Research-informed thinking: the contribution of a Master's module in the postgraduate initial teacher education programme

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'I, Georgina Merchant, 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.'

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Abstract

This thesis asks: 'What is the contribution of a Master's module that requires reading, reflection and a written 5000-word essay to a primary postgraduate initial teacher education programme, the PGCE?' It examines this question from the perspectives of PGCE student teachers, alumni in their first year of teaching, and lecturers. How does it help them to consider and use research evidence in their practice?

As an experienced primary teacher who has worked on the Primary PGCE for 13 years, I was interested in what difference the study at Master's level is making. Literature suggests that the research engagement that Master's study necessitates benefits the development of effective primary teachers.

Data for this thesis were gathered using mixed methods: questionnaires, focus groups and semi-structured interviews in the context of one particular Master's module within a university-led Primary PGCE. It draws on enactivist theories about cognition and knowledge.

Findings were interesting and not conclusive. Many student teachers did not see the Master's level qualification as offering status, or to be necessary in any way for the profession as a whole. They did, however, value its contribution to their initial teacher education. There was a realisation that part of being an effective teacher is to be able to draw on and use the differences found between practice encountered at school, the theory and pedagogies explored at university, and the beliefs that have come to be held about teaching that are rooted in personal experience. The potential cognitive dissonance was proposed as a resource that could be embraced, to enable new teachers to feel confident to use autonomy in their classroom practice.

Impact statement

My research investigated how a Master's module, entitled Learning and Teaching, part of a university-based ITE PGCE programme, was perceived by student teachers, NQTs who had completed it and lecturers who taught on it.

The findings in my study show that the process of learning on the module enabled some student teachers to reconceptualise their beliefs about teaching and learning, and to value and use research-informed thinking (Pollard, 2014). Additionally, despite experiencing theory-practice dichotomy, some student teachers and NQTs were able to reconcile this in realising what for them was perceived as being effective teaching and learning. In these ways, a sense of self-efficacy was engendered. These findings provided the basis for designing a model that provides a distinct articulation of the process of learning that was experienced. I have called this Metacognition for Critical Reflection.

This model conceptualises the process of learning that my findings suggest have been experienced by student teachers and NQTs through the Learning and Teaching module. It highlights the potential degrees of intersectionality between three contexts: beliefs about teaching and learning, what is experienced in school and what is learned at university, that might well present student teachers with cognitive dissonance (Festinger, 1951). Engaging with the model offers student teachers awareness of the process of managing this dissonance, and the complexities of teaching and learning, in realising effective practice. It also demonstrates that there are particular challenges to becoming and being a teacher that need to be discussed, articulated and made visible as a resource for learning and developing.

For future cohorts of student teachers undertaking the Learning and Teaching module, the introduction of this model as part of the content offers a new opportunity to discuss the module's intrinsic value in providing them with a way of thinking that can continue to offer a resource for effective practice beyond their ITE.

For lecturers of the ITE programme, this study can provoke new discussions about the pedagogy for ITE and its distinctive nature in postgraduate learning. In this way, the model can be referenced and used across ITE programmes.

My findings offer new evidence to the field of ITE literature in demonstrating the potential value of this type of Master's study and how it can positively impact both student teachers within their ITE and beyond into teaching roles. Although the case study is of a distinctive Master's module, the process of learning that has been conceptualised by the Metacognition for Critical Reflection model has potential for comparison with and potential application for learning processes in other ITE provision and Education Master's programmes both in England and internationally. My work will be disseminated through a peer-reviewed journal submission and 2021 conference presentations (TEAN, BERA, ECER).

Chapter 1 Introduction

This chapter describes the rationale for the study; the distinctive context of ITE in England, the diversity of programmes, and resultant variation in content and experience that it offers student teachers. I discuss the potential contribution that one aspect of some ITE programmes, learning at Master's level, might have for student teachers and offer contextualisation for the Master's Module that is the focus for my research: the Learning and Teaching module.

1.1   Rationale

This thesis considers one element of an initial teacher education (ITE) programme at a university in England: a Primary PGCE Master's module. It draws on experiences of student teachers, year 2018/2019, perspectives of lecturers that work on the programme, and newly qualified teachers that graduated from it in the year 2017/2018.

I have worked as a lecturer in ITE on this particular PGCE programme for 14 years and on this Master's module from its inception 12 years ago. Since then, I have been party to the pleasure and value that student teachers appear to have drawn from it. This thesis offers me an opportunity to understand its actual potential and to explore whether my perceptions of its efficacy can be substantiated.

The education of prospective primary teachers in England presents a distinctive context both within the United Kingdom and internationally. Indeed, it has been described as an 'outlier' (Menter, 2019). The varied routes of English ITE programmes means that there is variety in content. In this context, I argue that there is value in researching what is experienced as being successful in these differing routes to becoming a primary teacher. This is not to assert that one is better than another, but to seek out what is effective in each, so that these positives can be interpreted and more widely used. The inclusion of Master's level study with research engagement is one aspect of the PGCE on which I teach, and offers an individual interpretation of the demands made by Level 7 (https://www.gov.uk/what-different-qualification-levels-mean/list-of-qualification-level) criteria as manifested in one particular module. The Learning and Teaching module and what it can effect in terms of initial teacher education is thus the subject for this study. This research responds to Furlong's (2013) call to add to the 'vision' of what university can offer teacher education

Diversity of ITE programmes in England

One factor setting England apart from other countries in the UK is the multiplicity of routes that prospective primary teachers can select from. There is variation in the contents of programmes and not all include Master's level study or are university-led. In 2019/20, postgraduates in HEI-led programmes number 5210, and those in a programme partly or wholly school-led number 7178. These are managed by 200 providers (https://www.gov.uk/government/collections/initial-teacher-training#itt-statistics). The diversity of context and the mix of school-led and university-led

programmes means that there is not only competition but also variation in initial teacher education in England. Again, this contrasts with other nations in the UK. In Wales, there are four providers of ITE endorsed by the Education Workforce Council ITE Accreditation Board. There are nine in Scotland and four in Northern Ireland.

In England, undergraduates can undertake a three- or four-year degree course, attaining a degree and qualified teacher status (QTS). QTS indicates that the holder has met the Teachers Standards (DfE, 2013) and is a professional qualification awarded by the Teaching Regulation Agency (TRA) on behalf of the Secretary of State for Education. For postgraduates, a one-year, usually full-time, course can be selected. These can be 'fee funded' through student loans and undertaken though a higher education institution (HEI) – a group of schools delivering school-centred initial teacher training (SCITT); or a School Direct fee-funded programme. School Direct refers to training that the government has allocated to a collective of schools working together to offer teacher training. Some schools that are part of the School Direct programme work in close partnership with a local university. SCITTs award QTS and some allow the option of attaining an academic qualification through attendance at additional, often university–led sessions. Alternatives include the School Direct Salaried programme, where student teachers are employed by a school and the training might be through a university partner or by a lead school. Others are the Teach First leadership development programme and the postgraduate teaching apprenticeship, both of which offer QTS. Research evaluating the different routes conducted by Hobson et al (2009) suggests that whilst perceptions of programmes showed variation that was largely negated by subsequent in-service time, they did, however, offer evidence for ratifying increasing school-led provision (Menter, 2019).

A tension between possible choices for initial teacher education is thus pronounced in the English landscape of provision. This has the potential for requiring providers of ITE to compete for prospective student teachers. Currently, the university-led programme in my study costs £9,250 in fees. This is in stark contrast to earning during training offered by employment routes such as Teach First. Recruitment to university-led routes might well be negatively influenced by this, which makes it pressing to articulate its individual merits. My study offers potential for this.

Implications of Bologna (2006)

The Master's module under consideration was created following the Bologna Agreement (2006) and the subsequent introduction of Master's study to Postgraduate Certification in Education (PGCE) in England (further explored in section 2.5). This introduction was not driven by a perceived need for a 'higher' level of study nor of a considered reaction to an understanding of the content of, nor pedagogy for, the education of student teachers. Rather, it sought to fulfil the requirements of policy (Bonjean, 2018), offering potential parity to disparate systems of accreditation for higher education across the European Union (EU). Whether Master's level study contributes to ITE, or is simply accreditation with no perceived benefit for student teacher learning, bears interrogation.

What is the potential of a Master's study in ITE?

Although driven by policy rather than by bottom-up evidence that its absence was negatively impacting initial teacher education, there is evidence of a Master's study being positive for student teacher learning internationally. Links between Master's level study and countries that have been particularly successful when looking at comparative measures such as Progress in Reading Literacy Study (PIRLS https://timssandpirls.bc.edu/), Trends in International Mathematics and Science Study (TIMSS, ibid) and the Program for International Student Assessment (PISA, https://nces.ed.gov/surveys/pirls/) have stimulated international scrutiny and interest as to what seems to be the antecedents for success. Finland is one such nation. It has few providers of teacher education (eight) and they are all universities. There, all student teachers are required to undertake a Master's level programme lasting five years. Additionally, student teachers are given time to participate in both high-level academic study and sequences of research-informed clinical practice in nominated training schools (BERA-RSA, 2014). Tentatively, then, the Master's element is seen as being positive in impacting teacher performance and pupil achievement.

The British Educational Research Association (BERA) is cautious of assigning clear causality between research engagement and excellence in teacher education (BERA-RSA, p14). Indeed, even the much-praised attainment of Finnish pupils is described as being 'speculatively' attributable to the quality of teacher education (Salovitta and Tolvanen, 2017, p214). There are countries that have similar models of teacher education that do not enjoy high PISA ratings and the length of the ITE in Finland or other variables could be playing a part (Salovitta and Tolvanen, 2017). This does not, however, reject a view that Master's study and the association that this has with student teacher research engagement has the potential to be positive for their learning.

Research in ITE programmes in other countries of the UK

Other countries in the United Kingdom seem to value the role of research in their ITE programmes. In Scotland, the government-commissioned Donaldson Review (Donaldson, 2010) led to reform that included revision of their Professional Standards to reflect the importance accorded to research for ongoing professional development. The 'teacher as a researcher' aspect of the Code of Values and Professional Practice (The Teaching Council, 2016) offers similar status to research engagement for Northern Ireland's student and practising teachers. A component of the education reform programme in Wales has been to improve practice in teacher education to move to becoming 'research rich' (Perry et al, 2017). Recent Welsh government announcements list 'the centrality of research' (Williams, 2017) as one of their five requirements for change in ITE. These countries offer a different prospect for student teachers from those in England. My study might offer evidence for the place of research in English ITE.

1.2   Context

Founded over 100 years ago, the university faculty of the Primary PGCE programme that offers this Master's module is highly regarded internationally, both for the quality of its initial teacher education (ITE) provision and for its research. This section will broadly outline the module that forms the case in this study, firstly describing the Primary PGCE.

