question two). However, this study did not consider the prevalence of meta-teaching beyond those involved in the study and the range of strategies that meta-teaching might incorporate.

To discover what strategies are most effective in meta-teaching, lines of enquiry are suggested below:

- The establishment of the ITE development research group identified above could provide valuable opportunities to understand what strategies underpin meta-teaching and add to Swennen et al's work on congruent teaching (Swennen, Lunenberg and Korthagen, 2008). It would also offer opportunities for colleagues to share practice and to develop an understanding of ITE pedagogy. Through team teaching and the use of SRM, it would be possible to add further to our understanding of the link between ITE pedagogy and students' ability to link theory and practice.

Additionally, whilst my research identified the importance of reflection to the process of integrating theory and practice, evidence indicated that further exploration was needed to consider how and when reflection was best used. Conclusions from the student data echoed that of other studies that reflection needed to be personalised (Harford and MacRuairc, 2008; McKenzie, 2015), and within this study, there appeared to be some question around the timing of reflections:

- To discover how to incorporate effective reflective practice, it would be useful to draw on students' perceptions further as to its place in the process of integrating theory and practice and, also, the form and timing of the reflection process both within university and school-based work. This could be undertaken by further interviews with students and mentors in school and university tutors.

These suggestions may add to the body of knowledge which continues to inform ITE pedagogy and may illuminate further the issue of integrating theory and practice.

### **5.5 Final Summary and Recommendations for Future Practice**

This study's unique contribution to the field covers three key areas:

1. The definition of the term meta-teaching and its identification in tutor pedagogy
2. The considerable potential that SRM has as a CPD tool to define and develop teacher education pedagogy
3. The effective role universities play in the integration of theory and practice in students' learning

This study's contribution to the field is in defining the term meta-teaching. The use of video analysis allowed me to identify key teaching strategies, used and valued by teacher educators and identify how these develop the links between theory and practice for student teachers. These strategies included 'think aloud', mini plenaries, 'stepping out', exploratory or discursive practice, use of micro-teaching, and sharply contrasting pedagogies to demonstrate differences for the learner. Whilst this is not a definitive list, the strategies offer a developing corpus of TE practices.

Recent work by Mathers may offer a useful framework with which to consider the development of student teachers' professional theoretical knowledge further (Mathers, 2021). Mathers identifies that teachers' pedagogical knowledge can be assessed by three facets, that of perceiving, naming and interpretation, when exploring practice. In concluding this study, it appears that similar facets may be applied to students' developing professional theoretical knowledge. Structured or supported observation allows students to perceive or 'notice' how theory may relate to practice. Discussion with peers and a more knowledgeable other offers students the opportunity to develop the pedagogical lexicon or 'professional vocabulary' (Mathers, 2021, p. 5) with which to name practice; and reflection and micro-teaching may also provide students with opportunities to interpret practice in relation to theory. This framework has influenced my thinking and is something which I hope to consider in future research.

This study used stimulated recall methodology within teacher education to provide an important review of teacher educators' pedagogy. It identified the considerable potential that SRM has as a CPD tool to define and develop teacher education pedagogy. SRM allowed us to focus on the learning processes and experiences of beginning teachers (Burn, Mutton and Hagger, 2015). As a tool, it provided a collective language for analysis of pedagogy and began to create a collegiate approach to practice. Initial findings indicate that it has supported participants to be cognisant of the need for explicit pedagogical reasoning to support students' understanding of theory in practice and to begin to develop teaching strategies. Additionally, the interviews incorporated in SRM supported the formulation of a collaborative network between tutors, which developed a common agenda surrounding the unique pedagogy of second-order practitioners. Teacher educator

participants were able to reflect on and interpret their own practice. They demonstrated a disposition of reflective practitioners, who were able to analyse their pedagogy as 'scholars of teacher education' (Loughran and Menter, 2019, p. 224).

Evidence from this study identifies that SRM affords opportunities to collegiately build our understanding of teacher educator pedagogy and to, ultimately, shed more light on the process of the integration of theory and practice in Initial Teacher Education. It is to be hoped that participants' future practice will be enriched by the findings of this study and participation in the process.

Furthermore, it is clear from this study that, in the dynamic and changing context of Initial Teacher Education, universities continue to have a significant role to play in student teacher development (Orchard and Winch, 2015). Teaching strategies employed within meta-teaching have the potential to identify the significance of theory to teaching practice. Applying meta-teaching within a school-based placement could potentially be challenging. However, the use of reflection and discursive pedagogy by teacher educators provided the 'space' for students to develop criticality of school pedagogy. This ensures that students are equipped for the changing contexts of teaching (UCET, 2020), may assist retention, but ensures that student teachers remain critically reflective professionals committed to the continuous improvement of their work (Mansfield and Loughran, 2018).

## Recommendations for Practice

The findings of this study gave rise to five recommendations for future ITE pedagogy.

### Recommendation One:

ITE tutors should reflect on the extent to which key meta-teaching strategies are prevalent within current practice and consider the development of a range of such strategies to further enhance practice.

### Recommendation Two:

The use of structured frameworks to support observations of practice should be considered. Such frameworks provided students with focused aspects for consideration when observing, thereby strengthening their skills of deconstruction of practice.

### Recommendation Three:

Consideration should be given to offering greater opportunities for micro-teaching in the safe, supportive environment of university teaching seminars. This offers a model for the integration theory and practice with university programmes, and can address the specific needs of individual students.

### Recommendation Four:

Tutors should continue to include clear opportunities for reflection within seminars and utilise discussion-based reflection to develop criticality. Reflection of tutor practice and students' own practice is vital in developing students understanding of the relevancy of theory within practice.

#### Recommendation Five:

The use of SRM and peer discussion with a knowledgeable other should be used to examine tutors' pedagogy and inspire discussion around the development of enhanced practice.

It is hoped that lessons learned from this study may inform the practice of the wider Initial Teacher Education (ITE) community and offer this community some significant elements for consideration. A number of principles around the importance of meta-teaching have been established in the course of this study. Firstly, that meta-teaching was seen to support the development of a critically enquiring professional. Students were offered opportunities to identify and explore professional theoretical knowledge through meta-teaching. Practices enable them to develop a language of critique, and through discussions students were able to challenge perspectives. Meta-teaching enabled students to recognise and appreciate contested areas of theory. Student focus group data, also, identified that students recognised the importance of theory when challenged by practice in school. Meta-teaching establishes the complexity and uncertainty of teaching for students (Mansfield and Loughran, 2018) and prompts them to respond as enquiring and adaptive professionals.

Secondly, meta-teaching supports teacher agency and school cultures in which enquiring professionals can develop. A school environment is a dynamic and constantly evolving system in which innovation best occurs when we collectively rethink practice (Milton *et al.*, 2020). The unthinking adoption of policy and practices can 'reduce the opportunity for knowledge exchange between members of school staff resulting in less incentive to adapt' (Milton *et al.*, 2020, p. 3). Meta-teaching can

prepare our student teachers to contribute effectively to schools' professional learning environments.

This research is concluded at a time of the introduction of the mandatory Core Content Framework (CCF) and Early Career Framework (ECF). Meta-teaching within ITE curriculums, both in school and university seminars may offer a significant contribution to supporting student engagement with these prescribed curriculums. There is potential through meta-teaching practices to have both a productive and longer term effect on the development of the 'student of teaching' (Loughran, 2019, p. 221) and maintain teaching as a profession in which teachers pursue a ' life-long process of learning to teach' (Cochran-Smith, 2011, p. 22).

In completing this study, I have been given the opportunity to review the complex process of learning to teach. I have been able, with colleagues, to disturb our own equilibrium (Mansfield and Loughran, 2018) and adopt an 'inquiry stance' perspective (Cochran-Smith, 2011, p. 22). In doing so, colleagues and I have revealed tangible approaches to improve the integration of theory and practice for student teachers, intended to support future professionals as stronger, critically reflective practitioners.

## References

- Aleccia, V. (2011) 'Walking Our Talk: The Imperative of Teacher Educator Modeling', *Clearing House*, 84(3), pp. 87-90. doi: 10.1080/00098655.2010.524951.
- Alexander, R. J. (2010) *Towards dialogic teaching : rethinking classroom talk*. 4th ed. edn. Thirsk]: Thirsk : Dialogos UK.
- Alexander, R. J. and Wolfe, S. (2008) *Current Horizons: Argumentation and dialogic teaching : alternative pedagogies for a changing world*. Available at: [www.beyondcurrenthorizons.org.uk](http://www.beyondcurrenthorizons.org.uk) (Accessed: March 2016).
- Association of Teacher Educators, A. (2008) *Standards for Teacher Educators*. Available at: <https://ate1.org/standards-for-teacher-educators> (Accessed: August 2019).
- Bassey, M. (1999) *Case study research in educational settings*. Buckingham [England] ;: Open University Press. Doing qualitative research in educational settings.
- Beach, D. and Bagley, C. (2013) 'Changing professional discourses in teacher education policy back towards a training paradigm: a comparative study', *European Journal of Teacher Education*, 36(4), pp. 379-392. doi: 10.1080/02619768.2013.815162.
- BERA (2018) *Ethical Guidelines for Educational Research, fourth edition*. @BERANews Available at: <https://www.bera.ac.uk/publication/ethical-guidelines-for-educational-research-2018-online>.
- BERA (2019) *Total recall? The ITE content framework, research and teachers' understandings of learning*. @BERANews Available at: <https://www.bera.ac.uk/blog/total-recall-the-ite-content-framework-research-and-teachers-understandings-of-learning>.
- BERA-RSA (2014) *Research and the Teaching Profession: Building the capacity for a self-improving education system*. Available at: <https://www.bera.ac.uk/project/research-and-teacher-education> (Accessed: 21 September 2019).
- Berliner, D. (2001) 'Learning about and learning from expert teachers', *International Journal of Educational Research*, 35, pp. 463-482.

- Berry, A. (2004) 'Confidence and Uncertainty in Teaching about Teaching', *Australian Journal of Education*, 48(2), pp. 149-165. doi: 10.1177/000494410404800205.
- Berry, A. (2007) *Tensions In Teaching About Teaching: Understanding Practice as a Teacher Educator*.
- Berry, A. and Russell, T. (2013) 'Seeking Congruence in Teacher Education Practices Through Self-study', *Studying Teacher Education*, 9(3), pp. 201-202. doi: 10.1080/17425964.2013.845482.
- Bertone, S. *et al.* (2006) 'The Dynamics of Interaction during Post-Lesson Conferences and the Development of Professional Activity: Study of a Pre-Service Physical Education Teacher and Her Co-Operating Teacher', *Asia-Pacific Journal of Teacher Education*, 34(2), pp. 245-264.
- Biesta, G. (2007) 'Why 'What Works' won't work: Evidence-based practice and the democratic deficit in educational research', *Educational Theory*, 57, pp. 1-22. doi: 10.1111/j.1741-5446.2006.00241.x.
- Bignell, C. (2012) 'Talk in the primary curriculum: seeking pupil empowerment in current curriculum approaches', *Literacy*, 46(1), pp. 48-55. doi: 10.1111/j.1741-4369.2011.00602.x.
- Bishop, R. S. (1990) 'Mirrors, Windows and Sliding Glass Doors', *Perspectives: Choosing and Using Books for the Classroom*, 6(3), pp. 9-11.
- Boyatzis, R. E. (1998) *Transforming qualitative information : thematic analysis and code development*. Thousand Oaks, Calif ;: Sage Publications.
- Boyd, P. and Harris, K. (2010) 'Becoming a university lecturer in teacher education: expert school teachers reconstructing their pedagogy and identity', *Professional Development in Education*, 36(1-2), pp. 9-24. doi: 10.1080/19415250903454767.
- Brannick, T. and Coghlan, D. (2007) 'In Defense of Being "Native": The Case for Insider Academic Research', *Organizational Research Methods*, 10(1), pp. 59-74. doi: 10.1177/1094428106289253.
- Braun, V. and Clarke, V. (2006) 'Using thematic analysis in psychology', *Qualitative Research in Psychology*, 3(2), pp. 77-101. doi: 10.1191/1478088706qp063oa.