The Primary PGCE takes one year full-time and contains the following three modules:

1. Professional Practice module (PPM) (Level 6) consisting of Professional Studies, Curriculum Subjects (Mathematics, English, Science, Computing and Foundation Subjects) and School Experience

2. Learning and Teaching module (LT) (Level 7, 30 Master's credits) (DfE, 2020) (the case in this study)

3. Specialism module (Level 7, 30 credits) (ibid)

It is necessary to pass all three modules in order to achieve a PGCE and gain a recommendation for QTS.

The university that offers this particular Primary PGCE lauds research participation for all students as central to its strategy. Within the Primary PGCE programme itself, research is seen as important in informing the content across its provision. Consequently, for a majority of their lectures, seminars and workshops, student teachers are asked to prepare for engagement by reading from a prescribed reading list that includes both current and seminal research.

The two Master's level modules: the Learning and Teaching module and the Specialism module differ in several ways: in content, teaching input and assessment strategy.

The Learning and Teaching module was developed post-Bologna (2006) and drew on ten 'evidence-informed principles' (Pollard et al, 2014, p94) proposed by the Teaching and Learning Research Project based at the Institute of Education (now University College London, Institute of Education). These principles continue to underpin contents and themes interrogated across the module. For instance:

> Principle 7: effective pedagogy fosters both individual and social processes and outcomes. Learners should be encouraged and helped to build relationships and communication with others for learning purposes, in order to assist the mutual construction of knowledge and enhance the achievements of individuals and groups. Consulting learners about their learning and giving them a voice is both an expectation and a right (Pollard, 2014, p94).

The Learning and Teaching module's aims and outcomes (Appendix 1) propose that they will 'empower student teachers' through an engagement with research. This

engagement is presented as enabling critical reflection, and as a resource for analysis of teaching and learning, of effective pedagogies and of intellectual perspectives. This module is assessed by a 5000-word essay that student teachers submit for initial written feedback and then work up to a final submission, assessed against professional Master's criteria. There is a choice of questions that require consideration of alternative views, research from reading as well as reflection on practice to underpin arguments. The following are two examples of questions (remainder in Appendix 1).

- Collaboration and grouping – 'Well some people are just, you know cleverer than other children, that's what decided our groups in year three and it hasn't changed' (Marks, 2016, p22). How might grouping affect children's learning?

- Metacognition – How does thinking about thinking support children to improve their learning?

The essay questions reflect themes from the module that student teachers have considered in a mixture of lectures, seminars and peer study work.

The Specialism module offers student teachers the choice (as far as logistically possible) of curriculum ('specialist') areas for deepening knowledge and understanding. Although not essential, students frequently possess interest, skill or qualification in a particular curriculum area and the completion of the Specialism module is often viewed as being an antecedent to prospective leadership roles once employed in school. In addition to engaging with research and literature that underpins national requirements, content, pedagogy, debates and issues of the subject area, the students develop methods of research and conduct a school-based project that is assessed at Master's level through a presentation and viva.

What does it mean to work at Master's level?

For Master's within a PGCE, professional Master's level criteria are applied for assessment.

The Learning and Teaching module has the following learning outcomes:

- To demonstrate an understanding of key aspects of the field of study and practice, exemplified via:

  – a grasp of issues and critical insight into professional pedagogic practice;

  – an understanding of learning processes and the various contexts of learning;

  – an ability to be creative, independent and successful in the application of knowledge in teaching and other work with a range of learners and colleagues.

- To demonstrate the ability to explore, analyse, discuss and reflect on teaching and learning, exemplified via:

  - a capacity to analyse teaching and learning within immediate and wider professional contexts;

  - an ability to draw from and apply appropriate intellectual perspectives to teaching and learning;

  - an understanding and analysis of values underpinning or influencing pedagogic approaches.

Following previous research during my EdD programme that looked to consider student teachers' reasons for selecting their ITE route, their enthusiasm for both Master's modules was notable. I found it comparatively straightforward to understand that the Specialism module's action research project could logically be seen to have potential impact and provide visible links between university work and practice in both ITE, subsequent NQT and beyond. Further reflection piqued my curiosity in finding what value the Learning and Teaching module – a distinctive interpretation of Master's level work, where the student teachers are positioned as being consumers of research – offers to the student teachers who complete it.

A Scottish-qualified primary teacher, I have been a teacher educator for over 14 years, all of them on this particular Primary PGCE. I was part of the original team that developed the Learning and Teaching module in 2007. I thus have access to the programme, both in terms of an ability to access the faculty and PGCE programme and also for access to documentation and potential participants. In addition, I can bring contextual insight to the research and am in a position to offer illumination to data as I have 'pre-understandings' (Brannick and Coglan, 2007 p68) of the Learning and Teaching module and the requirements it makes of its students. Furthermore, my position offers opportunity for my study to have an impact on both my own practice and that of other lecturers. While I ascribe positives to my 'insider' role, I am mindful of the criticisms that can be levelled at this, which will be addressed in my methodology, findings and analysis, and in my conclusion.

Master's level study offers student teachers the opportunity to develop their thinking about practice and what might be effective as evidenced in literature and research. To be successful, they need to demonstrate understanding of what research is, its limitations, and possible implications for teaching and learning. Integral to study at this level is demonstration of personal interpretation through critical reflection and analysis of both literature and research in synthesis with their practice. In this way, they offer evidence of knowledge and understanding and I believe that through this they develop their ideas of their own teacher persona and learn to recognise the field as being complex and challenging. Work at this level can offer student teachers confidence to understand the antecedents for practice and, in turn, encourage them to engage in professional dialogue.

1.3   Conclusion

My study therefore responds to the need to understand what is effective for student teacher learning in ITE. The Master's element offers one particular aspect of ITE to research. The realisation of Master's level study that is considered here offers potential for uncovering and sharing how the distinctive learning experience has been perceived. This study therefore has potential in contributing to the literature and research in ITE with possibilities for comparison and impact on ITE Master's programmes both in England and internationally. It explores one particular Master's module, part of a university-led Primary PGCE in England. The research question is:

What is the contribution of a research-informed Master's module to initial teacher education?

Chapter 2   Literature Review

In this chapter, I first describe the themes that I pursued in my search for literature. I then share the reasons for my selection for the review. I finally discuss and analyse the research and literature that I considered would offer a sound basis for interrogating my research question.

2.1   Conceptual framework

The field of teacher education offers a wide-ranging literature and research base. To develop my approach to the literature review, I considered a range of key ideas that I had devised in my early planning for the study and developed a conceptual framework of possible themes. I started with those shown in red below. My working title was: 'Is becoming research-informed through Master's level study valuable to Primary PGCE student teachers' learning and practice?' Further reading, discussion with my supervisor and reflection on the research question led me to identify further concepts and are shown in black.

Figure 1.   Conceptual framework for literature review
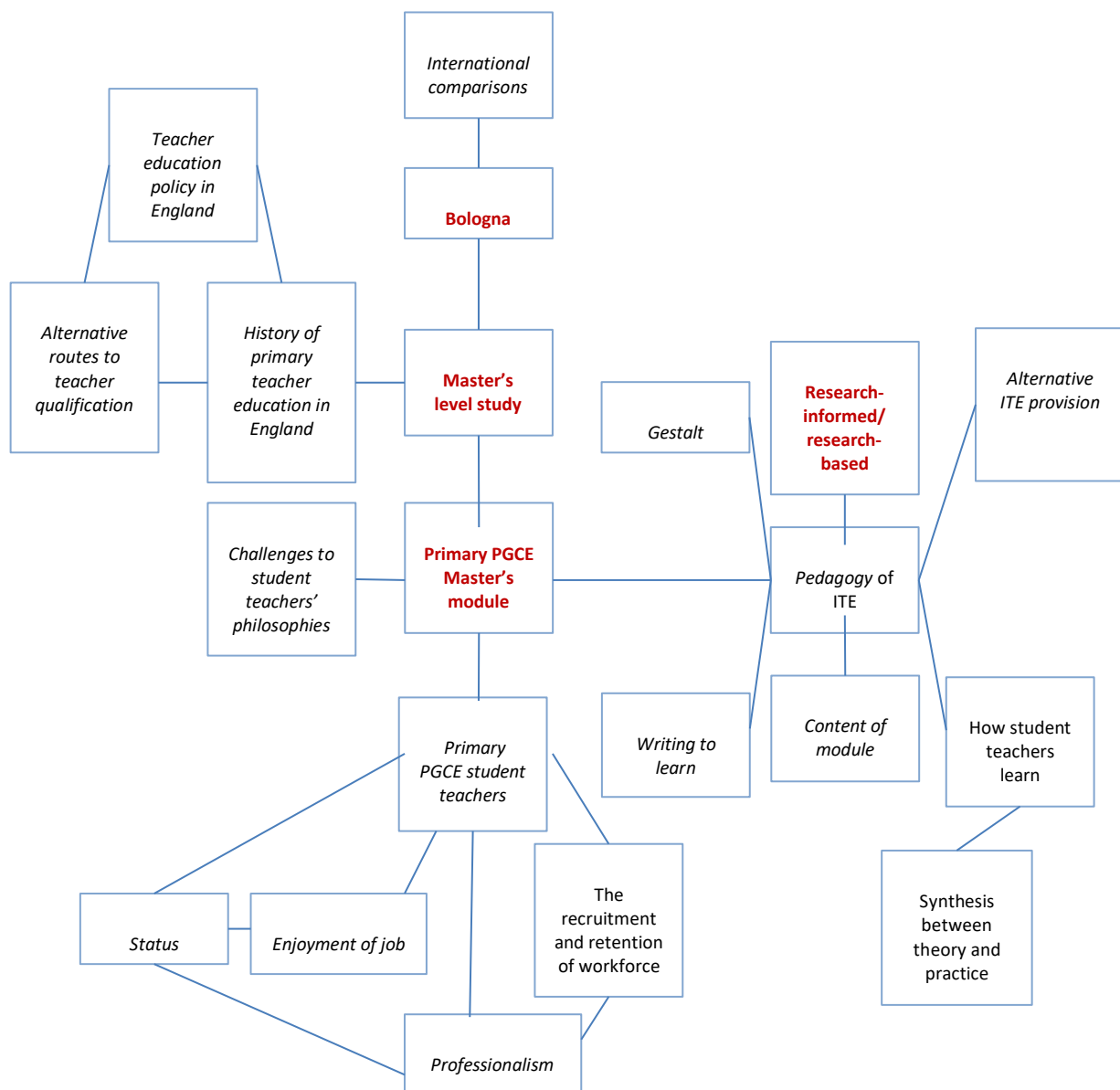
The research question asks: 'What is the contribution of a research-informed Master's module to initial teacher education?' This is explored through the perspectives of student teachers, lecturers, and teachers that completed the course in 2018 and are in their first posts.

2.2   Strategy for literature review

Drawing on the research question, I identified key words and phrases and alternative expressions of concepts e.g. primary and elementary. These were moderated through the process as new themes for consideration arose from reading of the literature e.g. research, research-informed, evidence-based. These terms were used in a variety of combinations in my literature search.