- Brookfield, S. D. (2017) *Becoming a Critically Reflective Teacher*. 2nd ed. edn. Somerset: John Wiley & Sons, Incorporated.
- Brooks, C. (2021) 'The Core Content Framework and the fallacy of a teacher training 'curriculum''. Available at: <https://blogs.ucl.ac.uk/ioe/2021/09/02/the-core-content-framework-and-the-fallacy-of-a-teacher-training-curriculum/>.
- Brownlee, J., Purdie, N. and Boulton-Lewis, G. (2001) 'Changing Epistemological Beliefs in Pre-service Teacher Education Students', *Teaching in Higher Education*, 6(2), pp. 247-268. doi: 10.1080/13562510120045221.
- Bryant, A. and Charmaz, K. (2007) *The SAGE handbook of grounded theory*. Los Angeles ;; SAGE.
- Bryman, A. (2016) *Social research methods*. Fifth edition. edn. Oxford ;; Oxford University Press.
- Bråten, I. and Ferguson, L. E. (2015) 'Beliefs about sources of knowledge predict motivation for learning in teacher education', *Teaching and Teacher Education*, 50, pp. 13-23. doi: <https://doi.org/10.1016/j.tate.2015.04.003>.
- Bullough, R. (1997) 'Practising Theory and Theorising Practice in Teacher Education', in Loughran, J. & Russell, T. (eds.) *Teaching about Teaching: Purpose, Passion and Pedagogy in Teacher Education*. First edn. London: Falmer Press, pp. 31-31.
- Burn, K., Hagger, H. and Mutton, T. (2015) *Beginning teachers' learning : making experience count*. Northwich: Critical Publishing. Critical guides for teacher educators.
- Burn, K. *et al.* (2003) 'The complex development of student-teachers' thinking', *Teachers and Teaching*, 9(4), pp. 309-331. doi: 10.1080/1354060032000097235.
- Burn, K. and Mutton, T. (2015) 'A review of 'research-informed clinical practice' in Initial Teacher Education', *Oxford Review of Education*, 41(2), pp. 1-17. doi: 10.1080/03054985.2015.1020104.
- Burn, K. and Mutton, T. (2018) *Constructing the curriculum of (initial) teacher education: when should new teachers be encouraged to ask critical questions?* Impact Journal of the Chartered College of Teaching Available at:

<https://impact.chartered.college/article/constructing-curriculum-initial-teacher-education-when-new-teachers-encouraged-ask-critical-questions/> (Accessed: August 2019).

Burn, K., Mutton, T. A. and Hagger, H. (2015) *Beginning teachers' learning: making experience count*.

St Albans: Critical Publishing. Critical guides for teacher educators.

Burr, V. (2003) *Social constructionism*. 2nd ed. edn. London ;: Routledge.

Calderhead, J. (1981) 'Stimulated Recall: A method for research on teaching', *British Journal of Educational Psychology*, 51, pp. 211-217.

Calderhead, J. (1984) *Teachers' classroom decision-making*. London: Holt, Rinehart and Winston.

Calderhead, J. (1987) *Exploring teachers' thinking*. London: Cassell.

Calderhead, J. (1988) *Teachers' professional learning*. London ;: Falmer Press.

Cassell, C. and Symon, G. (2004) *Essential guide to qualitative methods in organizational research*.

London: London : SAGE.

Cheng, M. M. H., Cheng, A. Y. N. and Tang, S. Y. F. (2010) 'Closing the Gap between the Theory and Practice of Teaching: Implications for Teacher Education Programmes in Hong Kong', *Journal of Education for Teaching: International Research and Pedagogy*, 36(1), pp. 91-104. doi: 10.1080/02607470903462222.

Cheng, M. M. H., Tang, S. Y. F. and Cheng, A. Y. N. (2012) 'Practicalising theoretical knowledge in student teachers' professional learning in initial teacher education', *Teaching and Teacher Education*, 28(6), pp. 781-790. doi: <https://doi.org/10.1016/j.tate.2012.02.008>.

Clarke, V. and Braun, V. (2017) 'Thematic analysis', *The Journal of Positive Psychology*, 12(3), pp. 297-298. doi: 10.1080/17439760.2016.1262613.

Cochran-Smith, M. (2005a) 'Studying Teacher Education: What We Know and Need to Know', *Journal of Teacher Education*, 56(4), pp. 301-306. doi: 10.1177/0022487105280116.

Cochran-Smith, M. (2005b) 'Teacher educators as researchers: multiple perspectives', *Teaching and Teacher Education*, 21(2), pp. 219-225. doi: <https://doi.org/10.1016/j.tate.2004.12.003>.

- Cochran-Smith, M. (2005c) 'The New Teacher Education: For Better or for Worse?', *Educational Researcher*, 34(7), pp. 3-17. doi: 10.3102/0013189X034007003.
- Cochran-Smith, M. (2011) 'Does Learning to Teach Ever End?', *Kappa Delta Pi Record*, 48(1), pp. 22-24.
- Coffey, A. M. (2014) 'Using Video to Develop Skills in Reflection in Teacher Education Students', *Australian Journal of Teacher Education*, 39(9).
- Crotty, M. (1998) *The foundations of social research: meaning and perspective in the research process*. London: SAGE.
- Daly, C. *et al.* (2020) 'Developing Professional Identity and Ethos through Research and Practice in Initial Teacher Education: The USW ITE Partnership Approach', *Cylchgrawn Addysg Cymru / Wales Journal of Education*, 22 (1) pp. 233-255. (2020). doi: <https://discovery.ucl.ac.uk/id/eprint/10087431/>.
- Davies, P. and Dunnill, R. (2008) "'Learning Study" as a Model of Collaborative Practice in Initial Teacher Education', *Journal of Education for Teaching: International Research and Pedagogy*, 34(1), pp. 3-16.
- Deneme, S. (2020) 'Teacher Trainees' Opinions Regarding Video-Recorded Microteaching Sessions', *Turkish Online Journal of Educational Technology - TOJET*, 19(2), pp. 24-33.
- Denscombe, M. (2010) *The good research guide: for small-scale social research projects*. 4th ed. edn. Maidenhead: Maidenhead : McGraw-Hill Open University Press.
- Department for Education (2015) *Carter Review of Initial Teacher Education*. London: The Stationery Office Available at: <https://www.gov.uk/government/publications/carter-review-of-initial-teacher-training> (Accessed: July 2016).
- Department for Education (2020a) *Early Career Framework*. London: The Stationery Office Available at: <https://www.gov.uk/government/publications/early-career-framework>.
- Department for Education (2020b) *HMCI commentary: The Initial Teacher Education Curriculum*. London: The Stationery Office Available at:

<https://www.gov.uk/government/speeches/hmci-commentary-the-initial-teacher-education-curriculum>.

Department for Education (2020c) *Initial Teacher Education Curriculum Research*. London: The Stationery Office Available at: <https://www.gov.uk/government/publications/initial-teacher-education-curriculum-research>.

Department for Education (2020d) *Initial teacher training (ITT): core content framework*. London: The Stationery Office Available at: <https://www.gov.uk/government/publications/initial-teacher-training-itt-core-content-framework>.

Department for Education (2021) *Initial teacher training (ITT) market review: overview*.

Dewey, J. (1991) *How we think*. Buffalo, N.Y.: Prometheus Books. Great books in philosophy.

Dudley, P. (2018) 'Third nature? Close-to-practice research, curriculum renewal, and cross-school improvement capacity', *Research intelligence*, Autumn 2018, pp. 22-23.

Dziubinski, J. P. (2015) 'From medium to pedagogy: 'fun and colourful' lessons as a model for trainee teachers in further education colleges – questioning the postmodernist constructivist approach to classroom practice', *Research in Post-Compulsory Education*, 20(3), pp. 315-323. doi: 10.1080/13596748.2015.1063276.

Eraut, M. (1994) *Developing professional knowledge and competence*. London: Falmer.

Eraut, M. (2000) 'Non-formal learning and tacit knowledge in professional work', *British Journal of Educational Psychology*, 70(1), pp. 113-136. doi: 10.1348/000709900158001.

Ethell, R. G. and McMeniman, M. M. (2000) 'Unlocking the Knowledge in Action of an Expert Practitioner', *Journal of Teacher Education*, 51(2), pp. 87-101.

Felton, M. *et al.* (2015) 'Arguing collaboratively: Argumentative discourse types and their potential for knowledge building', *British Journal of Educational Psychology*, 85(3), pp. 372-386. doi: 10.1111/bjep.12078.

- Fenstermacher, G. D. and Richardson, V. (1993) 'The elicitation and reconstruction of practical arguments in teaching', *Journal of Curriculum Studies*, 25(2), pp. 101-114. doi: 10.1080/0022027930250201.
- Field, S. (2012) 'The trials of transition, and the impact upon the pedagogy of new teacher educators', *Professional Development in Education*, 38(5), pp. 811-826. doi: 10.1080/19415257.2012.701658.
- Fisher, A. T. (2011) 'Creating an Articulate Classroom: Examining Pre-Service Teachers' Experiences of Talk', *Language and Education*, 25(1), pp. 33-47. doi: 10.1080/09500782.2010.519775.
- Flavell, J. H. (1979) 'Metacognition and Cognitive Monitoring: A New Area of Cognitive-Developmental Inquiry', *American Psychologist*, 34(10), pp. 906-11.
- Flyvbjerg, B. (2006) 'Five Misunderstandings About Case-Study Research', *Qualitative Inquiry*, 12(2), pp. 219-245. doi: 10.1177/1077800405284363.
- Gass, S., Mackey, A. and Taguchi, N. (2002) 'REVIEWS - Stimulated Recall Methodology in Second Language Research', *TESOL quarterly* /, 36(1), pp. 120.
- Gazdag, E., Nagy, K. and Szivák, J. (2019) "'I Spy with My Little Eyes..." The use of video stimulated recall methodology in teacher training – The exploration of aims, goals and methodological characteristics of VSR methodology through systematic literature review', *International Journal of Educational Research*, 95, pp. 60-75. doi: 10.1016/j.ijer.2019.02.015.
- Giroux, H. and McLaren, P. (1986) 'Teacher Education and the Politics of Engagement: The Case for Democratic Schooling', *Harvard Educational Review*, 56(3), pp. 213-239. doi: 10.17763/haer.56.3.trr1473235232320.
- Griffiths, V. (2000) 'The reflective dimension in teacher education', *International Journal of Educational Research*, 33(5), pp. 539-555. doi: [https://doi.org/10.1016/S0883-0355\(00\)00033-1](https://doi.org/10.1016/S0883-0355(00)00033-1).

- Hadar, L. L. and Brody, D. L. (2016) 'Talk about student learning: Promoting professional growth among teacher educators', *Teaching & Teacher Education*, 59, pp. 101-114. doi: 10.1016/j.tate.2016.05.021.
- Hagger, H. et al. (2008) 'Practice makes perfect? Learning to learn as a teacher', *Oxford Review of Education*, 34(2), pp. 159-178. doi: 10.1080/03054980701614978.
- Hagger, H. and McIntyre, D. (2006) *Learning teaching from teachers: realising the potential of school-based teacher education*. Maidenhead: Open University Press.
- Harford, J. and MacRuairc, G. (2008) 'Engaging Student Teachers in Meaningful Reflective Practice', *Teaching and Teacher Education: An International Journal of Research and Studies*, 24(7), pp. 1884-1892.
- Helgevold, N., Næsheim-Bjørkvik, G. and Østrem, S. (2015) 'Key focus areas and use of tools in mentoring conversations during internship in initial teacher education', *Teaching & Teacher Education*, 49, pp. 128-137. doi: 10.1016/j.tate.2015.03.005.
- Hennissen, P., Beckers, H. and Moerkerke, G. (2017) 'Linking practice to theory in teacher education: A growth in cognitive structures', *Teaching and Teacher Education*, 63, pp. 314-325. doi: 10.1016/j.tate.2017.01.008.
- Hogg, L. and Yates, A. (2013) 'Walking the Talk in Initial Teacher Education: Making Teacher Educator Modeling Effective', *Studying Teacher Education: Journal of Self-Study of Teacher Education Practices*, 9(3), pp. 311-328. doi: 10.1080/17425964.2013.831757.
- Karlström, M. and Hamza, K. (2019) 'Preservice Science Teachers' Opportunities for Learning through Reflection When Planning a Microteaching Unit', *Journal of Science Teacher Education*, 30(1), pp. 44-62.
- Kersting, N. (2008) 'Using Video Clips of Mathematics Classroom Instruction as Item Prompts to Measure Teachers' Knowledge of Teaching Mathematics', *Educational & Psychological Measurement*, 68(5), pp. 845-861. doi: 10.1177/0013164407313369.

- King, N. (2004) 'Using Templates in the Thematic Analysis of Text', in Cassell, C. & Symon, G. (eds.) *Essential guide to qualitative methods in organizational research*. London: London : SAGE, pp. 256-270.
- Kitzinger, J. (1994) 'The methodology of Focus groups : the importance of interaction between research participants', *Sociology of Health and Illness*, 16(1), pp. 104-121
- Korthagen, F. (2010a) 'Teacher reflection: What it is and what it does.', Available at: <https://korthagen.nl/en/wp-content/uploads/2018/07/Teacher-reflection-what-it-is-and-what-it-does.pdf> (Accessed July 2020)
- Korthagen, F. (2017) 'Inconvenient Truths about Teacher Learning: Towards Professional Development 3.0', *Teachers and Teaching: Theory and Practice*, 23(4), pp. 387-405.
- Korthagen, F. and Brouwer, N. (2005) 'Can Teacher Education Make a Difference?', *American Educational Research Journal*, 42(1), pp. 153-224. doi: 10.3102/00028312042001153.
- Korthagen, F., Loughran, J. and Lunenberg, M. (2005) 'Teaching teachers—studies into the expertise of teacher educators', *Symposium*, 21(2), pp. 107-225. doi: 10.1016/j.tate.2004.12.007.
- Korthagen, F., Loughran, J. and Russell, T. (2006) 'Developing fundamental principles for teacher education programs and practices', *Teaching & Teacher Education*, 22(8), pp. 1020-1041. doi: 10.1016/j.tate.2006.04.022.
- Korthagen, F. A. J. (2010b) 'How Teacher Education Can Make a Difference', *Journal of Education for Teaching: International Research and Pedagogy*, 36(4), pp. 407-423.
- Korthagen, F. A. J. and Kessels, J. P. A. M. (1999) 'Linking Theory and Practice: Changing the Pedagogy of Teacher Education', *Educational Researcher*, 28(4), pp. 4-17.
- Koster, B. and Dengerink, J. (2001) 'Towards a Professional Standard for Dutch Teacher Educators', *European Journal of Teacher Education*, 24(3), pp. 343-354. doi: 10.1080/02619760220128897.
- Kostiainen, E. et al. (2018) 'Meaningful learning in teacher education', *Teaching and Teacher Education*, 71, pp. 66-77. doi: <https://doi.org/10.1016/j.tate.2017.12.009>.