In order to ensure that I made as comprehensive a search as possible with the resources available, I used a multi-faceted approach. In the first instance, I used UCL Explore, with a ten-year range to limit quantity and focus on more recent work. Where literature alerted me to pertinent earlier citations, I used links to them. If terminology indicated a concept that had seminal roots such as cognitive-dissonance, I followed citations to original texts and associated authors e.g. Festinger's (1957) work. On a number of occasions, I had to seek access permission from cited authors. I used electronic databases specific to education in the same way. In addition, I set up weekly email alerts from databases and Google Scholar to keep abreast of the most recent publications.

I sourced some articles through literature and research suggested by earlier doctoral work and a university seminar series drawing on a range of expertise in ITE. I explored their presenters' works, as well as those suggested by attending conferences. My supervisors and other colleagues offered additional insight and guidance. I used Zotero to compile references.

I identified the following questions through my reading of the literature:

1.   What is meant by being research-informed, and is this important for student teachers?

The Learning and Teaching module clearly states being research-informed for its student teachers. I wanted to explore how the literature defined this term and why practice informed by research might be important.

2.   What has been found to be effective initial teacher education both for student teachers and for the teachers they become?

The literature provided an opportunity to explore what has been evidenced as having a positive impact on student teacher learning. This underpins discussion and evaluation of what the Learning and Teaching module offers.

3.   What are the challenges in initial teacher education that might be met by the sort of learning undertaken by student teachers completing the Learning and Teaching module?

I wanted to consider what has been found to impact initial teacher education negatively. This would offer the opportunity to consider whether there was potential for the Learning and Teaching module to offer mitigation.

4. What are the experiences of student teachers undertaking Master's Level study?

Programmes of ITE both in the UK and internationally include Master's level study. An exploration of the experiences of this would enable comparison and contrast with perceptions of the value of the Learning and Teaching module.

My reading of literature and research in the field provided evidence about issues and challenges for primary ITE both in England and internationally. A range of sometimes conflicting views emerged in describing what student primary teachers need in their ITE. Literature also offered interesting considerations for the potential of research engagement and Master's level study in addressing challenges in ITE. The following questions frame my exploration of the literature:

1. What are the key challenges for student teacher learning?

2. What do student teachers need to know, understand and be able to do?

3. What is the place of research in initial teacher education?

4. Why is Master's level study important for the professionalisation of primary teaching?

2.3 Challenges for student teacher learning

This section explores the challenges that student teachers face in their study to be teachers. It considers the impact of beliefs on their university learning and practice in school, and also as they transition to being new teachers. Another issue discussed is the difficulty that ITE faces in enabling learning at university to have currency in practice. Strategies that might address these issues are also considered.

Student teacher beliefs

The literature revealed a number of issues for student teacher learning. Student teachers come to ITE with some 15 years' experience of being taught, which gives them an 'apprenticeship of observation' (Lortie, 1975; 2002). Calderhead and Robson (1991) consider that this is problematic for ITE because student teachers find it challenging to look critically upon their personal learning experiences in order to re-conceptualise what really might be effective teaching. They may justifiably regard their own education as having been successful; they passed the requisite exams needed to assume their place as student teachers. That being so, their personal success could confer student teachers' own past teachers and experience of learning as being worthy of emulation.

As a consequence, student teachers may come to their learning with beliefs about teaching that they may well have re-captioned as being knowledge. Dewey (1933) recognises and explains how unconscious thoughts become beliefs and in turn supposed knowledge: 'From obscure sources and by unnoticed channels they insinuate themselves into acceptance and become unconsciously a part of our mental furniture' (p4). There is potential for this knowledge to be misguided and yet challenging to alter and this is where the issue for ITE arises.

This phenomenon has been subject to extensive comment, study and research. Conclusions from the Developing Expertise of Beginning Teachers (DEBT) project evidenced for Burn et al (2015) the 'powerful influence' (p34) of the preconceptions that student teachers bring to their learning. Preconceptions draw on memories and experiences of favourite and effective teachers and other teaching roles they may have had. Ell et al's (2017) research demonstrated that student beliefs were a key challenge, impacting the potential effectiveness of ITE. Their work, using a methodology of mapping to evidence influences on student teachers' learning, discovered that beliefs and values had been highly influential on ideas about learning and teaching. Beliefs therefore can present student teachers with a fixed notion of 'what works' based on 'what worked for me'.

Pajares (1992) considers that teacher identity is contingent on understanding and recognising beliefs and how they influence their judgements on teaching and learning. Of prime importance, he asserts, is the need to make a clear distinction between beliefs and knowledge and that necessitates attention to assist student teachers in recognising the differences between the two. Therefore, ITE might need to offer student teachers insight into ways in which these beliefs and values, based on their personal histories in education, might need to be interrogated and possibly altered. This need for active recognition is borne out by the implications from a variety of studies (Calderhead and Robson, 2001; Giradet, 2017; Pedersen and Thomas, 2003; Pellikka et al, 2018) that show that personal histories of education have far-reaching consequences for student teacher development. Pederson and Thomas (2003) describe the phenomenon using the metaphor of a house: 'students come to our classes to build a house, and they enter the classroom having already framed, roofed, and finished their house, we can influence the color scheme and the floor coverings – but can do little to change their prebuilt house'. Both Pellikka et al's and Pederson and Thompson's studies were contextually different from mine in both country and student teacher group. Despite this, they both add relevant voices to the notion that ITE needs to actively challenge and acknowledge beliefs about teachers and teaching with which student teachers come to ITE.

Another area for consideration and exploration has been how new ideas and beliefs are carried from university into careers. For teachers in the classroom, beliefs and the degree to which they are held or 'hindered' (Fives and Buehl, 2016, p118) have been strongly evidenced as being of high importance for the satisfaction that they have in their role and, further, might impact their retention in the profession.

Voss and Kunter's (2019) longitudinal study of 163 novice teachers in Germany looked specifically at the degree to which constructivist theories of learning (the

pedagogical foundation for their ITE) were eroded once they advanced in their careers. The researchers viewed this as contrasting with the more behaviourist transmission beliefs about learning with which they theorised that student teachers may have come to their ITE. Although small effect sizes were reported, those teachers that reverted to what were assumed to be more transmission-type pedagogies were not found to turn again to constructivist-driven teaching once in their own classrooms, even with additional time and experience. Considering other studies that asserted the importance of clear recognition and interrogation of beliefs as a planned part of the content of ITE, it may be that a heightened awareness of the beliefs with which they arrived at ITE might have improved the outcomes. In addition, the results suggest the importance of offering new teachers the means to respond to what has been called 'reality shock' (Veenman, 1984) to counter the continued influence of beliefs.

Conversely, Martell (2014), in a study of newly qualified history teachers, found that despite the transmission-style pedagogies that teachers found themselves using initially in classroom management, the underlying constructivist beliefs developed during their ITE remained intact. One possible explanation for this could be that they were teachers whose own experiences of education had been of a constructivist nature and therefore they were in fact falling back on those beliefs.

In addition to the beliefs and knowledge that their own education has presented about teaching and learning, the familiarity of this context can exacerbate and intensify their impact when student teachers arrive in classrooms during practice in ITE. Loughran (2006) points out that it is this that can create conditions where an affective (Pajares, 1992) response can be fostered by the strong influence from past images and experiences. The classroom context contrasts with the new surroundings of other disciplines – for example, the operating theatre for student doctors, or the courts of law for student lawyers. There, students have fewer experiential beliefs that have taken up position as this 'mental furniture' – beliefs that have become knowledge – and thus they are less numerous and difficult to challenge. This idea is foreshadowed in the work of Francis Bacon (Dewey, 1933; Klein, 2016). He uses a concept of idols to describe the false notions of belief that can impede new learning. He underlines the need to use new learning to interrogate the old. This accords with the philosopher John Locke's (1689) recognition of how ideas 'insinuated in their unwary as well as unbiased understandings and fastened by degrees are at last fixed there and riveted by long custom… beyond all possibility of being pulled out again'. If the 'apprenticeship of observation' (Locke, 1689, in Cranston, 1985, p413) has indeed led to these fixed ideas then it must be important for ITE programmes to consider how these might be 'pulled out'.

One means of meeting the challenge that beliefs present is through epistemic cognition or metacognition. This requires student teachers to have a self-awareness about their beliefs regarding teaching and learning – what they are and how they came to hold them. Recognition of this is argued as being important, a 'goal' (Lunn Brownlee et al, 2016, p245) for inclusion in ITE. To offer opportunity for this, student teachers need to experience either 'doubt' or 'conflict' (Bendixen, 2002). This can be recognised in the concept of cognitive-dissonance (Festinger, 1957). Lunn Brownlee

et al (2016) suggest that, in order to precipitate this, it is important for student teachers to have experience and knowledge of conflicting theoretical perspectives and, in this way, igniting higher order thinking about learning process – or metacognition.

The challenge of beliefs and their potential influence beyond ITE underpins the need to create opportunities to shake beliefs, offer new possibilities and to explore, accept and become comfortable with the resultant cognitive dissonance. This might be a particular pedagogical consideration for ITE. The degree to which the Learning and Teaching module is perceived as offering student teachers the opportunity to reflect upon and interrogate their 'beliefs' about effective teaching and learning is thus an area for exploration.

Theory-practice dichotomy

The influence of beliefs contributes to a further issue that is described in the literature: a fracture that seems to exist between the learning done in university-based ITE and how it is realised when student teachers go into school for practice. Resonating with the reality shock described above (Veenman, 1984), a disconnect can occur between completion of ITE and when student teachers go on to their NQT roles, post-qualification. While my argument below (2.4) rejects a notion of student teachers blindly applying what has been learned at university to school practice, the often-cited Zeichner and Tabachnick (1981) describe a phenomenon of this learning becoming 'washed out'. This is where, no matter what ITE has effected in changing or introducing new ideas about teaching and learning, it has been shown that the realities of classroom life can cause them to revert to their initial models of 'being a teacher'. This can also occur when new teachers fall into line with school practice and culture.

Fletcher and Luft's (2011) longitudinal study of secondary science teachers found that despite the contemporary learning and teaching pedagogies espoused and explored during ITE, when assimilating into the actual roles as teachers, they tended to fall into line 'when faced with a negative or static school culture, little support from school leadership for implementing reform-based strategies, and the normal feeling of being overwhelmed with teaching that most beginning teachers feel' (Fletcher and Luft, 2011, p33). Similarly, in an Irish context, Cahill et al (2019) focused specifically on changing perceptions of inclusion. They found that, having transitioned from their ITE into posts at school, new teachers viewed it with increasing negativity. Whilst inclusion is only one aspect of teaching, this might be considered to be one manifestation of the gap and the potential for its negative impact on teaching following the completion of ITE.

A perception and experience of a dichotomy has been pervasive, with international literature further documenting examples (e.g. Falkenberg, 2010; Flores, 2016; Van Nuland, 2011; Korthagen, 2010). Moon (2016), in reviewing the role of universities in teacher education across multiple countries, found that where universities have a prime role in ITE, the theory - practice divide appears to have been reinforced in both the moves between university and school as student teachers, and then between ITE

and school as qualified teachers. For example, in an Australian context, Allen (2009) found that, although student teachers were found to recognise theory as having importance in pre-service teacher education, as teachers they seemed to valorise the practice of existing pedagogies in school and of their new teacher colleagues. Again, they reported not recognising what they had explored at university as being implemented in the realities of classrooms and viewed themselves as hampered by lack of personal agency and support in the school contexts. A further study in Australia by Allen and Wright (2014) suggested that student teachers themselves considered that assessment based in practice would better mitigate a perceived theory-practice divide. This could be positive affirmation for more of the 'action research' type assessments that are features in many Master's modules. For example, in Finland, where a piece of action research is integral to ITE for primary teachers, student teachers have been able to identity this as being a clear opportunity for reflection, critical thinking and research not being a matter of 'black or white' (Aspfors and Eklund, 2017, p408).

In other international contexts, similar strategies are drawn on. In Hong Kong, collaborative action research is a recognised part of pedagogy for continuing professional development of novice teachers (Zhang, 2019). This is seen as promoting communities of practice that might be supportive of innovative practice implementation (Tam, 2015). Collegiality and sharing offer support for experimentation and change to beliefs and practice. Whilst developing these 'networked professionals' (Zhang, 2019, p105) might require time and commitment that are more challenging to realise in ITE programmes, the learning and developing process that precedes it – collaborative learning study and online communities of practice, seen as developing reflection – might offer possibilities for pedagogical consideration.

In the USA, initiatives such as the Professional Development Schools (PDS) have been proposed as offering stronger partnerships with potential for bridging the perceived divide between university and school learning (Allsopp et al, 2006; Levine, 1997; Robinson and Darling-Hammond, 1994, 2010). They were designed to offer a model for synthesising the work undertaken at university and in school. Allsopp et al (2006) researched one such model's perceived efficacy in Florida. University tutors were connected to specific schools to gain an insight into the reality of practice and, given their appropriate expertise, develop partnership work alongside both student teachers and teachers in schools. This policy was evaluated positively. This is a similar strategy to another well-regarded programme, the Master of Education in Teaching (MET) programme of ITE at the University of Hawaii (Freese, 2005 in Hoban, (Ed), 2005). In subsequent work, again in the USA, Rigelman et al (2012) studied the aligning of university and schools with a synthesis being developed through use of collaborative learning communities. This was shown to diminish the differences experienced between the two sites of learning. Some of the university teaching was done in schools and university tutors were able to guide student practice further. Although student teachers were found to recognise where links across school experiences and university work, again, there seems to be a necessity for what has been taught in university to be easily realised in school: 'We made a concerted effort to develop partnerships with schools that shared our vision of effective practice'

(p981). I wonder if this might lead to student teachers being presented with the idea that university learning can be readily attained in practice? This might be successful in the contexts that they are being managed by the programme, but might present them with an uncomplicated view of teaching and learning that reinforces an idea of a 'right' way to do things. When they move to schools and experiences beyond this managed context, they may not be equipped to know what to do when those 'right' things seem 'wrong'. It might also serve to valorise university learning and imply a linear theory to practice view of learning to teach.

Falkenberg (2010) in the Canadian context describes strategies that have seen success in offering mitigation of the theory-practice dichotomy. First, issues arising from practice are explored and used for assignments as above, rather akin to Dewey's (2008) promotion of practice schools for observation and problematisation. To a degree, mirroring the PDS model, careful selection of schools for practice is made with the intention of maximising the opportunity for seeing pedagogies unpacked at university unfolding and the school becomes a site of new learning rather than for applied learning. Additionally, it is scaffolded by a very clear tripartite of school, university and student teacher who work together to learn from practice.

The Oxford Internship Scheme (OIS) at the University of Oxford offers a clinical practice model with potential for integrating theory and practice across the perceived 'gap'. It integrates both experiences from school-based practice with research engagement through 'clinical reasoning' thus promoting 'research-informed clinical practice' (Burn and Mutton, 2015, p218). Here, student teachers are offered a view of teaching and learning that proposes hypothesis testing, application of judgement and 'not the routinised application of learned repertoires' (p221). This reinforces a view that theory cannot be blindly applied to school practice but rather promotes the student teachers' agency. The model therefore enables student teachers to be alive to the complexities of teaching and learning and to understand that their own expertise is central to managing the use of theory in their practice

Similarly, in Scotland, the Glasgow West Teacher Project used a 'clinical practice model' to enhance the time student teachers spent in school through using 'collaborative enquiry into authentic pedagogical problems' Conroy et al (2010, p564), with joint action research being conducted by university tutors and school colleagues. In this way, university staff were enabled to develop in-depth knowledge about the schools. In a similar strategy to the Canadian approach (Falkenburg, 2010) this involved tripartite (teacher, university tutor and student teachers), collaborative observations of lessons. Whilst some challenges were encountered, as would be expected on any new initiative, evidence from both Oxford and Glasgow suggests that the clinical practice model could well offer student teachers the opportunity for critical reflection and explicit ITE to practise synthesis that they would take with them to their classes once qualified. Moreover, one can see how the benefits for lecturers in ITE might well come in the form of maintaining real insight into the evolving landscape of schools and also provide the opportunity for building close partnerships.

McIntyre (2009) explains that the theoretical rationale for the efficacy of the OIS rejects the notion of either school or university knowledge being valorised over the

other, with staff in both contexts recognised as having different but equal expertise. Instead of suggesting evidence of best practice, it offers student teachers knowledge and understanding, drawing on a diversity of sources to form ideas to suggest what effective practice might be. These ideas need to account for a recognition that consensus might well be absent. Reciprocal critical analysis between sites of learning is central to how student teachers develop their ideas about effective teaching and learning. This process is described as 'practical theorising' (McIntyre, 1993) drawing on the work of Alexander (1984).

The rationale also recognises the 'well-established pre-conceptions' (McIntyre, 1995, p370) with which student teachers come to their teacher education and the need for ITE to help student teachers to recognise the importance of looking critically at their own assumptions as part of their development. This practical theorising seems to offer student teachers a means of developing self-efficacy (Bandura, 1977). Criticism can be levelled at this: the centralising of the student teacher in the process of learning through practical theorising is seen as problematic, with learning limited by an individual's own novice theorising and learning rather than being drawn from the potential of their professional relationships and social contexts. It is argued that this results in student teachers being passively influenced by schools rather than being active participants who might in fact exert some influence on practice (Ellis, 2010). This seems to me a rather narrow interpretation of the potential of McIntyre's 'practical theorising' which, I would suggest, envisions a far more proactive student teacher than Ellis appears to consider. Their experience and theorising are clearly being mediated by the inclusion of the input from both school mentors and university tutors. Here again, Ellis (ibid) offers concern, this time, over the ability of student teachers to voice their own thoughts about practice, concerned with critiquing either experienced teacher or university tutors and, further, that this process be over-burdensome for student teachers (Hirst, 1980). What, therefore, seems to be important is to balance student teacher perceptions of needing to acquiesce to either school or university proposals by finding a means of negotiating their own way. As they continue their careers as practising teachers in school, they will no doubt encounter similar challenges of needing to mediate between imposed policy, teachers' standards and their own practice. This skill could be vital in maintaining their self-efficacy (ibid) and ability to use their autonomy.

Further efforts to bridge the gap between ITE and school practice were explored by Allen (2009). An Australian programme of ITE, the Business of Learning Management (BLM), was explicitly described as offering a potential solution through a redesign of the previous BEd programme. It places specific focus on application of theory to practice with schools aligning the teaching and learning with what was suggested by the programme. New teachers were asked to offer insights into the degree to which the programme was successful. The findings point to challenges being found, with participants in the study rejecting university learning: 'conforming to the status quo' (p653) once they were in their employee-school contexts and falling into line with what new colleagues and school practices suggested. This might well lead to the lack of satisfaction and impact on retention that Fives and Buehl (2016) found in their research, as discussed earlier. It might be wondered if this lends further weight to the argument that linear application of theory to practice is not a satisfactory pedagogy

for ITE. It might be that the BLM programme requires further modification in broadening out and problematising practice in a similar way to the clinical practice model (Burn and Mutton, 2015; Conroy et al, 2010), the practical theorising (MacIntyre, 1993), so that it offers student teachers and, subsequently, teachers confidence and autonomy in trying out what might work rather than the potential dissatisfaction of expecting an unproblematic theory-to-practice application. Where this is found to be ineffective, the danger is that teachers have only their previously held knowledge and values, discussed earlier as 'beliefs', to fall back on or are obliged to adopt the practice of colleagues in school.

In researching the Irish context, McGarr et al (2017) sought to define and evaluate the theory-practice divide as perceived by student teachers. They examined this through ascertaining student teachers' willingness to accept the wisdom of teacher educators and a body of associated knowledge. This seems to be at odds with what I think might be at the heart of being research-informed (2.4). If this is the way that theory and practice is being conceptualised for these student teachers, this may make the proposed gap increasingly accepted and visible.

Master's level study and the theory-practice dichotomy

The impact of a schism between ITE and school has been considered in the English context with an explicit focus on possible synthesis between Master's level work and subsequent practice. Knight's (2015) work with Primary PGCE student teachers in Nottingham found that not only did student teachers value their Master's level study but that their appreciation for 'university' grew once they assumed roles in schools.

In contrast, in an earlier study at UCL, IoE of Secondary PGCE student teachers, Brooks et al (2012) examined the perceptions of one aspect of their ITE, their Master's level engagement. Student teachers did not report that inclusion of the Master's element was significant when they had made decisions about where to undertake their PGCE. Finding a mixed picture once the student realised roles as teachers, there was support and rejection alike for the value that their Master's had offered them. Some recognised 'the other voices' (p298) that might be reflected upon and a possibility of moving away from being a 'lone ranger'. Others expressed a perception of a clear divide between what was undertaken for Master's study and its relevance to schools. This reflected similar findings to those of Jackson (2008) where, despite student teachers initially considering that Master's study would enhance theory-practice links for them, this expectation diminished during the programme.

Again, looking specifically at Master's study in addressing the divide between practice and theory further afield, Maaranen and Krokfor's (2010) small study explored the reflection and potential learning initiated by the actual writing of Master's theses by ITE student teachers in Finland. This was perceived as being worthwhile and enhanced by professional dialogue with peers. They also found their ability to connect theory and practice was enhanced. Their Master's theses offered a different process of learning than that undertaken in the Learning and Teaching module as they were focused on a direct exploration of a research question, self-generated, and concentrated on their practice using action research. However, it does offer

ratification for Master's level work being valued. This is also seen in Kowalczuk-Walędziak et al's (2019) study that considered in-service teachers' Master's thesis-writing across five European countries. They found that this enabled autonomous response to current issues arising in their classroom practice. There was, however, variety between countries in terms of the potential that the teachers felt that their work would have in the longer term. This is a similar concern to whether work at this level can have importance for ITE if it only has a 'here and now' impact. They found that this concern appeared to be more marked in England than in other countries.