- Kriewaldt, J. and Turnidge, D. (2013) 'Conceptualising an Approach to Clinical Reasoning In the Education Profession', *Australian Journal of Teacher Education*, 38(6).
- Krueger, R. A. (1994) *Focus groups: a practical guide for applied research*, 2nd ed. Thousand Oaks London: Sage.
- Krueger, R. A. (1998) *Developing questions for focus groups*. Thousand Oaks, Ca. ; London: Thousand Oaks, Ca. ; London : SAGE.
- Kula Ünver, S., Özgür, Z. and Bukova Güzel, E. (2020) 'Investigating Preservice Mathematics Teachers' Pedagogical Content Knowledge through Microteaching', *REDIMAT - Journal of Research in Mathematics Education*, 9(1), pp. 62-87.
- Kvale, S. and Brinkmann, S. (2015) *InterViews : learning the craft of qualitative research interviewing*. Third edition. edn. Los Angeles: Sage Publications.
- Leat, D., Reid, A. and Lofthouse, R. (2015) 'Teachers' experiences of engagement with and in educational research: what can be learned from teachers' views?', *Oxford Review of Education*, 41(2), pp. 270-286. doi: 10.1080/03054985.2015.1021193.
- Lee, H.-J. (2005) 'Understanding and assessing preservice teachers' reflective thinking', *Teaching and Teacher Education*, 21(6), pp. 699-715. doi: <https://doi.org/10.1016/j.tate.2005.05.007>.
- Lincoln, Y. S. and Guba, E. G. (1985) *Naturalistic inquiry*. Beverly Hills, Calif.: Sage Publications.
- Littleton, K. (2013) *Interthinking : putting talk to work*. London : Routledge.
- Lofthouse, R., Flanagan, J. and Wigley, B. (2016) 'A New Model of Collaborative Action Research; Theorising from Inter-Professional Practice Development', *Educational Action Research*, 24(4), pp. 519-534.
- Lofthouse, R. and Thomas, U. (2017) 'Concerning Collaboration: Teachers' Perspectives on Working in Partnerships to Develop Teaching Practices', *Professional Development in Education*, 43(1), pp. 36-56.
- Lofthouse, R. M. and Cowie, K. (2018) 'Joining the dots: Using lesson study to develop metacognitive teaching', *Impact: Journal of The Chartered College of Teaching*, 3.

- Loughran, J. (1995) 'Practising what I preach: Modelling reflective practice to student teachers', *Research in Science Education*, 25(4), pp. 431-451. doi: 10.1007/BF02357386.
- Loughran, J. (2007) 'Researching Teacher Education Practices: Responding to the Challenges, Demands, and Expectations of Self-Study', *Journal of Teacher Education*, 58(1), pp. 12-20. doi: 10.1177/0022487106296217.
- Loughran, J. (2014) 'Professionally Developing as a Teacher Educator', *Journal of Teacher Education*, 65(4), pp. 271-283. doi: 10.1177/0022487114533386.
- Loughran, J. (2019) 'Pedagogical reasoning: the foundation of the professional knowledge of teaching', *Teachers and Teaching*, 25(5), pp. 523-535. doi: 10.1080/13540602.2019.1633294.
- Loughran, J. and Berry, A. (2005) 'Modelling by Teacher Educators', *Teaching and Teacher Education: An International Journal of Research and Studies*, 21(2), pp. 193-203.
- Loughran, J., Keast, S. and Cooper, R. (2016) 'Pedagogical Reasoning in Teacher Education', pp. 387-421.
- Loughran, J. and Menter, I. (2019) 'The essence of being a teacher educator and why it matters', *Asia-Pacific Journal of Teacher Education*, 47(3), pp. 216-229. doi: 10.1080/1359866X.2019.1575946.
- Loughran, J. and Russell, T. (1997) *Teaching about teaching : purpose, passion, and pedagogy in teacher education*. London ;: Falmer Press.
- Lunenberg, M. and Korthagen, F. (2009) 'Experience, theory, and practical wisdom in teaching and teacher education', *Teachers and Teaching*, 15(2), pp. 225-240. doi: 10.1080/13540600902875316.
- Lunenberg, M., Korthagen, F. and Swennen, A. (2007) 'The Teacher Educator as a Role Model', *Teaching and Teacher Education: An International Journal of Research and Studies*, 23(5), pp. 586-601. doi: 10.1016/j.tate.2006.11.001.
- Lyle, J. (2003) 'Stimulated recall: a report on its use in naturalistic research', *British Educational Research Journal*, 29(6), pp. 861-878. doi: 10.1080/0141192032000137349.

- Mansfield, J. and Loughran, J. (2018) 'Pedagogical Equilibrium as a Lens for Understanding Teaching about Teaching', *Studying Teacher Education: Journal of Self-Study of Teacher Education Practices*, 14(3), pp. 246-257. doi: 10.1080/17425964.2018.1541274.
- Mansvelder-Longayroux, D. D. *et al.* 2007. The portfolio as a tool for stimulating reflection by student teachers. United Kingdom.
- Mathers, S. J. (2021) 'Using video to assess preschool teachers' pedagogical knowledge: explicit and higher-order knowledge predicts quality', *Early Childhood Research Quarterly*, 55, pp. 64-78. doi: <https://doi.org/10.1016/j.ecresq.2020.10.010>.
- McAlister, C. M. (2012) 'Modelling in Initial Teacher Education (ITE): Reflections on the Engagement of Student Teachers with Cooperative Learning in ITE', *Teacher Development*, 16(3), pp. 303-320.
- McIntyre, D. (1995) 'Initial Teacher Education as Practical Theorising: A Response to Paul Hirst', *British Journal of Educational Studies*, 43(4), pp. 365-383.
- McIntyre, D. (2005) 'Bridging the gap between research and practice', *Cambridge Journal of Education*, 35(3), pp. 357-382. doi: 10.1080/03057640500319065.
- McKenzie, L. (2015) 'Trainee Teachers' Experience of Reflection', *Journal of Further and Higher Education*, 39(5), pp. 645-664.
- McKeon, F. and Harrison, J. (2010) 'Developing Pedagogical Practice and Professional Identities of Beginning Teacher Educators', *Professional Development in Education*, 36(1), pp. 25-44.
- McLean Davies, L. *et al.* (2015) 'Teaching as a Clinical Profession: Translational Practices in Initial Teacher Education--An International Perspective', *Journal of Education for Teaching: International Research and Pedagogy*, 41(5), pp. 514-528.
- Mercer, J. (2007) 'The challenges of insider research in educational institutions: wielding a double-edged sword and resolving delicate dilemmas', *Oxford Review of Education*, 33(1), pp. 1-17. doi: 10.1080/03054980601094651.

- Mercer, N. (2000) *Words and minds: how we use language to think together*. London: London : Routledge.
- Miles, M. B. and Huberman, A. M. (1994) *Qualitative data analysis : an expanded sourcebook*. 2nd ed. edn. Thousand Oaks: Sage Publications.
- Milton, E. *et al.* (2020) 'Can schools really provide the learning environment that new teachers need? Complexities and implications for professional learning in Wales', *Professional Development in Education*, pp. 1-14. doi: 10.1080/19415257.2020.1767177.
- Moate, J. *et al.* (2019) 'Exploring the material mediation of dialogic space—A qualitative analysis of professional learning in initial teacher education based on reflective sketchbooks', *Thinking Skills and Creativity*, 31, pp. 167-178. doi: <https://doi.org/10.1016/j.tsc.2018.12.003>.
- Murray, J. and Kosnik, C. (2011) 'Academic work and identities in teacher education INTRODUCTION', *Journal of Education for Teaching*, 37, pp. 243-246. doi: 10.1080/02607476.2011.587982.
- Murray, J. and Male, T. (2005) 'Becoming a teacher educator: evidence from the field', *Teaching and Teacher Education*, 21(2), pp. 125-142. doi: 10.1016/j.tate.2004.12.006.
- Murray, J. and Passy, R. (2014) 'Primary Teacher Education in England: 40 Years On', *Journal of Education for Teaching: International Research and Pedagogy*, 40(5), pp. 492-506.
- Mutton, T., Burn, K. and Hagger, H. (2010) 'Making sense of learning to teach: learners in context', *Research Papers in Education*, 25(1), pp. 73-91. doi: 10.1080/02671520802382912.
- Nelson, F. L., Miller, L. R. and Yun, C. (2016) 'It's OK to feel totally confused': reflection without practice by preservice teachers in an introductory education course', *Reflective Practice*, 17(5), pp. 648-661. doi: 10.1080/14623943.2016.1197113.
- Nowell, L. S. *et al.* (2017) 'Thematic Analysis: Striving to Meet the Trustworthiness Criteria', *International Journal of Qualitative Methods*, 16(1), pp. 1609406917733847. doi: 10.1177/1609406917733847.
- Orchard, J. and Winch, C. (2015) 'What training do teachers need?: Why theory is necessary to good teaching', *Impact*, 2015(22), pp. 1-43. doi: 10.1111/2048-416X.2015.12002.x.

- Paris, J., Polson-Genge, A. and Shanks, B. (2010) 'Effective Pedagogy: The influence of Teacher Educators' practice on student teachers' practice and philosophy', *Waikato Journal of Education*, 15(1), pp. 145-155.
- Parker, A. and Tritter, J. (2006) 'Focus group method and methodology: current practice and recent debate', *International Journal of Research & Method in Education*, 29(1), pp. 23-37. doi: 10.1080/01406720500537304.
- Perryman, J. (2011) 'The return of the native: the blurred boundaries of insider/outsider research in an English secondary school', *International Journal of Qualitative Studies in Education*, 24(7), pp. 857-874. doi: 10.1080/09518398.2010.529842.
- Philpott, C. (2014) 'A Pedagogy for Initial Teacher Education in England', *Teacher Education Advancement Network Journal*, Vol 6(3), pp. 4-16
- Poerksen, B. (2005) 'Learning how to learn', *Kybernetes*, 34(3/4), pp. 471-484. doi: 10.1108/03684920510581657.
- Postlethwaite, K. and Haggarty, L. (2012) 'Student Teachers' Thinking about Learning to Teach: A Study of Student Teachers of Mathematics and Science at the End of Their Initial Training', *Research Papers in Education*, 27(3), pp. 263-284.
- Ralph, E. G. (2014) 'The effectiveness of microteaching: Five years' findings', *International Journal of Humanities Social Sciences and Education*, 1(7), pp. 17-28.
- Reitano, P. and Sim, C. (2010) 'The value of video in professional development to promote teacher reflective practices', *International Journal of Multiple Research Approaches*, 4(3), pp. 214-224. doi: 10.5172/mra.2010.4.3.214.
- Remesh, A. (2013) 'Microteaching, an efficient technique for learning effective teaching', *Journal of research in medical sciences : the official journal of Isfahan University of Medical Sciences*, 18, pp. 158-63.
- Robson, C. (2011) *Real world research : a resource for users of social research methods in applied settings*. 3rd ed. edn. Chichester: Chichester : Wiley.

- Russell, T. and Korthagen, F. (1995) *Teachers who teach teachers: reflections on teacher education*. London: Falmer.
- Schön, D. A. (1991) *The reflective practitioner: how professionals think in action*. Aldershot: Arena.
- Segall, A. (2001) 'Re-thinking Theory and Practice in the Preservice Teacher Education Classroom: Teaching to learn from learning to teach', *Teaching Education*, 12(2), pp. 225-242. doi: 10.1080/10476210120068093.
- Shulman, L. (1987) 'Knowledge and Teaching: Foundations of the New Reform', *Harvard Educational Review*, 57(1), pp. 1-23. doi: 10.17763/haer.57.1.j463w79r56455411.
- Simons, H. (2009) *Case study research in practice*. Los Angeles ;: SAGE.
- Simpson, A. (2016) 'Dialogic teaching in the initial teacher education classroom: “ Everyone's Voice will be Heard ”', *Research Papers in Education*, 31(1), pp. 89-106. doi: 10.1080/02671522.2016.1106697.
- Smith , J. (1995) *Semi- structured interviewing and qualitative analysis*. London: Sage Publications. Rethinking methods in Psychology.
- Smith, K. (2005) 'Teacher educators' expertise: what do novice teachers and teacher educators say?', *Teaching and Teacher Education*, 21(2), pp. 177-192. doi: <https://doi.org/10.1016/j.tate.2004.12.008>.
- Smith, K. and Hodson, E. (2010) 'Theorising practice in initial teacher education', *Journal of Education for Teaching*, 36(3), pp. 259-275. doi: 10.1080/02607476.2010.497366.
- Stake, R. E. (1995) *The art of case study research*. Thousand Oaks: Sage Publications.
- Star, J. and Strickland, S. (2008) 'Learning to observe: using video to improve preservice mathematics teachers' ability to notice', *Journal of Mathematics Teacher Education*, 11(2), pp. 107-125. doi: 10.1007/s10857-007-9063-7.
- Stevenson, B. (2015) 'Third Spaces and Video-Stimulated Recall: An Exploration of Teachers' Cultural Role in an Indigenous Education Context', *Educational Action Research*, 23(2), pp. 290-305.