Contrasting with proposals for addressing the gap between theory and practice by lessening the potential difference between pedagogies espoused in university and school is Kim and Cho's (2014) study of 533 new teachers in the USA. They found that teachers with a higher sense of self-efficacy felt better able to manage a 'reality shock' (Vreeland, 1984). Potential for developing this in student teachers certainly seems to be more practically manageable for an ITE programme to facilitate in response to the phenomenon. In any country where schools and practice are diverse, as I would argue England is, over-simplification of the realities of school might be counter-productive in addressing longer-term satisfaction and consequent retention in the profession.

Literature has revealed common challenges across different countries and contexts: the influence of beliefs, a dichotomy between theory and practice, and the consequences of those to impact student teachers' learning in ITE and as they transition into schools as qualified teachers. For this study, interest lies in whether the Learning and Teaching module is perceived as offering any answer to them.

2.4 What student teachers need to know, understand and be able to do

> In this section, I explore the literature in order to suggest what an effective teacher must know and be able to do. As Cochran-Smith points out, 'Very different assumptions about what teachers need to know lead to very different ideas about how to improve teacher preparation' (2010, p15). I examine differences between conceptualising teaching as being a craft and requiring training in *how* to teach as opposed to requiring education so student teachers will come to understand ways that one *might teach* with regard for self-efficacy, autonomy, being research-informed, reflective and recognising the complexity of the teaching role.

Conceptions about the routes to becoming a teacher

International comparison of children's attainment has meant that Finland's ITE in particular has been subject to scrutiny as this is seen as influencing children's outcomes. With Finland as an example, the McKinsey report of 2007 asserted that 'the main driver of variation in student learning in school is quality of teacher' (Barber and Mourshed, 2007, p12). This needs to be accepted with a degree of caution, as there are clear questions regarding how we measure student learning: it would be unwise to blindly consider that 'success' is necessarily realised by performance in exams and tests. Although not fully ascribing to the McKinsey (ibid) assertion, it seems obvious that we want our children to maximise their potential, and that there

might logically be a relationship between the quality of those who are teaching them and their progress – whatever the measure of that might be.

What then makes a 'good' primary teacher? This in itself is not a straightforward question, and, in trying to answer it, positions one as having individual ideologies. Indeed, any notion of a 'good' teacher can be viewed as being shaped by apparent political leaning (Furlong, 2008; Maguire, 2014) towards an increase in school-based training. It could be argued that this would influence the sort of knowledge that student teachers are more likely to encounter, the implied notion of teaching as simply 'craft' as described by the then Secretary of State for Education, Michael Gove (2010); one that can be apprenticed and learnt through watching teachers at work and through implementation of evidence-*based* knowledge (see below). The apprenticeship view of how student teachers learn has had an impact of the way programmes for student teachers are titled. I have used the term Initial Teacher Education (ITE) thus far, but there is also the use of the term Initial Teacher Training (ITT) in literature and policy. This might seem to be a matter of semantics, but literature suggests that it is an important consideration in conceptualising optimum experiences for student teachers. Cochran-Smith (2010, p16) points out:

> …. in the use of language of teacher training, many teacher educators and educational researchers regard that term [Initial Teacher Training] as somewhat offensive, implying a narrow kind of behavior shaping or compliance with pre-established rules for demonstrating rote learning rather than a more expansive educational process that focuses on growth and development in the profession. Eschewing this narrow conception, most of those inside the profession now use the language of teacher education, professional development, becoming lifelong learners, and participating in learning communities. (2010, p16)

In 2015, reform of ITE programmes was demanded by the Welsh government. It drew on the BERA-RSA recommendations and the work of John Furlong (2015) in order to offer accreditation for those that demonstrated that they had moved their provision from 'training' to 'education' (Daly at al, 2020). It is evident therefore that these terms are viewed as offering different models of ITE.

Apprenticeship approach

ITT can be seen to have greater parity with the current learning opportunities that might be afforded those student teachers who are embarking on a school-led programme and what can be described as having a tendency towards an 'apprenticeship' approach. This is argued as having the potential to reduce student teacher learning to a point where:

> experience in schools simply becomes an opportunity to receive or become acculturated to the existing practices of the setting with an emphasis on the reproduction of routinised behaviours and the development of bureaucratic virtues such as compliance and the collection of evidence' (Ellis), 2010, p20).

Similarly, Furlong suggests, 'the neophytes will gradually come to emulate their colleagues more and more successfully' (Furlong, 2010, p16). In this way, the actual knowledge and ways in which it is conceived is viewed as being a fixed entity, able to be transmitted unmediated from one person to another. The student teacher becoming skilled in a craft is suggestive of there being a right way to teach. That is not to suggest that there might not be wrong ways, but learning is highly complex and, in my view, cannot be reduced to a tick box of strategies that can be passed for effective teaching and learning.

Marshall (2014) proposes that English government emphasis and policy change has led to the 'craftsman' view of the role of a teacher. This is one that can be learnt through an apprenticeship model. He argues that this is misguided as it constrains the possibility for student teachers to engage with 'powerful knowledge'. This, he believes, can best be developed through education (as opposed to training) at universities, as it is this that will enable new teachers to develop 'commitment, understanding and creativity' (p265). Marshall (ibid) is concerned that moves that appear to herald the marginalisation of university ITE and the resultant lack of student teacher engagement with educational theory make it more difficult for them to avoid the 'adoption of blind routines' (p269). His view of programmes for student teachers is that they should result in teachers that 'are active agents in the formation of educational standards, rather than the deliverers of pre-defined managerial objectives' (p269). This does not seem to valorise a singular wisdom but rather ascribes value to ITE that promotes independence of thought and necessitates an understanding of pedagogical possibilities which resonates with the ideal that 'there is no one particular way to teach effectively, but every teacher finds his or her own path in this regard' (Säntti and Kauko, 2019, p89)

Orchard and Winch (2015) offer support for this with assertions that resonate with being research-informed. They argue that it is the autonomous and creative engagement with possibilities within particular contexts, that draws student teachers to the teacher role and, that this autonomy demands a particular sort of knowledge, beyond that of basic subject content, to effectively underpin this engagement. This suggests to me that ITE needs to develop student teachers who are able to confidently draw critically upon research-informed knowledge and understanding in order to become effective, autonomous, professional teachers, aware of the peculiarities and possibilities of their unique contexts. In this way, they will be able to make decisions about teaching and learning that are responsive to their own classrooms, informed by a knowledge of a range of possibilities for teaching effectively. Teachers skilled thus align with a notion of being able to 'utilise their agency and be alive to the knowledge and assumptions that drive their practice' (Le Fevre et al, 2016, p30) which in turn enables potential for effective reflection and evaluation as to their efficacy. Further reflection on this, as well as McIntyre' s (1993) concept of 'practical theorising', leads me to find the term autonomous unsatisfactory in adequately describing how student teachers need to feel. Being autonomous I argue, does not necessarily give one confidence. Moreover, the right to operate with independence does not offer a sense of security about one's decisions about practice. Looking anew to Kim and Cho's (2014) study that found that a sense of self-efficacy enabled teachers to meet the challenges of practice, led me

to consider this term as potentially offering an aspiration for ITE. Bandura (1986) defines self-efficacy as, 'people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances.' (p391).

I do not negate the importance of autonomy as it brings with it potential for teachers to experience freedom (Deci and Ryan, 2000) and to 'choose goals, teaching methods, and educational strategies that are concordant with the teacher's personal educational beliefs and values.' (Skaalvik and Sklaalvic, 2014, p69). What I would argue however, is that this freedom might be welcome or unwelcome dependent on a teacher's view of their own self- efficacy. Freedom might for some be burdensome and challenging. With choice, comes responsibility that some might find unwelcome without self-efficacy and a positive self-perception of being able to teach effectively. This view might seem to contrast with the recent publication of the Core Content Framework for ITE (DfE, 2019) that describes what student teachers should know and be able to do in relation to the Teachers' Standards (DfE, 2013) as this suggests a lack of freedom and thus autonomy. Successful ITE, in my opinion must engender self-efficacy in its student teachers.

Implications for ITE

As stated at the outset of this section, proposals regarding what teachers should know are important in considering the sorts of teacher preparation that they will need. Cochran-Smith (2010, p15–16) sets out three ostensibly distinctive ideas about this.

1. A knowledge base – formal knowledge, generally though university study, mediated through theoretical understanding.

2. Practical knowledge – learning 'at the chalk face', with reflection upon practice and guidance from more experienced teachers.

3. Problematised knowledge – the classroom is seen as a place both for reflection upon what is unfolding in their own context, but also as a place for considering the theoretical pedagogies generated by others.

I believe that these three are not mutually exclusive but that a combination of the first and second can be subsumed by the last. The classroom is a context for offering student teachers a place for knowledge to be considered, generated and moulded iteratively. Cochran-Smith (2010) seems to support this saying that teachers' work should be framed as 'fundamentally interpretative, political and theoretical as well as strategic, practical and local' (p18). In pursuit of this, student teachers might need to be offered ITE that enables them to be cognisant of a theoretical and research-informed knowledge base as well as practical experience. Simultaneously, they need to be able to use both in problematisation and, through careful reflection, consequently enabled to have a sense of self-efficacy over their practice. This resonates with a 'curiosity-led' (Daly et al, 2020, p231) stance on teaching and learning that recognises its complexity. It seems, therefore, that student teachers need to be aware of the malleability of knowledge and the importance of revisiting it

in the light of unfolding experience. This suggests that ITE needs to equip student teachers with tools to do so. One such tool is reflection.

Reflection

Reflection as a necessary feature of ITE is seen as being important in interrogating theory and practice and additionally might offer an answer to the issue of beliefs discussed above (2.3). The thinking that pushes student teachers from intuitive and impulsive use of beliefs and 'knowledge' is defined by Dewey (1933) as reflective thinking. He asserts that this sort of thinking requires training. In Dewey's eyes, reflection is aimed at dealing with a confusing or problematic situation. It is an 'active, persistent, and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it, and the further conclusions to which it tends' (Dewey, 1933, p9). Schön (1987) offers some distinction in defining reflection, by proposing both reflection on action and reflection in action. Eraut (1995) offers a critique of this. He suggests that Schön's (1987) proposal is too narrow and that further definition is needed in order to draw in Dewey's ideas. He thus conceives of reflection on and in action but also, *for* action. No matter, reflection is considered important in realising different actions in the light of particular thinking.

Internationally, reflection is seen as an area for attention in ITE. Korthagen (2010) considers the potential for reflection to be superficial for student teachers in particular. This is because the affective – the feelings about practice – may lead them to seek quick and easy solutions. Korthagen believes that reflection needs to assist student teachers to move thinking from the potentially superficial 'action-oriented' – what to do or do better – (Schön, 1987) to 'meaning-oriented reflection… aimed at understanding the processes underlying teaching' (Hoekstra, 2007, p665). He states that using a model of core reflection can move student teachers towards this.

Korthagen (2005, p54) uses an onion model (Figure 2) to conceptualise the role of reflection in ITE. He proposes this as a means of optimising the transformative powers of reflection by use of self-knowledge of personal qualities and ideals and to acknowledge them in bringing an emotional response to it.
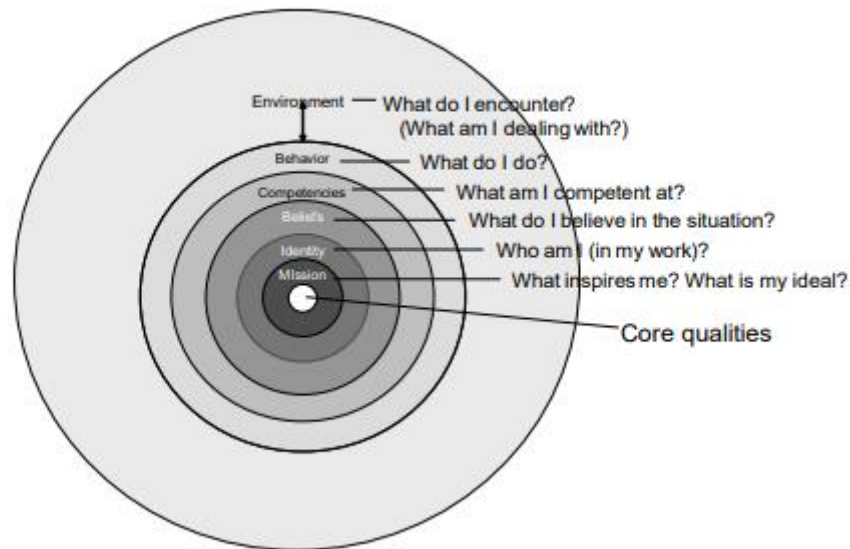
This model assists in conceptualising the content of reflection, having a clear focus on student teachers, developing 'core qualities' (Korthagen, 2005, p59), having agency in their consideration and interpretation of the teaching and learning process. It speaks to active engagement, of self-knowledge and of a progressive structure for reflection. What it seems to omit is the consideration of how student teachers learn to realise this potential: the means by which they might become this reflective individual. What resources and views should they draw on? How might ITE assist student teachers not only drawing on the process of reflection but recognising it as having importance in both their learning as student teachers, and to be maintained as they move into classes? To this end, they would need consideration for a variety of sources of knowledge e.g. research evidence, lessons, policies and practices of the school, children, colleagues, etc. This could enable them to move from reflection that might be simply evaluative to the future focus of actually being increasingly effective as an educator (Eraut, 1995).

Towards this end, collective reflection offers additional scope. Van Woerkom (2004) asserts the need for reflection to be contextualised within what Lave and Wenger describes as 'communities of practice' (Lave and Wenger, 1994; Wenger, 1998). This is where group knowledge and understanding, as well as both inductive and deductive reasoning, can be used in challenging and moving practice forward. For student teachers, this opportunity to discuss, share and interrogate experiences has the potential to engender the act of reflection necessary in using a new lens view and to develop understanding of what *might* be effective in teaching and learning.

Not having substantive time in more than one school context or for coming together with peers that have contrasting experiences of school practice, might challenge student teachers to use reflection effectively through active participation in professional, collaborative dialogue. A reason for this could be that the power of group reflection can be argued to lie in both its similarity – the fact that they would

be student teachers with similar struggles and challenges – and in their differences – the fact that they could be coming to reflection with a diversity of experience. Literature, however, suggests that it is insufficient to simply reflect, even collectively! This is because it could be limited to practice evaluation. This view is proposed by Entwhistle (2008), who asserts the importance of synthesis between the understanding of educational theory and effective critical reflection on practice. He highlights that 'the problem with leaving reflection upon practice to untutored common sense is that not all homespun refection on the practical situation in the classroom is equally relevant, sufficiently cogent, or sensitive to interpersonal relationships' (p260).

Theory and research that has been widely criticised can still be seen in school and indeed are pervasive. Carter (2015) highlights the apparent longevity and influence of discredited 'theories' that schools and teachers continue to be guided by. The fact that some misguided pedagogy persists, seems indicative of teachers not offering their implementation any reflection, staying abreast with current research or actually really thinking about how they are being experienced in their own classrooms. It would follow, I argue, that effective teachers require the understanding of a wide range of theories and evidence in order to be able to make sound judgements for the context and education system in which they find themselves.

In order to realise the sort of teacher that literature suggests is effective, it would thus appear that a particular sort of reflection needs to be part of student teacher learning. This reflection needs to move their understanding beyond the individual, potentially superficial reaction to what is experienced in school, viewed simultaneously with both the backwards-facing lens of their own education and beliefs *and* the potential lens of the expected transmission of a perceived wisdom through expert to apprentice. It needs to acknowledge the affective and emotional move but go further. Reflection must move student teachers beyond contextually bound experiential learning; otherwise, the theory-practice 'gap' might simply be reinforced. Thus, I argue that, whilst reflection and collective reflection are important, to be effective, it must also draw upon theoretical and research knowledge and understanding in order to become research-informed. This can be developed by critical reflection where, to draw on Brookfield's words, 'it has two distinctive purposes. The first is to understand how considerations of power undergird, frame and distort so many educational processes and interactions.' The second is to 'question assumptions and practices that seem to make our teaching lives easier, but that actually end up working against our best long-term interests' (Brookfield, 2004, p5).

2.5 The place of research in initial teacher education

With research being integral to Master's level study, in the following section I consider the relationship between research and education and how ITE addresses and positions research for student teachers. I examine how research has come to prominence in the English context of education and how conceptions of its use impacts the ITE provision for them.

Research in English education

The place of research in the English context has been subject to debate and contention with political, and consequently policy, impact. During the 1990s, there were a series of reviews of the place of research in education following the New Labour Government's proposed commitment to what it termed 'evidence-informed' policy (Whitty, 2006). Whitty (2006) recognised this as being defined in alignment with a 'what works' agenda with commonalities resonating internationally.

Frequently referenced, in 1996, Professor David Hargreaves presented to the then Teacher Training Agency an argument for the place of research as a basis for teaching (Hargreaves, 1996, in Hammersley (Ed), 2007). This argument is seen as a precursor to the National Literacy Strategy (NLS) and National Numeracy Strategy (NNS) in England and assertions about teaching and learning being 'based on good practice' (Atkinson, 2000, p318). Hargreaves (ibid) viewed research as offering the profession greater efficacy and satisfaction. However, he viewed the realisation of this as problematic. Compared to other professions, in particular, medicine, he regarded education as a discipline that did not offer a snowballing approach in the use of research, in contrast to disciplines where 'research projects seek explicitly to build on earlier research by confirming or falsifying it, be extending or refining it, by replacing it with better evidence or theory.' (2007, p5). Additionally, he saw researchers in education as primarily university- and not classroom-based practitioners, perpetuating and potentially problematising a theory-practice gap. In consequence, for the target consumers – the teachers in school – he proposed that there was a lack of dissemination and thus classroom realisation. This gap between researchers and teachers he described as being the 'fatal flaw' (p6). Moreover, he argued that there was an insufficient body of evidence to offer teachers and that there was no impetus for them to keep abreast of research in developing their ongoing practice. Hargreaves (1996) questioned the actual practice of research in education whilst acknowledging that, if implemented appropriately, with partnership between practitioners and researchers, with funded opportunities for teachers to spend time actively conducting research, there would be greater possibility for seeing research evidence being realised in classrooms. The danger here might be that research is seen as an end-product rather than the seeds for teacher exploration and an over-simplification of the mobilisation of research evidence (Hammersley, 1997; Atkinson, 2000). Atkinson (2000), in critiquing the outcomes of Hammersley's address to the TTA, asserts that teachers' practice is consistently fuelled by a theoretical framework even if unconsciously, which counters the 'what works' (p325) canon of research evidence. He suggests that this is 'a valid way of thinking but not the only way' (ibid).

More recently, political consideration for research in education was offered by Goldacre (2013). He was tasked by the then Secretary of State for Education, Michael Gove, to report on the best means of actioning research in education. Goldacre, a doctor of medicine and prominent *Guardian* columnist, not a teacher nor an expert in education, sees evidence-based practice as offering teachers power to be liberated from the strictures of government-imposed policy and practice, drawing attention to the fact that doctors would laugh at politicians trying to assert authority about prescribing, for example. His writing proposes a view of evidence-based practice

where randomised trials are used to describe it, whilst simultaneously asserting that context needs to be considered. One might point out to Goldacre (2013), who has no apparent expertise in education, that doctors might laugh at those with no medical expertise being asked for their opinion about how to use research in medicine!

It would be hard to argue with Hargreaves (1996) and Goldacre (2013) as far as wishing to see research being utilised effectively and not to recognise the challenges that they outline. Further, Goldacre asserts the need for contextualisation and interrogation of research and how it might be used by teachers for their own practice. He does not, however, clearly offer possibilities for how best to enable an effective use of research evidence and this is surely important.

Wiseman (2010) suggests that the visible international increase in using research as a basis for policy making is partly contingent on similar beliefs to Goldacre (2013); that empirical and apparently definable evidence has synthesis with learning. Biesta (2010), too, acknowledges the appeal of this and recognises the apparent replication of application models in other professions such as medicine. Cautioning against this, he draws on the possible precarious position this proffers a potentially key area of professionalism – that of judgement.

Before Goldacre's lauding of randomised trials, Biesta (2010) was already questioning the value of a 'transactional epistemology' (p486). Drawing on Dewey's notions of active participation, where teachers and learners are considered to have agency in a malleable context, he suggests that our knowledge of 'what works' (Atkinson, 2000) is limited by its hindsightedness. Furthermore, although useful and offering potential hypotheses for the present, it is constrained by an ever-changing context. Essentially, he argues, the social-constructive nature of education prevents it simply being a matter of cause and effect. Biesta (ibid) prefers to see evidence as offering possibilities and asserts that it must be subject to value judgements or what he terms 'evidence-informed practice'. This is where a clear sense of self-efficacy and purpose – Wiseman's (2010) 'judgement' – would offer reflection on the desirability and indeed possibility for bringing ideas suggested by evidence to their practice.