- Stewart, D. W. (2007) *Focus groups : theory and practice*. 2nd ed. edn. Thousand Oaks, Calif. ; London: Thousand Oaks, Calif. ; London : SAGE.
- Stough, L. M. (2001) 'Using Stimulated Recall in Classroom Observation and Professional Development'. Available at:  
<https://oxfordbrookes.idm.oclc.org/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=eric&AN=ED457214&site=ehost-live>.
- Strauss, A. L. and Corbin, J. M. (1997) *Grounded theory in practice*. Thousand Oaks: Sage Publications.
- Struyven, K., Dochy, F. and Janssens, S. (2010) " 'Teach as you preach': the effects of student- centred versus lecture- based teaching on student teachers' approaches to teaching', *Eur. J. Teach. Educ.*, 33(1), pp. 43-64. doi: 10.1080/02619760903457818.
- Sullivan, C. C. (2011) 'Modeling the Model: The Use of Classroom Talk in Teaching Socioconstructivist Pedagogy in a Social Studies Teacher Education Setting', *Journal of Classroom Interaction*, 46(2), pp. 24-32.
- Sullivan, S. and Knight, R. (2019) 'Developing a Framework for Initial Teacher Education and beyond: Phases and strands'. Available at: <https://www.bera.ac.uk/blog/developing-a-framework-for-ite-and-beyond-phases-and-strands> 2019].
- Swain, J. (2018) *A Hybrid Approach to Thematic Analysis in Qualitative Research: Using a Practical Example*. London: Sage.
- Swennen, A., Lunenberg, M. and Korthagen, F. (2008) 'Preach what you teach! Teacher educators and congruent teaching', *Teach Teach Theory Pract*, 14. doi: 10.1080/13540600802571387.
- Tang, S. Y. F., Wong, A. K. Y. and Cheng, M. M. H. (2012) 'Professional Learning in Initial Teacher Education: Vision in the Constructivist Conception of Teaching and Learning', *Journal of Education for Teaching: International Research and Pedagogy*, 38(4), pp. 435-451.
- Thomas, G. (2010) *How to do your case study : a guide for students and researchers*. London: Sage.

- UCET (2020) *UCET position paper: Building Research Informed Teacher Education Communities (July 2019)* | UCET. Available at: <https://www.ucet.ac.uk/10988/ucet-position-paper-building-research-informed-teacher-education-communities-july-2019>.
- van den Bos, P. and Brouwer, J. (2014) 'Learning to Teach in Higher Education: How to Link Theory and Practice', *Teaching in Higher Education*, 19(7), pp. 772-786.
- van Heugten, K. (2004) 'Managing Insider Research: Learning from Experience', *Qualitative Social Work*, 3(2), pp. 203-219. doi: 10.1177/1473325004043386.
- Vanassche, E. and Kelchtermans, G. (2014) 'Teacher educators' professionalism in practice: Positioning theory and personal interpretative framework', *Teaching and Teacher Education*, 44, pp. 117-127. doi: <https://doi.org/10.1016/j.tate.2014.08.006>.
- Vesterinen, O., Toom, A. and Krokfors, L. (2014) 'From action to understanding – student teachers' learning and practical reasoning during teaching practice', *Reflective Practice*, 15(5), pp. 618-633. doi: 10.1080/14623943.2014.900028.
- Vesterinen, O., Toom, A. and Patrikainen, S. (2010) 'The stimulated recall method and ICTs in research on the reasoning of teachers', *International Journal of Research & Method in Education*, 33(2), pp. 183-197. doi: 10.1080/1743727X.2010.484605.
- White, E. (2011) 'Working Towards Explicit Modelling: Experiences of a New Teacher Educator', *Professional Development in Education*, 37(4), pp. 483-497.
- Wilson, N. S. and Bai, H. (2010) 'The Relationships and Impact of Teachers' Metacognitive Knowledge and Pedagogical Understandings of Metacognition', *Metacognition and Learning*, 5(3), pp. 269-288.
- Wolcott, H. F. (1994) *Transforming qualitative data : description, analysis, and interpretation*. Thousand Oaks, Calif.: Sage Publications.
- Wyse, D. *et al.* (2018) 'The BERA Close to Practice Research project', *Research intelligence*, Autumn 2018, pp. 14-15.

Yan, C. and He, C. (2017) 'Pair Microteaching: An Unrealistic Pedagogy in Pre-Service Methodology Courses?', *Journal of Education for Teaching: International Research and Pedagogy*, 43(2), pp. 206-218.

Yin, R. K. (2009) *Case study research : design and methods*. Fourth edition. edn. Los Angeles, Calif.: Sage Publications. Applied social research methods series ; 5.

Yost, D. S., Sentner, S. M. and Forlenza-Bailey, A. (2000) 'An Examination of the Construct of Critical Reflection: Implications for Teacher Education Programming in the 21st Century', *Journal of Teacher Education*, 51(1), pp. 39-49. doi: 10.1177/002248710005100105.

## Appendices

### Appendix A

#### Participant information sheet

\*THIS IS A GUIDANCE DOCUMENT AND MUST BE TAILORED TO MEET THE NEEDS OF YOUR STUDY. PLEASE PRESENT ON DEPARTMENTAL HEADED PAPER WITH THE COLLEGE LOGO.\*

#### **Participant Information Sheet For University- Based Teacher Educators**

UCL Research Ethics Committee Approval ID Number: \_\_\_\_ No Z6364106/2018/08/16 social research.

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#### **YOU WILL BE GIVEN A COPY OF THIS INFORMATION SHEET**

**Title of Study: An exploration of teacher educators' pedagogy: how do university-based teacher educators support primary school student teachers' ability to theorise practice?A qualitative case study**

**Department: Education**

**Name and Contact Details of the Researcher:**

**Supervisor email:**

You are being invited to take part in an EdD research project. Before you decided it is important for you to understand why the research is being done and what participation will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part. Thank you for reading this.

### **1. What is the project's purpose?**

The research is reviewing what strategies university-based teacher educators use to support students' understanding of the role of talk in social constructivist teaching approaches. The research is reviewing the gap between taught theory and practice and how teacher educators make links between the theory and practice, through providing a model, within their own practice.

### **2. Why have I been chosen?**

As an experienced Teacher educator you are well placed to articulate how you make pedagogical theory explicit to student teachers and will provide outstanding models of practice. You have been selected via a purposive sampling strategy, which means that you best suited the purpose of the research. You have indicated that you are interested in learning more about being part of the research.

### **3. Do I have to take part?**

No, participation in the research is entirely voluntary. Also if you decide to participate you are free to withdraw any unprocessed data at any time. Completing and returning the consent form will be taken as proof of your consent.

### **4. What will happen to me if I take part?**

The research involves a multi-staged process. You will plan and teach a session, in which you consider you explicitly use strategies to support students' understanding of pedagogy. This session will be videoed by a technician. You will then view the video and select a section of the video, where you feel that the students explored learning. You will then be interviewed by me, as we review the selected section to explore your intentions in the teaching and strategies you use to make your practice intentions known to the students. The interviews will last approximately 30 mins. You will only be required to undertake one teaching session and your selected extract needs to be no more than 15mins long. These interviews will be audio recorded for reliability. You will have the opportunity to read the

transcripts of the audio discussions to review their accuracy. The recordings may be transcribed by a third party who will be briefed on confidentiality.

You will, also, have the opportunity to review the findings of the research project at an interim point to review their accuracy.

As part of the session the students will be asked to complete a questionnaire about how the session has helped them understand pedagogy in the classroom. You will have access to these questionnaires and can discuss their contents as part of the 30 min interview with the researcher. The questionnaire may lead to a focus group interview with the students, to consider this further. This student group will be identified by a convenience sampling technique. The interviews will more generic and will focus on how the students perceive they learn best in seminars overall rather than in any specific seminar.

Your session will be recorded by a technician and held securely on goggle drive. The video will discussed by yourself and the researcher. Your discussion of the selected section will be audio recorded and held on a secure encrypted laptop. Each recording will only be used for the purposes of analysis in this research and will be destroyed at a later date. (No longer than five years in total) No one outside the project will be allowed access to the original recordings.

**5. What are the possible benefits of taking part?**

There are no direct benefits to you but taking part will help us gain a better understanding of the teaching strategies that support students in their understanding of pedagogy.

**6. Who should I contact if I have concerns?**

This study has been approved by my supervisor. If you have any concerns, please contact my supervisor in the first instance. Her details are located at the top of the letter Further information can be also obtained from the Chair of the UCL Research Ethics Committee.

**7. Will my taking part in this project be kept confidential?**

All the information that I collect about you during the course of the research will be kept strictly confidential. You will not be able to be identified in any ensuing reports or publications.

## 8. Limits to confidentiality

- Please note that assurances on confidentiality will be strictly adhered to unless evidence of wrongdoing or potential harm is uncovered. In such cases the University may be obliged to contact relevant statutory bodies/agencies.
- Please note that confidentiality will be maintained as far as it is possible, unless during our conversation I hear anything which makes me worried that someone might be in danger of harm, I might have to inform relevant agencies of this.
- Confidentiality will be respected unless there are compelling and legitimate reasons for this to be breached. If this was the case we would inform you of any decisions that might limit your confidentiality.

## 9. What will happen to the results of the research project?

Results of the data collection will be shared with my supervisors and assessors during submission. Publication of the thesis is intended in September 2020. Dissemination of results will take place in my own institute research conference July 2019 and possibly IOE research conference in the same year. Article publication post doctorate will be for Journals such as 'for Higher Education' and 'Journal of Teaching and Teacher Education'. You will not be identified in any report or publication.

## 10. Data Protection Privacy Notice

### Notice:

The data controller for this project will be University College London (UCL). The UCL Data Protection Office provides oversight of UCL activities involving the processing of personal data, and can be contacted at

Your personal data will be processed for the purposes outlined in this notice. The legal basis that would be used to process your personal data will be the performance of a task in the public interest. You can provide your consent for the use of your personal data in this project by completing the consent form that has been provided to you.

***Your personal data will be processed so long as it is required for the research project.*** This would be for a period of possibly five years. If I am able to anonymise the personal data you provide I will undertake this, and will endeavour to minimise the processing of personal data wherever possible.

If you are concerned about how your personal data is being processed, please contact UCL in the first instance.

You may wish to contact the Information Commissioner's Office (ICO). Contact details, and details of data subject rights, are available on the ICO website at:

<https://ico.org.uk/for-organisations/data-protection-reform/overview-of-the-gdpr/individuals-rights/>

## 12. Contact for further information

Please do not hesitate to contact my supervisor or myself, if you have any questions

concerning this study. Our contact details can be found at the top of this letter. Thank you for taking the time to read this. This letter is for you to keep. If you agree to take part then you will be required to sign the attached consent form and return to ...at the start of the research project. You will also be given a copy of the signed consent form.

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## Appendix B

### Chronology of Research Process

Research Activity	Date
Ethical permission granted	November 2019
Ethical permission gained from participants	December 2018 (Tutors) March 2019 (Students)
Initial pilot undertaken	December 2019
Teaching sessions videoed	February 2019-March 2019
Stimulated Recall Interviews	February 2019- March 2019
Focus Group Interviews	March 2019

## Appendix C

### Interview schedule

What were your objectives for the session?

Describe the teaching you have selected and explain why you have selected this section?

(Ask to give reasons if participants merely describes)

What features do you think make it successful teaching? Elaborate on any feature of the teaching as to why you selected it

Are there any particular pedagogical theories underlying your own practice?

Do you think you play a part as a role model for students in your own teaching? If so in what way?

Years Teaching

Years in Teacher Education

## Appendix D

### Diamond Nine Discussion Cards



## Appendix E

### Student Reflection Sheet

What key ideas did you learn from today's session?	What did I do as a tutor to help you understand these key aspects?	How might what you have learnt today impact on what you do in school with children?	Anything else you want to add?

## Appendix F

### Data Frequency Tables

Nodes			
Name	Files	References	
modelling teaching strategies	5	51	
importance of discussion	5	21	
open interpretations	3	13	
Teacher language vocabulary	5	13	
ethos	4	7	
passion for the subject	2	6	
Teacher presence	1	1	
making clear links to classroom practice	5	45	
meta teaching	4	37	
Linking theory to pedagogy	5	33	
Students involved in the task physically	5	27	
reflection	3	7	
development of student teacher subject knowledge	4	18	
miscellaneous	0	0	
opportunities to critique school practice	1	1	
Tutors reflection on own practice	0	0	

## Nodes

Name	Files	References	Created On	Created By	Modified On	Modified By
development of student teacher subject knowledge		4	18 24/01/2020 10:14	DW	31/01/2020 09:51	DW
making clear links to classroom practice		6	46 24/01/2020 10:16	DW	21/02/2020 10:21	DW
meta teaching		5	38 24/01/2020 10:16	DW	21/02/2020 10:13	DW
miscellaneous		0	0 24/01/2020 10:16	DW	24/01/2020 14:52	DW
modelling teaching strategies		6	52 24/01/2020 10:11	DW	21/02/2020 10:18	DW
Opportunities to practise teaching		1	3 21/02/2020 09:47	DW	21/02/2020 10:02	DW
Tutors reflection on own practice		0	0 31/01/2020 12:56	DW	31/01/2020 12:56	DW

## Appendix G

### UCL Ethical Approval Confirmation

I am writing to confirm that ethics approval has been granted by the UCL Institute of Education for your doctoral research project titled: "An exploration of teacher educators' pedagogy: how do university-based teacher educators support primary – school student teachers' ability to theorise practice? A qualitative case study"

This ethics approval has been granted from 27 September 2018 and the document you provided has been saved to your student file.

## Appendix H

### Participant Consent Form (tutor)

#### CONSENT FORM FOR *UNIVERSITY-BASED TEACHER EDUCATORS* IN RESEARCH STUDIES

Please complete this form after you have read the Information Sheet and/or listened to an explanation about the research.

Title of Study: An exploration of teacher educators' pedagogy: how do university-based teacher educators support primary – school student teachers' ability to theorise practice?

A qualitative case study

Department: Education

Name and Contact Details of the Researcher(s):

Researcher email:

Supervisor email:

Name and Contact Details of the UCL Data Protection Officer: \_

This study has been approved by the UCL Research Ethics Committee: Project ID number:

No Z6364106/2018/08/16 social research.

Thank you for considering taking part in this research. The person organising the research must explain the project to you before you agree to take part. If you have any questions arising from the Information Sheet or explanation already given to you, please ask the researcher before you decide whether to join in. You will be given a copy of this Consent Form to keep and refer to at any time.

**I confirm that I understand that by ticking/initialling each box below I am consenting to this element of the study. I understand that it will be assumed that unticked/initialled boxes means that I DO NOT consent to that part of the study. I understand that by not giving consent for any one element that I may be deemed ineligible for the study.**

		Tick Box
1.	<p>*I confirm that I have read and understood the Information Sheet for the above study. I have had an opportunity to consider the information and what will be expected of me. I have also had the opportunity to ask questions which have been answered to my satisfaction</p> <p>and would like to take part in (please tick one or more of the following)</p> <ul style="list-style-type: none"> <li>- video recording of my teaching session</li> <li>- an individual interview post teaching session</li> </ul>	
2.	*I understand that I will be able to withdraw my data up to four months after data collection	
3.	*I consent to the processing of my personal information including video recordings of my teaching sessions and audio recordings of my interview for the purposes explained to me. I understand that such information will be handled in accordance with all applicable data protection legislation.	
4.	<p><b>Use of the information for this project only</b></p> <p>Your session will be recorded by a technician and held securely on goggle drive. The video will discussed by yourself and the researcher. Your discussion of the selected</p>	

	<p>section will be audio recorded and held on a secure encrypted laptop.</p> <p>*I understand that all personal information will remain confidential and that all efforts will be made to ensure I cannot be identified.</p> <p>Please note that assurances on confidentiality will be strictly adhered to unless evidence of wrongdoing or potential harm is uncovered. In such cases the University may be obliged to contact relevant statutory bodies/agencies.</p> <p>Please note that confidentiality will be maintained as far as it is possible, unless during our conversation I hear anything which makes me worried that someone might be in danger of harm, I might have to inform relevant agencies of this.</p> <p>Confidentiality will be respected unless there are compelling and legitimate reasons for this to be breached.</p> <p>I understand that it will not be possible to identify me in any publications.</p>	
5.	*I understand that my information may be subject to review by responsible individuals from the University for monitoring and audit purposes.	
6.	*I understand that my participation is voluntary and that I am free to withdraw at any time without giving a reason I understand that if I decide to withdraw, any personal data I have provided up to that point will be deleted unless I agree otherwise.	
7.	I understand the potential risks of participating and the support that will be available to me should I become distressed during the course of the research.	
8.	I understand that no promise or guarantee of benefits have been made to encourage me to participate.	
9.	I understand that the data will not be made available to any commercial organisations but is solely the responsibility of the researcher(s) undertaking this study.	
10.	I understand that I will not benefit financially from this study or from any possible outcome it may result in in the future.	
11.	I understand that the information I have submitted will be published as a report and I wish to receive a copy of it. Yes/No	
12.	I consent to my teaching/ interview being audio/video recorded and understand that the recordings will be: <ul style="list-style-type: none"> <li>- Stored password-protected software and will be used for analysis and specific research purposes.</li> <li>- destroyed within five years after the data has been collected and transcribed.</li> </ul>	
13.	I have informed the researcher of any other research in which I am currently involved or have been involved in during the past 12 months.	
14.	I am aware of who I should contact if I wish to lodge a complaint.	
15.	I voluntarily agree to take part in this study.	
16.	Use of information for this project and beyond Results of the data collection will be shared with my supervisors and assessors during submission. Publication of the thesis is intended in September 2020. Dissemination of results will take place in my own institute research conference July 2019 and possibly IOE research conference in the same year. Article publication post doctorate will be for Journals such as 'for Higher Education' and 'Journal of Teaching and Teacher Education'. You will not be identified in any report or publication.	

--	--	--

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Name of participant

Date

Signature

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Researcher

Date

Signature

## Appendix I

### Ethics form

Institute of Education



### Doctoral Student Ethics Application Form

Anyone conducting research under the auspices of the Institute of Education (staff, students or visitors) where the research involves human participants or the use of data collected from human participants, is required to gain ethical approval before starting. This includes preliminary and pilot studies. Please answer all relevant questions in simple terms that can be understood by a lay person and note that your form may be returned if incomplete.

**Registering your study with the UCL Data Protection Officer as part of the UCL Research Ethics**

#### **Review Process**

If you are proposing to collect personal data i.e. data from which a living individual can be identified you **must** be registered with the UCL Data Protection Office **before** you **submit your ethics application for review**. To do this, email the complete ethics form

to... Once your registration number is received, add it to the form\* and submit it to your supervisor for approval.

If the Data Protection Office advises you to make changes to the way in which you propose to collect and store the data this should be reflected in your ethics application form.

## Section 1 Project details

a.	Project title	<p><b><u>An exploration of teacher educators' pedagogy: how do university-based teacher educators support primary – school student teachers' ability to theorise practice?</u></b></p> <p><b><u>A qualitative case study</u></b></p>
b.	Student name and ID number (e.g. ABC12345678)	
c.	<b>*UCL Data Protection Registration Number</b>	July 2018 Date issued

	No Z6364106/2018/08/16 social research.		
c.	Supervisor/Personal Tutor		
d.	Department		Education
e.	Course category (Tick one)	PhD <input type="checkbox"/>	EdD <input checked="" type="checkbox"/>
		DEdPsy <input type="checkbox"/>	
f.	If applicable, state who the funder is and if funding has been confirmed.		
g.	Intended research start date		September 2018
h.	Intended research end date		September 2020
i.	Country fieldwork will be conducted in  <i>If research to be conducted abroad please check <a href="http://www.fco.gov.uk">www.fco.gov.uk</a> and submit a completed travel risk assessment form (see guidelines). If the FCO advice is against travel this will be <b>required</b> before ethical approval can be granted: <a href="http://ioe-net.inst.ioe.ac.uk/about/profservices/international/Pages/default.aspx">http://ioe-net.inst.ioe.ac.uk/about/profservices/international/Pages/default.aspx</a></i>		UK
j.	Has this project been considered by another (external) Research Ethics Committee?		
	Yes <input type="checkbox"/>	External Committee Name:	
	No <input checked="" type="checkbox"/> ⇒ go to Section 2	Date of Approval:	

**If yes:**

- Submit a copy of the approval letter with this application.
- Proceed to Section 10 Attachments.

**Note:** Ensure that you check the guidelines carefully as research with some participants will require ethical approval from a different ethics committee such as the [National Research Ethics Service](#) (NRES) or [Social Care Research Ethics Committee](#) (SCREC). In addition, if your research is based in another institution then you may be required to apply to their research ethics committee.

## Section 2 Research methods summary (tick all that apply)

- |  |   |
|--|---|
| <input checked="" type="checkbox"/> Interviews     | <input type="checkbox"/> Controlled trial/other intervention study                                    |
| <input checked="" type="checkbox"/> Focus groups   | <input type="checkbox"/> Use of personal records  |
| <input checked="" type="checkbox"/> Questionnaires | <input type="checkbox"/> Systematic review ⇒ <i>if only method used go to Section 5.</i>              |
| <input type="checkbox"/> Action research           | <input type="checkbox"/> Secondary data analysis ⇒ <i>if secondary analysis used go to Section 6.</i> |
| <input type="checkbox"/> Observation               | <input type="checkbox"/> Advisory/consultation/collaborative groups                                   |
| <input type="checkbox"/> Literature review         | <input type="checkbox"/> Other, give details:   |

Please provide an overview of the project, focusing on your methodology. This should include some or all of the following: purpose of the research, aims, main research questions, research design, participants, sampling, data collection (including justifications for methods chosen and description of topics/questions to be asked), reporting and dissemination. Please focus on your methodology; the theory, policy, or literary background of your work can be provided in an attached document (i.e. a full research proposal or case for support document). *Minimum 150 words required.*

*The purpose of the research is to explore the link between university based teacher educators' (UBTEs) own modelling of practice and the development of the ITE students' ability to theorise practice. The main research question is: An exploration of teacher educators' pedagogy: how do university-based teacher educators support primary school student teachers' ability to theorise practice?*

A qualitative case study

There are several sub-questions underpinning the main question including:

5. What are university tutors' perceptions of themselves as models of practice?
6. What strategies do they use to make tacit professional knowledge known?
7. Does university-based teacher educators' practice match 'espoused' practice?
8. Can students identify the theory within the practice of teacher educators?
9. Are students able to link these practices' to their own developing pedagogical understanding of exploratory talk?

I will be undertaking a case study in my own institute involving UBTEs (n= 11) and students (n=90 approx). Non-probability purposive sampling has been used to select the UBTEs and purposive sampling of students who have undertaken a module entitled 'Learning to talk; talking to learn' as this module forms the foundation of the study.

#### Methods of data collection

UBTEs will undertake a teaching session which will be videoed. From the video the UBTE will select an extract to share and discuss with the researcher in a face-to-face one-to-one semi-structured interview. Question topics will cover lecturers' perceptions of their role in presenting models of good practice to student teachers and to ascertain their knowledge and understanding of strategies to support the link between theory and practice. The interview discussions will be audio recorded.

One-to-one interviews have been chosen, as they offer the opportunity to modify the line of enquiry and investigate the perceptions of individuals. Individual interviews are justified as the participants hold 'privileged information' concerning the processes and context of the research (Denscombe, 2010, p. p.111), in that they will plan, teach and evaluate the teaching sessions that are analysed. As lecturers will be discussing their own practice, individual interviews have been chosen over group interviews to increase reliability and ensure confidentiality.

At the end of the teaching session students will complete an anonymous questionnaire. Questionnaires provide immediate access to students' opinions and voices. Individual anonymised forms mean responses are likely to be more valid. Completion within the session is advantageous and, also, likely to improve response rates. Questionnaires will have optional contact details for those students happy to follow up responses in a focus

group interview. Questionnaires will be voluntarily submitted at the end of the session in a drop box outside the classroom. Questions on the questionnaire will cover; the opportunities the session afforded them to engage in exploratory talk; what strategies helped them understand the importance of social constructivism and exploratory talk, and how this knowledge might inform their developing understanding of primary practice.

A convenience sample of those willing to participate in focus group interviews will be used. Focus group interviews have been selected for use as they provided a dynamic forum, in which to gain insight into people's perceptions of a situation. The focus group interviews will offer students an opportunity to explore the shared experience of teaching sessions and the group aspect, also, allows the opinions and meanings to develop. The group interaction is a crucial aspect of the focus group interview, it allows me to probe how the group thought and why the group thought as they did.

This study will attempt to identify what strategies may help to bridge the theory/ practice gap. In doing so it will support UBTEs and other professionals to develop effective practice and contribute to the professions' understanding of how to develop novice teaching practitioners.





### Section 3 Research Participants (tick all that apply)

<input type="checkbox"/> Early years/pre-school <input type="checkbox"/> Ages 5-11 <input type="checkbox"/> Ages 12-16 <input type="checkbox"/> Young people aged 17-18	<input checked="" type="checkbox"/> Adults <i>please specify below</i> <input type="checkbox"/> Unknown – specify below <input type="checkbox"/> No participants
--	--

**NB:** Ensure that you check the guidelines carefully as research with some participants will require ethical approval from a different ethics committee such as the [National Research Ethics Service](#) (NRES) or [Social Care Research Ethics Committee](#) (SCREC).