Research and the Learning and Teaching module

In what might be viewed as trying to garner a 'what works' evidence 'base', the Teaching and Learning Research Programme (http://reflectiveteaching.co.uk/deepening-expertise/tlrp-research) was an attempt by the then Labour Government (1997–2010) to evidence policy and practice in education through research. This is particularly pertinent as it is the core body of work upon which the Learning and Teaching module is founded. The £40 million-pound project, funded by the Economic and Social Research Council (ESRC), drew on evidence from multiple studies to articulate principles upon which a pedagogy for teaching might be informed (James and Pollard, 2011). The TLRP project could be criticised as potentially providing research evidence for a knowledge base from which teachers can select and apply to practice. However, looking to its core text from Pollard et al (2014), written as a consequence of the TLRP, there is clearly presented a need 'for judgement' and

'critical evaluation', and it cautions against a view of there being an 'absolute truth' (2014, p73).

David Godfrey was one of the initial lecturers of the Learning and Teaching module. His assertions interrogate the use of evidence-based practice and outlines his definition of it in rejecting a positivist view of education in favour of practice embracing 'an actively enquiry mode of professionalism that involves critical reflection and engagement in doing and with using academic and practitioner forms of research, taking into account both the findings and theories generated from them' (Godfrey, 2017, p438). Further, Godfrey and Brown (2019) regard research-informed practice as being a 'third space': proposing that collaborative, professional dialogue offers a means of mediating the gap between academia and school. The concept of being research-informed is explored with student teachers in terms of critical analysis at various points during the Learning and Teaching module. That student teachers are equipped effectively to participate in research-informed practice might well be best predicated by how research is framed by their ITE.

Research and ITE

The British Educational Research Association (BERA) conducted an enquiry in 2014 into the role of research in teacher education. This concluded that there were four ways that it offers a positive contribution:

> First, the content of teacher education programmes may be informed by research-based knowledge and scholarship, emanating from a range of academic disciplines and epistemological traditions. Second, research can be used to inform the design and structure of teacher education programmes. Third, teachers and teacher educators can be equipped to engage with and be discerning consumers of research. Fourth, teachers and teacher educators may be equipped to conduct their own research, individually and collectively, to investigate the impact of particular interventions or to explore the positive and negative effects of educational practice. (BERA- RSA, 2014, p5)

The idea presented here of student teachers being discerning consumers distances the term 'based' from how it has been conceived for the Learning and Teaching module. It implies agency and criticality in the use of research.

Aspfor and Eklund's (2017) longitudinal study of Finnish ITE student teachers offers a positive evaluation of their 'research-based' ITE. In common with other Scandinavian countries (Muthe and Rogne, 2015; Toom et al, 2010; Alvunger and Wahlstrom 2018), the emphasis appears to have been on action research offering the potential for developing 'Autonomous and reflective teachers who can be defined as pedagogically thinking teachers' (Toom et al, 2010). Thus, although the ends that are proposed align with what the Learning and Teaching module proposes, the means and process that they ascribe to this is different to the 'case' in consideration here, being focused on action research.

Cain's (2015) study to consider how research was influencing secondary teachers' practice found that the teachers drew on knowledge from research in 'conceptual development, reflection on cases drawn from personal experience and the imaginative diffusion of research knowledge into areas, beyond those originally researched' (p505) to positively impact practice. It prompted questioning and deliberation. He suggests that key to this process might be carefully considered ongoing professional development providing time and space for mutual consideration of research and practice. This seems to be more likely given the Early Career Framework (ECF) (DfE, 2019) that is to be piloted over the next year in England. The Department for Education in England (DfE) developed the Early Career Framework (ECF) to address the perceived lack of support for early career teachers in England. It tasked an Advisory Group of teachers, school leaders, academics and experts to develop a framework to underpin a two-year package of fully funded training and support. This offers an 'entitlement' (p5) for newly qualified teachers (NQTs) to training and development. Pilot programmes are currently expected to be rolled out from September 2020.

Petty (2009) used the term research-informed practice, regarding it important to assert it as being more than simple imitation of what has been seen to work in research and then extrapolating its findings to attempt similar replication in classrooms. He proposes effect-size meta-analyses in adding weight to possible strategies and pedagogies, looking to the work of Hattie (2011) and Marzano (1998) to suggest that the key to using evidence from research is to look to the science of effect sizes through synthesis of many research projects. Petty (2009) proposes four key principles in how to make effective use of research in practice (p4):

- using all the evidence, evaluated and considered by appropriate experts;

- understand why something works, not just that it does;

- reflecting and acting on areas of weakness in practice;

- thinking about self-reflection in reaction to what unfolds in one's own teaching.

He concludes that 'The final court of judgement is not academic research but what works in your classroom. In the final analysis, the best evidence you have is your own experience' (p5). Thus, for him, the 'what works' is not drawn from individual linear implementation through replication of one or two studies but rather from a hierarchy of possibilities mediated by the individual teacher.

Gerwitz (2013) offers an alternative way of conceptualising the research skills that teachers need to be equipped with. Instead of using the terms based or informed she describes:

scholarship informed… teachers who have the analytic skills, the deep knowledge of scholarly debates and the scholarly disposition not only to be able to read empirical research critically and reflect on its relevance to

practice, but also to be comfortable with theory – to be able to think for themselves in disciplined ways, question taken-for-granted ways of doing things, contribute to wider debates about the role of schooling in society and the best way of delivering it and, ideally, be able to undertake their own research and scholarship. (p13)

This alternative term, 'scholarship informed', has resonance with the research-informed ideals of the Learning and Teaching module (1.2).

Despite the anomalies of terminology, it seems that research is considered to have a role in teachers' work and therefore how this can be prepared for in ITE is important. Literature indicates that, to be effective, practice needs to be the beneficiary of personal teacher reflection and understanding of the evidence from research. This needs to be interpreted by the thoughtful engagement of an educated individual with a wide understanding about their own contexts and philosophies about education. This resonates with a description of 'critical reflection' (Brookfield, 2017). A conception of the research-informed teacher is thus supportive of an active and considered approach – even if evidence from research suggests it is cost-effective and could raise attainment, is it appropriate for my children in my class and with what I know about alternatives?

It would seem, therefore, that there is an argument that student teachers require ITE to provide them with the ability to draw critically upon research-informed knowledge and understanding. This is in order to become effective, autonomous, professional teachers, imbued with a sense of self-efficacy, aware of the peculiarities and possibilities of their unique contexts. In this way, they will be able to make decisions about teaching and learning that are responsive to their own classrooms and informed by a knowledge of a range of possibilities for teaching effectively. Teachers skilled thus align with a notion of being able to 'utilise their agency and be alive to the knowledge and assumptions that "drive their practice"' (Le Fevre et al, 2016, p30), which in turn enables potential for effective reflection and evaluation as to their efficacy.

A consideration for my study, therefore, is whether engagement with research that the Learning and Teaching module offers is perceived by student teachers and subsequently by practising teachers as enabling them to become research-informed, recognising knowledge about teaching and learning to be context-dependent and problematic. By this means, one might hypothesise that they would be able to assume self-confidence in their understanding of the antecedents of their choices for teaching and learning.

2.6 Professionalisation of primary teaching

In this section, I explain why primary teaching in England has struggled with asserting its professionalism. This is shown as being relevant because Master's study and its academic association has been proposed as offering potential in improving the professional status of teachers. I explore the English context where Master's study and the place of university learning are not necessarily seen as being essential and have been challenged by the progressive introduction of a diversity of ITE programmes that have moved lead focus from universities to schools. I consider the implications for this and how it informs my study.

Master's study in Primary ITE

The concept of primary teaching being a profession in England has been subject to discussion and contention. This has influence on my study because Master's inclusion and its relationship with academia and university is associated with professionalism and thus offers potential answers to some of the issues around status in primary teaching in England that are described below. This contrasts with countries that are widely held in esteem for their educational outcomes such as Singapore and Finland (Darling Hammond, 2011) where teachers enjoy high status. These countries attract potential teachers that are top academic performers. Implied is that the perceptions of teaching as a professional and academic pursuit offers a draw for those individuals who might be regarded as having the best potential as educators.

The Master's in Teaching and Learning in England was conceived by the then Labour government in 2008 and influenced by consideration of ITE in Finland in particular (Burton and Goodman, 2010). In addition to Master's level study being integrated in PGCE programmes post-Bologna (2006), this was viewed as potentially positively impacting standards in education. Fully funded by the Training and Development Agency (TDA), it was seen as contributing status-raising potential and a draw for 'quality' graduates to the profession who could use credits from their PGCE in completing a full Master's (Burton and Goodman, 2010). This is no longer offered but it is indicative of efforts made to address perceived issues around status and professionalism that have been pervasive in England, specifically for primary teachers (see further below).

The Universities' Council for the Education of Teachers (UCET) assessed the value of the Master's in a PGCE (UCET, 2016). In addition to the 'benefits' (p1) ascribed in terms of 'equity, entitlement and expectation' that they were associated with, they also drew links to benefits in improving the status of teachers.

The issue of status in English primary teaching

Potential for government to progressively marginalise university ITE providers might be exacerbated by the perceptions of the low status that primary teaching finds itself having, underpinned by shaky and 'unprofessional' beginnings and lacking the clear conformity to the traits of traditional academic subjects. Hoyle (2006) affirms this viewpoint in recognising that professionalism is a term that is a 'source of aspiration that is associated with status' (p287) and recognises the struggle that teachers find

in claiming this. This view is reinforced by the fact that teaching has struggled to assert the concept of a body of knowledge, has not consistently been wholly a graduate entry, does not offer autonomy and, at times, has not had the consistent backing of an associated professional body (currently the Chartered College of Teachers in England). This lack of professional recognition and associated status therefore means that, in comparison to other more traditional professions, primary teaching might not draw prospective primary teachers in England, which is a challenge for all providers of ITE.

Professionalism in English primary ITE

Primary ITE in England's origins require some description to better understand its pervasive struggle to assert its professionalism (Hoyle, 2006). In the 18th century, training conformed to what can be described as an apprenticeship model. Here, a pupil identified as being competent was trained by in-class observation of a practising teacher, gradually taking over when confident with the methods that were being employed. In this way, practices were passed on without question or challenge.

In 1798, the religious order of Quakers established a non-denominational institution for trainee teachers in Southwark, then a slum area of London (Eden and Ward, 2009). A basic form of teacher preparation was introduced by the government in 1846: 13-year-olds were apprenticed for five years (Aldrich and Crooke, 2015). Eventually, growing disquiet about the efficacy of 'pupil teachers' led to the minimum age being raised to 14 in 1878 and then to 15 in 1900. Subsequently, six training colleges were set up by universities (Cross Commission on Elementary Education, 1888) with another ten following soon after. This meant that, by 1900, there were 1150 student teachers (Gillard, 2018). In this way, the religious-led monopoly was negated and supply increased. Additionally, student teachers were able to concurrently gain a degree whilst training to be teachers. This potential opportunity for raising the status of primary teachers was, however, stymied by the fact that they were still largely of working-class origin. This contrasted with their largely middle class, secondary counterparts. Distinctive from other disciplines, primary ITE has had an insecure academic link with universities and what might be offered in potential associated respectability (Cortis, 1985). This underpins a rather uncertain status of both 'trainees' and their relationship with their educators. Not for them the clear academic content or respected seat of learning that other professions such as law or medicine enjoyed.