### Section 4 Security-sensitive material (only complete if applicable)

Security sensitive research includes: commissioned by the military; commissioned under an EU security call; involves the acquisition of security clearances; concerns terrorist or extreme groups.

a.	Will your project consider or encounter security-sensitive material?	Yes <input type="checkbox"/> *	No <input checked="" type="checkbox"/>
b.	Will you be visiting websites associated with extreme or terrorist organisations?	Yes <input type="checkbox"/> *	No <input checked="" type="checkbox"/>
c.	Will you be storing or transmitting any materials that could be interpreted as promoting or endorsing terrorist acts?	Yes <input type="checkbox"/> *	No <input checked="" type="checkbox"/>

\* Give further details in **Section 8 Ethical Issues**

### Section 5 Systematic reviews of research (only complete if applicable)

a.	Will you be collecting any new data from participants?	Yes <input type="checkbox"/> *	No <input type="checkbox"/>
b.	Will you be analysing any secondary data?	Yes <input type="checkbox"/> *	No <input type="checkbox"/>

\* Give further details in **Section 8 Ethical Issues**

If your methods do not involve engagement with participants (e.g. systematic review, literature review) **and** if you have answered **No** to both questions, please go to **Section 8 Attachments**.

### Section 6 Secondary data analysis (only complete if applicable)

a.	Name of dataset/s		
b.	Owner of dataset/s		
c.	Are the data in the public domain?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
		<i>If no, do you have the owner's permission/license?</i> Yes <input type="checkbox"/> No* <input type="checkbox"/>	
d.	Are the data anonymised?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
		<i>Do you plan to anonymise the data?</i> Yes <input type="checkbox"/> No* <input type="checkbox"/>	
		<i>Do you plan to use individual level data?</i> Yes* <input type="checkbox"/> No <input type="checkbox"/>	
		<i>Will you be linking data to individuals?</i> Yes* <input type="checkbox"/> No <input type="checkbox"/>	
e.	Are the data sensitive ( <a href="#">DPA 1998 definition</a> )?	Yes* <input type="checkbox"/>	No <input type="checkbox"/>
f.	Will you be conducting analysis within the remit it was originally collected for?	Yes <input type="checkbox"/>	No* <input type="checkbox"/>
g.	<b>If no</b> , was consent gained from participants for subsequent/future analysis?	Yes <input type="checkbox"/>	No* <input type="checkbox"/>
h.	<b>If no</b> , was data collected prior to ethics approval process?	Yes <input type="checkbox"/>	No* <input type="checkbox"/>

\* Give further details in **Section 8 Ethical Issues**

If secondary analysis is only method used **and** no answers with asterisks are ticked, go to **Section 9 Attachments**.

## Section 7 Data Storage and Security

Please ensure that you include all hard and electronic data when completing this section.

a.	<b>Data subjects</b> - Who will the data be collected from? ITE lecturers and students
b.	<b>What data will be collected?</b> Please provide details of the type of personal data to be collected video extracts of teaching, audio recordings of interviews , field notes, questionnaires

c.	<p><b>Disclosure – Who will the results of your project be disclosed to?</b></p> <p>Results of the data collection will be shared with my supervisors and assessors during submission.</p> <p>Dissemination of results will take place in my own institute research conference July 2019 and possibly IOE research conference in the same year. Article publication post doctorate will be for Journals such as ‘ Journal for Higher Education’ and ‘Journal of Teaching and Teacher Education’</p>
d.	<p><b>Data storage – Please provide details on how and where the data will be stored i.e. UCL network, encrypted USB stick*, encrypted laptop* etc.</b></p> <p>Video files will be stored on an password secure goggle drive</p> <p>Audio recordings will be kept on a secure encrypted laptop. Paper questionnaires and field notes will be placed in a secured filing cabinet</p> <p>*Advanced Encryption Standard 256 bit encryption which has been made a security standard within the NHS</p>
e.	<p><b>Data Safe Haven (Identifiable Data Handling Solution) – Will the personal identifiable data collected and processed as part of this research be stored in the</b></p> <p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>

UCL Data Safe Haven (mainly used by SLMS divisions, institutes and departments)?	
<p>How long will the data and records be kept for and in what format?</p> <p>Paper audio files and video files secured for five years</p> <p>Will personal data be processed or be sent outside the European Economic Area? (If yes, please confirm that there are adequate levels of protections in compliance with the DPA 1998 and state what these arrangements are: No</p> <p>Will data be archived for use by other researchers? (If yes, please provide details.) No</p>	

## Section 8 Ethical issues

Please state clearly the ethical issues which may arise in the course of this research and how will they be addressed.

**All** issues that may apply should be addressed. Some examples are given below, further information can be found in the guidelines. *Minimum 150 words required.*

<ul style="list-style-type: none"> <li>- Methods</li> <li>- Sampling</li> <li>- Recruitment</li> <li>- Gatekeepers</li> <li>- Informed consent</li> <li>- Potentially vulnerable participants</li> <li>- Safeguarding/child protection</li> <li>- Sensitive topics</li> </ul>	<ul style="list-style-type: none"> <li>- International research</li> <li>- Risks to participants and/or researchers</li> <li>- Confidentiality/Anonymity</li> <li>- Disclosures/limits to confidentiality</li> <li>- Data storage and security both during and after the research (including transfer, sharing, encryption, protection)</li> <li>- Reporting</li> <li>- Dissemination and use of findings</li> </ul>
---	--

As the research involves only adults, no gatekeeper permissions are required.

It should be acknowledged that I am undertaking this research within my own institute and as such am adopting an insider researcher stance. This position of insider researcher presents additional ethical considerations. Issues of power and status may affect the data collection. Students may feel compelled to participate with the research, as I am also teaching and assessing them within their course. Students will have a participant information sheets and will have signed a consent form (attached). Students will hand in anonymous questionnaires to a voluntary post box, outside of class, to ensure they do not feel pressured to complete the form.

The convenience sampling of the student sample for focus group interviews means that only those who wish to be involved will actually participate. Focus group interviews will be audio recorded. Students will have access to the interview transcripts to check for accuracy and will have the right to withdraw data at any point. No sensitive information is anticipated but withdrawal and follow-up support have been considered.

Tutors will opt into the research, in doing so they will have a participant information sheets and will signed a consent form (attached). Pre- research information meetings will be offered for tutors and students to ensure they have information about the aims of the research and to reassure participants about ethical concerns.

Tutors consent to videoing of the taught session. They will be given access to the video recording to view in private. Tutors will choose which extract they wish to discuss in interview. This is done so that they remain in control of the data and provide only material that they wish to discuss. Whilst self-selection influences the validity of the data, it offers appropriate protection of the individuals, involved.

Tutors may feel that in interviews, they are exposing weaknesses in their own knowledge, understanding and practice. The choice of individual interviews was selected for this reason. It is unlikely that sensitive topics will be covered in interview, however, the right to withdraw and follow-up support have been considered to ensure

the emotional well-being of the participant tutors. Tutors will have access to the interview transcripts to check for accuracy and will have the right to withdraw data at any point.

Video recordings will be kept secure on a shared google drive with personal access passwords. Audio recordings of interviews will be held on a secure password accessed computer

In writing up of the report all participants will be anonymized. Results of the data collection will be shared with my supervisors and assessors during submission. Dissemination of results will take place in my own institute research conference July 2019 and possibly IOE research conference in the same year. Article publication post doctorate will be for Journals such as 'Journal for Higher Education' and 'Journal of Teaching and Teacher Education' At all points anonymity will be maintained. In the reporting, results will refer to generic principles so that individual practice will not be overtly judged.



**Section 9 Attachments** Please attach the following items to this form, or explain if not attached

a.	Information sheets, consent forms and other materials to be used to inform potential participants about the research ( <i>List attachments below</i> )	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
----	--	---	-----------------------------

**Section 10 Declaration**

I confirm that to the best of my knowledge the information in this form is correct and that this is a full description of the ethical issues that may arise in the course of this project.

I have discussed the ethical issues relating to my research with my supervisor.

I have attended the appropriate ethics training provided by my course.

**I confirm that to the best of my knowledge:**

The above information is correct and that this is a full description of the ethics issues that may arise in the course of this project.

Name

Date

***If applicable/appropriate:***

- |    |   |                              |
|----|---|------------------------------|
| b. | Approval letter from external Research Ethics Committee | Yes <input type="checkbox"/> |
| c. | The proposal ('case for support') for the project       | Yes <input type="checkbox"/> |
| d. | Full risk assessment                                    | Yes <input type="checkbox"/> |

**Please submit your completed ethics forms to your supervisor for review.**

## **Notes and references**

## **Professional code of ethics**

You should read and understand relevant ethics guidelines, for example:

[British Psychological Society](#) (2009) *Code of Ethics and Conduct*, and (2014) *Code of Human Research Ethics*

or

[British Educational Research Association](#) (2011) *Ethical Guidelines*

or

[British Sociological Association](#) (2002) *Statement of Ethical Practice*

Please see the respective websites for these or later versions; direct links to the latest versions are available on the Institute of Education

<http://www.ucl.ac.uk/ioe/research/research-ethics>

## **Disclosure and Barring Service checks**

If you are planning to carry out research in regulated Education environments such as Schools, or if your research will bring you into contact with children and young people (under the age of 18), you will need to have a Disclosure and Barring Service (DBS) CHECK, before you start. The DBS was previously known as the Criminal Records Bureau (CRB) . If you do not already hold a current DBS check, and have not registered with the DBS update service, you will need to obtain one through at IOE.

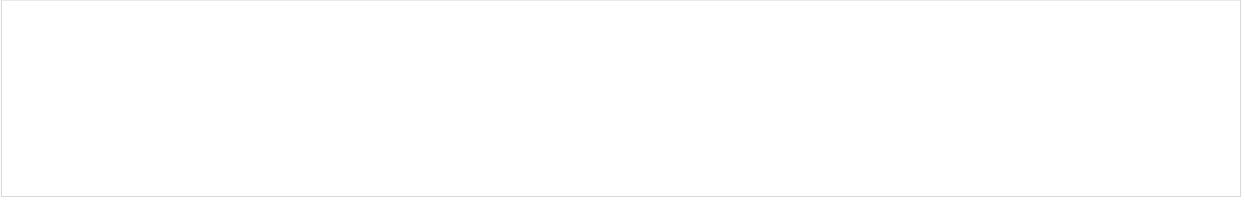
Ensure that you apply for the DBS check in plenty of time as will take around 4 weeks, though can take longer depending on the circumstances.

## Departmental use

If a project raises particularly challenging ethics issues, or a more detailed review would be appropriate, the supervisor **must** refer the application to the Department Research Ethics Coordinator (via [ioe.researchethics@ucl.ac.uk](mailto:ioe.researchethics@ucl.ac.uk)) so that it can be submitted to the Research Ethics Committee for consideration. A departmental research ethics coordinator or representative can advise you, either to support your review process, or help decide whether an application should be referred to the REC. If unsure please refer to the guidelines explaining when to refer the ethics application to the IOE Research Ethics Committee, posted on the committee's website.

Student name	
Student department	
Course	EdD
Project title	An exploration of teacher educators' pedagogy: how do university based teacher educators support primary school student teachers to theorise practice?  A qualitative case study
<b>Reviewer 1</b>	
Supervisor/first reviewer name	
Do you foresee any ethical difficulties with this research?	Relevant issues have been appropriately explored.

Supervisor/first reviewer signature	
Date	11.9.2018.
<b>Reviewer 2</b>	
Second reviewer name	
Do you foresee any ethical difficulties with this research?	X has given careful consideration to the ethical issues involved and her research has my approval.
Supervisor/second reviewer signature	
Date	11.09.2018
<b>Decision on behalf of reviews</b>	
Decision	Approved <input checked="" type="checkbox"/>
	Approved subject to the following additional measures <input type="checkbox"/>
	Not approved for the reasons given below <input type="checkbox"/>
	Referred to REC for review <input type="checkbox"/>
Points to be noted by other reviewers and in report to REC	
Comments from reviewers for the applicant	
<p><b><i>Once it is approved by both reviewers, students should submit their ethics application form to the Centre for Doctoral Education team: <a href="mailto:IOE.CDE@ucl.ac.uk">IOE.CDE@ucl.ac.uk</a>.</i></b></p>	



## Appendix J

### Tutor Interview Transcript

#### Key:

I = interviewer:

R = respondent:

[chat from 0:00:01 to 0:00:40 not transcribed]

I           Okay so...that's good of you to do anyway.

R           No it's really interesting.

I           Oh I think, yes I'm finding it very interesting doing it...

R           Yeah.

I           ...when I get the chance to do it which is good. And it gives you the chance to look at your own practice doesn't it, in quite a bit of detail...

R           Yes, yes.

I           ...and think, 'well what am I doing there and why am I doing it?'

R           Yes, yeah.

I           Yeah. And so that's really the purpose, I suppose, of the research. What I'm looking at is the research that I'm reading tells me that students historically have always seen University and school paid practice as two separate things. And what we learn in University has no application out of the classroom. So my hypothesis was, 'well what is it that's happening in Universities that don't make this connection and synergise the two?' And I thought, 'well if we looked at the practice, are we making very explicit what we do' as the theory that we, you know, make clear to them that the theory we're doing when we're showing you how to do a group activity, the two are linked in some way and have a theory in the practice that linked. This is not just a, an activity you do, it's based on some kind of underpinning that, that we do. So the idea of videoing was for you to find little bits where you think you do that really well and think, 'okay at this point I'm really making it clear and explicit what theories I'm drawing on or etcetera'. So that's what I'm looking at, how we explicitly model the synergy between theory and practice, I suppose.

R           Okay...

I           And [unclear words 0:02:06]...

R           ...well I hope I've pulled out the right bits and pieces [laughs]?

I           Well you tell me what you've got so yes, yeah. So how do you want to start? I mean I thought tell me a little bit about the session overall first of all and what the objectives were...

R           Yeah.

I           ...and how it started. I know it was one of three in a row wasn't it so yeah.

- R Yeah that's right. So, are you recording? Yeah.
- I Yeah we're good to go.
- R And I've actually brought it as well in case you want to look at the slide in relation to the things as well.
- I Yes absolutely yeah, that's the thing yeah.
- R So this is, it was the second of three sessions about addition and subtraction. And the first section is a very theory content heavy sort of lecture style. And then that's followed by two seminars in which we use the resources and we kind of do a bit more kind of workshop style. So this is the, the first of those two. The objectives for the session were to understand the importance of clear and accurate imagery. The value of concrete materials and how you can use the models and images to support the mathematical concepts of addition and subtraction, particularly mental and informal methods of recording. So it was quite very specific as this module is. It's very content heavy because we're preparing students. We're basically taking the majority of them from when they did GCSE...
- I Yeah.
- R ...to what they need to know to be able to teach maths effectively in the classroom.
- I Yeah.
- R And obviously only primary level but, you know, we sometimes go a little bit higher to get them thinking as learners.
- I Yeah.
- R Is that's the challenge isn't it, it's to kind of make them think about what it's like to actually be a learner.
- I Yeah, yeah.
- R So...we have, so when you talk about theory and linking theory and practice...
- I And that's theory or learning theory [unclear words 0:03:56].
- R It's kind of multi-layers really...
- I Yeah.
- R ...in terms of this because we've got the theory of maths teaching or the theory of the, the mathematical concepts come first really, models and images. And that comes out very strongly in addition and subtraction, multiplication and division. They kind of put those areas there and we talk about what those models are and get the students to think about those models in relation to the problems that they would set in the classroom. So a lot of our discussions are very much about the content that you need, the maths pedagogy that you can use to teach that and we make those...
- I Links.
- R ...we deliberately make those links very strong. Plus we also talk about how that would look in the classroom.
- I Yeah.

R So we draw very much, and my...my kind of, my...thought was that we do that well. And my hope was that we do that well [interviewer laughs]! And one of the real strengths of doing this with you has been that I can see for myself that I, I do actually do it.

I Good!

R And I was saying to, cause we talk a lot about, you know, our practice and how we can improve. And I said the thing that it's really made me realise is how much we do cram into those sessions and how much we're constantly drawing on, you know, different elements constantly. And how much we use the, well how much I've used in the session, the terminology.

I Yeah.

R And modelled that terminology.

I Great.

R And I think, and I'm surprised how much it's there.

I Yeah.

R You know, because when you first thought, when you first started I was like, 'oh my goodness, do I [laugh]?'

I [laughs] Yeah.

R 'Do I do that? Is that something I do?' And I deliberately, once I'd checked about three times that it was actually recording...

I Yeah

R ...I deliberately put out of my mind that that was recording and I just...

I [Good? 0:05:51] yeah.

R ...immersed myself in the session because I wanted to actually see the reality.

I Yeah.

R So it wasn't like I was doing anything differently.

I Yeah.

R And I, you know, and I was looking through and I was thinking, 'my goodness, I mentioned it there and I mentioned it there', and I explain why I've chosen those numbers. There is a lot of linking...

I Great.

R ...that happens in there and I'm really surprised...

I [unclear words 0:06:11]...

R ...just how much there is in there.

I ...is threaded through.

R Yeah, yeah.

I Yeah perfect. Do you want to show me a little bit and perhaps why you selected that bit or do you...

R Okay.

I ...want to carry on with, with, you know, your notes cause I see you've done some notes?

R Well I've, I've kind of, I've got lots of bits of evidence that show different things.

I Yeah, yeah.

R I wasn't quite...

I Yeah.

R ...quite sure sort of I'd say. I think in terms of the objectives for the session, they, they're very content specific but always an overarching objective for all of our sessions is about strengthening subject knowledge and how you teach maths.

I Yeah.

R And their deliberate kind of choices...

I Yeah.

R ...that that's what we're doing. And we tell them, we make that very explicit to the students. And I think that really helps because...

I Yeah.

R ...I think the engagement is better generally because they know not only are we doing maths...

I That it's useful.

R ...but they're going to need it.

I Yeah, yeah.

R So I think that's really helpful for them to know.

I Yeah, yeah, yeah. No that, the usefulness of, of what you're teaching is...

R Yes, yes.

I ...is crucial isn't it.

R Absolutely.

I Yeah.

R Absolutely.

I Yeah.

R Right so...

[video plays]

R ...that's you [both laugh]. Right so it was doing weird things with the numbering. I think in some ways it goes up and then it seemed to go down. So I'll just find...

[video plays]

R Right so in this bit here, the reason why I've picked out that bit here, you just heard me say.

I Yeah.

R So I've given them three calculations to do.

I Yeah.

R And I've asked the students to think, to do them. And then I've just asked them to compare their strategies because what I'm doing there is I'm putting them in the, in the position of a learner. Not just doing it for themselves and feeling what that feels like but also thinking about the strategies they've used but also that there's a range of different strategies and I come back to that later on. So I mean if it's worth going through chronologically.

I Yeah, that would be good yeah.

R And if, and you tell me if it's not the right kind of stuff.

I No, absolutely, your selection is sort of appropriate, yeah.

R We can tweak it. So...in...the next one is twelve, thirty nine. Thirty nine...

[video plays]

R [unclear words 0:09:31].

[video plays]

R It's later I talk about that sort of, so there we're playing a game and I've talked, as we've used the toys we've talked about the, what you could use and linking it into school. And, and then later, maybe it's later on that I talk about that. Maybe [unclear words 0:09:58].

I But that's a useful link also isn't it. You were making it very clear that children, how its motivational for children.

R Yes.

I And you're following, it says something about following your own interest as well.

R Yes.

I So you're making clear links between school practice...

R Yes.

I ...and what I've just done with you.

R What I've just done. And I talk about the need to focus, maybe we've missed it, we can rewind it if you particularly want to find it. I made a note here that I talk about the concrete materials shouldn't interfere with the mathematical concept of the game.

I Yeah, yeah.

R So really making explicit although the children will make a fuss about having it, oh it's after they'd played it.

I Yeah okay.

R [unclear words 0:10:35].

[video plays]

R So they're just showing them how to play [unclear 0:10:44].

I Play yeah.

[video plays]

R It's here.

[video plays]

R So what I've picked out, what, what I'm kind of showing you here is that we're talking about maths concept rather than just the game itself. But it's also the use of the, the students use of and the embedding of the vocabulary we've been teaching them.

I Yeah, yeah interesting yeah.

R So it's kind of a really nice example of that.

I Yeah and so I thought that was a great example yeah.

[video plays]

R We talk about sets.

I But what you're doing is using really nice deconstruction of the task.

R Yes.

I You know, this is a task that you could just go away and it's a quick game that you can do. But in really unpacking it carefully.

R Yeah.

[video continues playing]

R [unclear words 0:12:48] I dunno if it's the video.

I It's the video [laughs].

[video plays]

R [unclear words – respondent is speaking whilst video is playing – hard to hear :13:38].

I Yeah, yeah.

[video plays]

R He's talked about [communitative? 0:13:55].

I Yeah.

R And he's linking himself there. I've just talked over him saying, 'go back to your idea of...'

I Yes.

R And we talked about [community changes? 0;14:05] as well [unclear words 0:14:04].

I So [unclear words 0:14:06] the previous seminar, yeah.

[video plays]

I Do you think the three in a row seminars need this [unclear words 0:14:20]?

R [unclear words 0:14:25].

[video plays]

R So that's kind of like, I would say, deconstructing the task but also thinking about the practical application within the classroom kind of opportunities. And that's fairly typical of what we do when we play a game...

I Yeah great.

R ...that process. And, and kind of why I let it run on a little bit there for you is when I said to you I was surprised how much we pack in it, it's all, I hadn't realised how much we really embed the mathematical concepts and vocabulary.

I And vocabulary, the [unclear 0:15:26] yeah, yeah.

R And the students as well, the students picking up with it because okay the community [unclear 0:15:30] is something that people know.

I Yeah, yeah.

R But some of the other ones, the splitting particularly and those, some of those concepts are fairly new to them. So it may be for very happy.

I [laughs] Yeah that's good and it's working yeah.

R And actually [unclear 0:15:42] something yeah.

I Absolutely.

R Absolutely yeah. Yeah so is that the right kind of thing?

I Yeah that's great. Yeah, yeah that's great.

R Do you want to talk about the three sessions?

I Yeah I just, one of the questions that came to mind was the idea that you've got three consecutive sessions and I just wondered what you thought about having them? Does, does that aid this transfer or this sort of linking between? Cause you said that one of them had picked up something from the first session...

R Yes.

I ...and used in the second session...

R Yeah.

I ...because it was after, one after another.

R I definitely think that the, that structure works so the lecture seminar, seminar works because the, I didn't write the powerpoints, obviously they were by predecessors but they are deliberately designed to keep embedding the theory within there and that's very explicit linking as well that we do. Even to the point of using some of the same slides from the lectures in the seminars.

I Okay so you come back to it.

R So there's that visual kind of prompt.

I Yeah prompt reminder.

R I think having a lecture seminar works very well.

I Yeah.

R And that, we've done quite a lot of that so they've had effectively a double session.

I Yeah.

R The third session I found quite hard...

I Yeah.

R ...because it's the, it is the harder part of it.

I Yeah.

R It's the written formal method.

I Yeah.

R And the, the students struggle. Not so much addition and subtraction but multiplication and division.

I Multiplication and division.

R They told me they loved it...

I Yeah.

R So I had a couple of emails from them afterwards...

I Yeah right.

R ...telling me how much they liked just focusing on one...

I One thing.

R ...thing for all that length of time.

I Yeah, yeah.

R But I was literally on my knees [both laugh].

I But I mean that's part of your planning isn't it? You deliberately...

R Yes.

I ...have planned those consecutive sessions to try and move from introduction to practical workshop.

R Yeah.

I You find a way to then formalise methods.

R Yes, yeah.

I Just to sort of show how you might, that mirrors what you might do in school as well.

R Absolutely yes, yeah.

I You know, so with the children it's, you know...

R Yes.

I ...the formalised methods come much further down after you've...

R Yeah.

I ...done all the playing with the activities. So it's a great modelling of...

R Absolutely yeah.

I ...what, the planning that they would need to think about in their teaching.

R Yes. And we talk a lot about that. And when, one of your questions about the, the theorists that you draw on...

I Yes.

R ...and we do draw a lot on the CPA, the idea of the concrete pictorial abstract.

I Yeah.

R And that's embedded within this as well. And even the process in which we deliver the, the content is through that. So we look at the concrete resources...

I Yeah, yeah.

R ...as, you know, we've got later on. So...

I Oh that's brilliant.

R ...yeah.

I So that underpins the way in which you work as a, and mirrors how you'd expect them to work in classrooms really.

R That's right yes.

I And do you make that clear to them? So do you, do you make that clear in the sessions? Do you say, you know, 'we're starting with the [unclear 0:18:25] group, we're [unclear 0:18:25] the practical and then, you know'?

R We, we do.

I Yeah.

R We talk about the, the, the CPA, you know, the procedure of going through that. Whether I've ever said, 'that's what I'm doing in the seminar', I'm not sure.

I Yeah interesting, do you think, yeah.

R I think we say we'll start, we start with the resources.

I Yeah, yeah.

R Maybe we do say because that's where we start with the children.

I Yeah I mean that's the, that's the only link you need really isn't it, to say, yeah.

R Hmmm hmmm.

I Great! So what makes you think that that's been successful? I mean you said the students see it as successful? You chose those bits [unclear words 0:19:05] yeah.

R That bit yeah.

I What makes it particularly successful, do you think, you know?

R I think the, the deconstructing of that and the opportunity for them to talk about the concept when you're using the vocabulary having just done it for themselves.

I Yeah.

R So there's that layering of trying it for themselves.

I Yeah.

R And so thinking of themselves as learners and thinking of themselves as teachers.

I Yeah.

R And I think we do that quite a lot.

I Yeah.

R We put them in the position of a learner and then we put them in the position of a teacher.

I Yeah.

R So they can kind of see...

I That's nice yeah.

R ...that difference between. And when, the other bits that, that I've got is about looking at the different strategies and how I've kind of drawn that.

I Yeah, do you want to look at that?

R Yeah let's run in between.

I Yeah, let's go for it, yeah, yeah.

R And early stages of fluency.

I Oh right, that sounds interesting.

R Fluidity between different kinds of [unclear words 0:19:56].

I Yeah, yeah.

R Oh yeah so we'll have a look at that then.

I Yeah. Because you want to get beyond the tips for teachers and [unclear words :20:04] games [unclear words 0:20:05].

R Yeah absolutely.

I You want to really embed this with theory as well.

R Right I think it's here.

[video plays]

R [unclear words 0:20:26].

[video plays]

R And that explicit use of connections, we talk about the connections model all the time.

I Yeah.

R So as I say I was surprised how much I kind of keep hammering...

I You keep coming back, yeah.

R ...some of these things. So watch a little bit more.

[video plays]

R They've asked for...

I Yeah.

R ...evidence.

[video plays]

R [unclear words 0:22:09] [interviewer laughs].

[video plays]

R I've [unclear words 0:22:29], I'm gonna jump again to...to one, so we've talked about those. [unclear words 0:22:43] yeah.

[video plays]

R So I've now asked them to reflect on their own strategies.

I Yeah. So this idea of [unclear words 0:22:56].

R Yeah.

[video plays]

R? But [unclear words 0:23:22] and making it clear. [unclear words – video playing 0:23:26].

I Yeah [both laugh].

R Yeah, so encourage their participation.

I Participation yeah.  
R Even if it's not accurate.  
I Yeah get them in and then modify the language.  
R Yeah, yeah. And that needs a conscious decision.  
I Yeah. Cause you're raising a professional language aren't you, the use of pedagogical? 0:23:48] language at that point by [unclear words 0:23:50].  
R Yes, yes.

[video playing]

R [unclear words 0:24:02].  
I Yeah.  
R [unclear words 0:24:18] here.  
I Yeah.  
R They're explaining their strategy because that's what we want them to do with the children, encourage them to talk about...  
I Yeah.  
R ...[unclear words 0:24:27].  
I Yeah, perfect, perfect yeah.

[video plays]

I So you've also got a visual model here. So they're aided by which strategies hat you've been using.  
R Yes, yeah we've talked about them before.  
I Yeah.  
R [unclear words 0:24:40].  
I Yeah so they're clear about what strategies are possible and which one matches mine.  
R Yes.  
I And they're articulating it.  
R Yes.  
I And this is now acting as role modellers to how do we do this for children.  
R And the [unclear 0;24:55] of recording just to aid those two [unclear words 0:24:59].  
I [unclear words 0:25:00].

[video playing]

R Just because they'd gone [unclear words 0:25:07]. I even said it myself [both laugh].

[video playing]

R That was the [unclear words 0:25:43].

I? Maybe it's in combination yes.

R Yeah, yeah. [unclear words 0:25:51].

I Which is indicative of her confidence in the class and ethos isn't it...

R Yes, yeah.

I ...to have a go as well. She said, 'can you go back to that one and just check'.

R Yeah absolutely and ask and...

I And ask which is what you want your children to do is that, 'I didn't get that'.

R Yeah, yeah, especially in maths.

I In mathematics. You never let me say anything so you have to be fully understood, you know, [unclear words 0:26:14].

[video plays]

R At one point I...[video playing], oh I was talking about [unclear words 0:26:31]. So that bit, I talk about the choice of the number. Maybe we've missed it.

I Yeah.

R I talked about the choice and I made an explicit reference to the fact I'd chosen twenty nine to guide them to compensate it to the thirty.

I Thirty yeah.

R And so I talked about why I'd chosen that number. And we talk a lot about why we've chosen those numbers.

I Accepting numbers yeah.

R And how difficult and easy the numbers make it. So as soon as you...

I Yeah.

R ...if you're close to a multiple of ten, for example...

I Yeah it's easier.

R ...it's [unclear 0;27:03] easy.

I Yeah.

R So I've talked about that already and doing some...

I Fabulous yeah.

R ...and linking it to the students choice of the number as well.

I Yeah.

R And I talk about increasing the cognitive [unclear 0:27:14] because of the larger numbers. And I talk about it being further apart, the choice of numbers, and I get them to reflect on their own strategy.

[video plays]

I [unclear words 0:28:10] there.

R Yes, yeah, yeah. I've kind of modelled it and we've talked about the strategies and we talk about why you do that [unclear words].

I Yeah, yeah.

R And then talk about which one's the most efficient.

I Efficient.

R And getting children to think about that as well.

I Yeah.

R And noticing.

I Yeah.

R And I think maybe that's where I talk about the numbers...

I Yeah.

R ...and noticing those numbers.

I Fabulous, that's great, that's great.

R Yeah they, we kept the ultimate message and maybe I haven't talked about it there. I've linked it to the aim of the national curriculum with fluency.

I Yeah.

R That's in there as well.

I Yeah. So very clear links between what you're doing and how that relates to school practice. Your...

R Yes.

I ...modelling seems to be quite a strong thing for you, you know, in modelling how it would work in class but also unpacking it...

R Yes.

I ...very explicitly.

R Yes.

I Sorta like a metacommentary or metateaching that's going on.

R Yes.

I But the teaching, [unclear words 0:29:11], I'm teaching you but now I'm teaching you why I'm teaching you this way.

R Yes exactly.

I Yeah, yeah.

R And there's one last bit, because you're talking about practice, there's one here where I link it to working walls...

I Ah.

R ...as well.

[video plays]

R I'll just rewind that so you can hear the bit that comes before.

[video plays]

R It's [unclear words 0:29:38].

[video plays]

R [unclear words 0:29:42] how you'd [unclear words 0:29:45] children [unclear words 0:29:47].

[video plays]

R [unclear words 0:30:23] [both laugh].

[video plays]

R [unclear words 0:30:52] a little bit more about that. Then we go into the self directed and then...

I Yeah.

R ...there was, I don't know if this is the kind of thing that you want.

I Yeah.

R There's one last...last bit in which one of the students tells us about how they'd, what strategy they'd used. And I allow her, [unclear 0:31:10] a conscious decision to allow her to carry on talking because it links nicely to the idea that the experience you give to children are what they take with them.

I Yes.

R Because she taught herself because she didn't understand.

I Ah.

R Do you want to listen to her, it's not very long.

I Yes, that's interesting yeah.

R I think it's [unclear words 0:31:27] [video plays], oh no I've linked it on a little bit more.

[video plays]

R 118, 118.

I There yeah.

[video plays]

R No it's before, just before there.

[video plays]

R I played it straight after [unclear words 0:31:57].

[video plays]

R Maybe it's before there.

[video plays]

R There. Oh there.

I There.

R In my head. Ah there. I've got my number wrong.

[video plays]

R [unclear words 0:33:01].

I Oh fabulous, that's very helpful yes.

R [unclear words 0:33:19].

[video plays]

R It was a conscious decision to let her carry on explaining and talking cause it's really interesting.

I For her but...

R Yeah.

I ...yeah [unclear words 0:34:30] yeah.

R Yeah and then linking onto there. So, you know, it felt like she was talking for a long time but it was a conscious decision to allow her because it was a useful teaching point.

I Yeah it articulated her own thinking and...

R Yes.

I ...as you say tracing back to well in my life I wasn't clear about the mathematics so I had to compensate myself by doing...

R Yes, yes.

I ...a quick estimation and it might be there. And then I'll do a compensation [unclear words 0:35:00].

R Yeah.

I And that's how I do it because you can't work the common method.

R Common, yeah, yeah.

I Yeah.

R Yeah. And it's, and it's so common.

I Yeah exactly. No it's fascinating isn't it [both laugh]! Fascinating! My goodness.

R I hope it gave you the right kind of stuff that you wanted.

I No it's good yeah. So I mean I was thinking, you know, you obviously play a role as a role model. That's, I suppose, one of my questions, what role do you see yourself. It's a part...

R Yeah.

I ...of a role model and that's very evident in what you've done. And you've talked about pedagogical, pedagogical and mathematical theories that underpin. So there's a clear link for you between the two.

R Yes.

I It's a, you know, it's all threaded through.

R Yeah.

I And that's what you found in being part of the research in a way. And you said at the beginning how...

R Yes.

I ...it was very clear to you.

R Yes absolutely.

I Yeah.

R And you asked what kind, which particular pedagogical theories.

I Yeah.

R And you won't be surprised to learn it's definitely social constructivism [interviewer laughs]. But very firmly where I sit and particularly the connectionist model...

I Yeah.

R ...and vocabulary language is...

I Yeah.

R ...is my passion.

I Yeah.

R And that comes through, and that's, I'm quite, well I'm not surprised but I'm really pleased to know how much I'm using the language in context and modelling that...

I Yeah.

R ...because, you know, across the board, even when I'm working with literacy I try to kind of use the technical terminology and...

I Of course, yeah.

R ...embed that and model that.

I Yeah, yeah.

R And a high focus on language and I've got Vygotsky and the ZPD and...

I Yeah.

R ...we talk a lot about that and helping children to kind of get from where they are to where they need to be.

I Fabulous!

R Not in this lesson I haven't but we have, you know, we talk, I talk about it through that.

I [unclear words 0:36:32] all the time.

R Yeah and obviously a bit of cognitive laid in there. And then link there to Bruno with the CPA.

I Yeah.

R Although that's resurfaced again and now badged as the Singapore way but it's...

I Oh right [both laugh].

R ...you know, it's.

I It's [unclear words 0:36:45].

R They called it different things but it's.

I That's great [laughs].

R But that sense of concrete pictorial abstract and that's there.

I So do you think the big part of the research has been helpful for you as a, you know, tutor?

R It's been helpful for me to, to reflect...

I Yeah.

R ...on the positives because I think...

I Yeah.

R ...I do try to be positive.

I Self reflecting.

R And I think I do lots and lots of reflection on the time but you...

I Yeah.

R ...naturally gravitate to things you could do better.

I Yeah.

R And what this has really helped me to see is how much I do do.

I Yeah.

R Because if you'd asked me how strong did I think the link was...

I Yeah.

R ...before I videoed, I'd have been naturally cautious but I probably would have...

I Yeah.

R ...kind of gone down the [unclear 0:37:24], actually I'm not sure I really do.

I Yeah.

R But seeing that and seeing, and that's embedded all the way, I've just picked out particularly explicit ones there.

I Yeah.

R But it's embedded all the way through.

I Yeah.

R And that wasn't particular unique.

I No that's just the way you operate.

R That's, yeah that's just how I am.

I Yeah great.

R So that makes me feel...

I It should [laughs].

R ...you know, very positive [both laugh] by doing that yeah.

I Yeah. Is there anything else from your notes that you want us to pick up because we're pretty much towards...

R Yeah.

I ...yeah.

R Okay yeah. Yeah so obviously what you said about playing part of the role, of the role model, it's modelling, explaining, exploring, showing ways and ideas and asking questions.

I Yeah.

R So you can have these [unclear words 0:38:06].

I Okay fabulous.

R And then you said, you talked about, you asked about years teaching...

I Yeah.

R ...which I guess is [unclear 0:38:14] part of your research.

I Just, just biographical really.

R Yes, yeah but I have been a teacher educator for a long time.

I Yeah.

R Twelve years I've been involved so...

I Good.

R ...I'm relatively new to ITE.

I ITE yeah.

R And I think working in schools particularly as an independent consultant, makes you much sharper about linking theory and practice because people don't...

I Yes a good point.

R ...want me to...

I [Spout? 0:38:40] theory at them.

R ...[espouse? 0:38:40] theory at them. They want you to tell them how to do it.

I Yeah.

R So I think I've naturally refined...

I Yeah.

R ...my linking of practice and theory.

I Interesting yeah.

R As a result. Particularly being an independent consultant.

I Yeah.

R I think as an LA that was a critical, you know, people would be critical while you're in your ivory tower and you don't know what it's like.

I Yeah.

R But being an independent consultant to be invited back...

I You needed.

R ...and to be, have good word of mouth...

I Yeah.

R ...you have to be very practical.

I Yeah.

R So I think I learnt very much to embed...

I Yeah.

R ...all those practices like putting it on your [unclear words 0:39:15].

I Yeah, yeah.

R And those sorts of things come perhaps more...

I Yeah.

R ...from my work as a consultant than...

I I suppose maybe the other way round.

R ...yeah.

I But you still felt the theory being, was important for the practitioner.

R Oh yes, yeah, absolutely.

I So you've somehow gone from the ground up in that way.

R Yes, yeah.

I You know, I've started with the practice but I'm now, I'm going to now sort of show you how this links to the theory.

R Yes absolutely.

I And here we're perhaps doing a little bit of juggling the two.

R Yeah.

I It's theory and practice going at the same time yeah.

R Absolutely, absolutely.

I No that's fascinating.

R So I don't know if that kind of makes a difference to you.

I No it's really helpful, really really helpful. Thank you very much. I'm going to switch that off.

**END OF INTERVIEW**

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