Another primary-specific issue was that, unlike other professions at the time, primary or elementary teachers in the early part of the 20th century were, in the main, single women, who were required to leave the job should they marry. Thus, the relative status and importance of the respective genders at the time inevitably influenced the perception of teaching and its societal importance (Keating, 2010). This is argued by Murray and Passy (2014) who draw attention to this further distinction between the development of primary and secondary ITE, pointing out that this 'has undoubtedly contributed the historically pervasive sense of the academically low status of primary schooling, and consequently of primary ITE, and its gendered associations with the care and nurture of young children' (Murray and Passy, 2014, p493).

The diversity of programmes in the English ITE context

The history discussed above foregrounds the relationship between universities and ITE in England, which is different from other areas of the UK, in that university is certainly not seen as being necessarily integral to ITE. Indeed, more recent policy has marginalised its role, realised in the current variety of routes open to prospective student teachers. In 1992, following Kenneth Clarke's proposal for much of the postgraduate certificate in education (PGCE) course to be 80% school-based (McBride, 2003), there was the introduction of wholly school-based training in 1994, through the introduction of School Centred Initial Teacher Training (SCITT). More recently this was followed by Teach First and School Direct salaried (school-led) and unsalaried (school partnership but university-led) teacher education (see rationale 1.1). The current prospective primary teacher can choose from 200 providers of postgraduate, primary initial teacher education (Gov.uk, https://www.gov.uk/government/collections/initial-teacher-training#itt-statistics).

Since 'The importance of Teaching' (DfE, 2010), and a clear and explicit challenge offered to university programmes, there continues to be a 'rhetoric' (Whitty, 2014, p7) of governments wanting schools and heads to lead ITE programmes. Any negative view of schools taking a leading role should not, however, be taken without comment. Ellis and Spendlove (2020) point out that, despite the 'threat' (p2) that was felt by higher education providers in the face of the introduction of school-led programmes such as School Direct, retrospectively there is evidence that it has positively impacted the potential for improved partnership between schools and universities. Their study of heads of HEI does indicate some evidence that this was seen by some as an opportunity that had not been fully capitalised upon. Programmes were perceived as being brought into alignment with existing university content rather than providing impetus for innovation. What school-led programmes might offer student teachers is currently under-researched (Ellis and Spendlove, 2020). It is possible that the learning and outcomes that literature lauds as being at the heart of effective ITE could be realised by a variety of programmes. What might be seen to be under 'threat' (ibid) by any further marginalisation of universities in ITE could be the status-raising potential that they might offer.

If Hoyle's (2006) notion of status in reinforcing professionalism in teachers is bound up in societal perceptions of the role, then undermining the place of the 'academic' in ITE could lower the attractiveness of the profession. This in turn could influence the likelihood of attracting those prospective teachers who are considered essential in maximising the achievement of pupils. This has resonance with Marenbon's (2009) argument that the 'best way of finding and keeping more teachers is, paradoxically, to make it academically harder to be a teacher.' (In Burghes et al, 2009, p89).

It seems thus that university-led ITE has the potential to offer association with things academic and, consequently, professional status. The issues raised above are not exclusive to Master's level study, but rather university involvement in general. However, it might be that student teachers view the possible status accorded to evidencing higher levels of academic achievement as being important. Thus, consideration of whether the Learning and Teaching module has an impact on the

perceptions of student teachers on their potential status as teachers, and if this is recognised as being important to and being influenced by the association with Master's level accreditation, was used in framing questions in all data sets.

2.7   Conclusion

The review of research suggests that there is potential for a Master's module, in this case study the Learning and Teaching module, both in meeting some challenges inherent in ITE and in promoting learning and knowledge that will contribute to student teacher development positively. It might support their recognition of the importance of being research-informed, resulting in critical reflection in, on and for practice, with confidence in their self-efficacy and autonomy. It might be recognised as challenging personal experiences and resultant beliefs, values and ideas about education and enable recognition of the complexity of teaching and learning. It may influence perceptions of a professionalisation of the role that might be valued in terms of recognition of a synthesis between status and the attractiveness of the profession.

Implications for the methodology

The following areas for exploration were drawn from the literature review and formed the basis for thematic analysis:

- Theory-practice dichotomy

- Research-informed teaching

- Reconceptualisation of beliefs

- Professionalism.

The data are proposed as offering potential for deductive coding analysis. Reflection on the literature, in addition to alterations made to my original conceptual framework and my subsequent theoretical framework led me to the following themes:

- Beliefs: What evidence is there of change in terms of how the student teachers conceptualised learning and teaching? Had beliefs that had been (re)formed during ITE been carried into the classroom by NQTs?

- Dichotomy: What evidence is there that this was experienced? Was this a barrier to learning for the student teachers or a problem for the NQTs? Did practice become 'washed out'? Do the lecturers consider that the Learning and Teaching module offers a means to mitigate any challenges?

- Synthesis: Was there a perception of a 'gap' between school and university/theory and practice? How did the student teachers bring the two together? Did the NQTs describe practice that drew on their work on the Learning and Teaching module?

- Research-informed: Did participants value the research as informing their practice? Did they have an understanding of how this differs from my definition of being research-based?

- Criticality: Did the engagement with research lead to perceptions that student teachers/NQTs were able to bring critical analysis to bear on their practice?

- Professionalism: Did participants consider that the Master's would have an impact on their status as teachers and was this important to them?

- The writing process: how was this experienced by the student teachers/ NQTs?

The Learning and Teaching module offers content and a potential process of learning for student teachers that might offer answers to distinctive issues that challenge student teacher learning. It can be described as a 'singularity' (Tight, 2017) and a bounded case-study. For the purpose of generating data that would offer both breadth and depth of understanding, drawing on multiple sources is indicated. The practical limitations of a single researcher led to a 'pragmatist' (Greene and Caracelli, 2003) mixed methods approach that would allow a wide range of perceptions to be explored whilst offering opportunity for exploration at greater depth.

Participation was invited from all of the full 2018/2019 Primary PGCE student teacher cohort as well as lecturers from across the Primary PGCE. In view of literature indicating that central to any effective ITE is the extent to which learning endures into teachers' classrooms, all 2017/2018 alumni NQTs were invited to participate.

The full cohort of student teachers were asked to complete a survey on two occasions with the potential that this could uncover changes to their perceptions during the programme. This also offered them anonymity and served some response to the limitations of insider research (see limitations and methodology). In pursuit of greater depth and the potential for collaborative dialogue in data generation, focus groups of student teachers and lecturers were implemented. Semi-structured interviews, done remotely through Skype, offered a practical means of drawing on this participant group. These data collection strategies and the methodological process undertaken are explored next.

Chapter 3   Methodology

In this chapter, I explain the theoretical framework of the study and its impact on my view of how student teachers might learn effectively. This framework also offers a basis for identifying the merits of dialogue and interaction in gathering data for research. Next, I explain my use of case study, mixed methods, focus groups, surveys and semi-structured interviews, and the design and process that was used. The samples are described and I show how ethical issues were addressed. Finally, I describe how I analysed the data.

3.1   Theoretical framework

In previous doctoral work, I had drawn on socio-cultural theories of learning in order to describe my theoretical framework. My interpretivist view of research methodology, and my concept of the potential for collaborative dialogue in enabling student teacher learning in ITE, were framed by Vygotskian (1978) proposals regarding a relationship between eternal dialogue and internalisation of knowledge and understanding.

For this study, literature in the field was central in realising the challenges of student teachers' prior beliefs or preconceptions (McIntyre, 1995) and their potential influence on their learning. It is evident that student teachers' capacity for new learning is inextricably linked to their personal histories and experiences and that this requires acknowledgement in their ITE programme. This resonates with Vygotsky's (1929) proposals regarding the influence of culture and experiences: ontogenesis, in retaining influence over both the starting point for, and the potential impact of, new learning (Wertsch, 2009). Further reflection led me to consider whether ontogenesis might be pertinent to considering a starting point for new learning and knowledge and be future-focused, but perhaps the important interrogation of previous learning might be addressed by other theories that would explicitly offer a conceptualisation of knowledge as malleable and subject to iterative (re)conceptualisation. This must be important in any need to alter and re-frame student teachers' personal histories and preconceptions (ibid).

A view of interaction being essential to learning is helpful in considering the complex experiences of student teachers in their relationships between themselves, their educators and the dual contexts of school and university. Further, it encompasses Lave and Wenger's (1994) idea that learning is an 'emerging property of whole persons' legitimate peripheral participation in communities of practice' (Lave and Wenger, 1994, p63). In alignment with my assertions about student teacher education, it rejects the notion of an apprentice being schooled in a particular practice. Instead, it acknowledges the idea that I have come to recognise has resonance with an enactivist (Davis, 1995; Bateson, 1980) description of learning, which aligns with my conception of knowledge above. It is not therefore about fact being right or wrong, but rather by its being viewed differently. Enactive learning theories (ibid) propose that is not sufficient to describe knowledge building as consistently subject to the influence and guidance of a 'more knowledgeable other'. They further elaborate the power of interaction which reinforces the multiplicity of

contrasting and complementary interpretations that individuals bring and seem to offer description of the equality of mutual dialogue that leads to learning and knowledge creation.

Maturana and Varela (1992), cognitive scientists, offer further ideas about enactivism that have resonance with my view of learning. They consider our co-existence and the act of reflection as offering an inseparability between the mutual construction of language and its relation to knowledge. I recognised this as having synthesis with the Sapir-Whorf hypothesis (Sapir, 1978, in Sapir and Mandelbaum, 1985; Carroll et al, 2012) where the inextricability of language and knowledge is asserted. Here, one needs language and labelling to conceive of knowledge and meaning. Thinking is therefore defined as being a process of organising a here and now, personal experience of the world whilst simultaneously interrogating those that involve the past and present, in order to consider how that knowledge might be conceptualised for future use (Davis and Sumara, 1997).

Using the interpretation of knowledge building from users of enactivism like Davis (1997) researching in a teacher education context, Bateson (1987) and Proulx (2008 a and b) in the field of mathematics education, one can consider that discussion, by its very make-up, offers multiple possibilities for outcome with each participant bringing understanding and cognitive dissonance (Festinger, 1957). This parallels with the enactive learning term 'peturbations' (Rossi, 2011) that arise from experience and can be challenged/reinforced or in some way altered by the other interactants. In this way, there exists the possibility 'for actions/understandings to emerge that likely could not have been achieved by either participant independently' (1997, p111). They thus consider the process of cognition as being an 'enactivist' (Davis, 1996, Bateson, 1987) construction. This aspect of enactivism emphasises the participants in the emergence of knowledge; and the individual realising 'autopoeisis' (Maturana and Valera, 1992, p199) or self-efficacy and self-determination and self-perpetuation of development.

I view recognition that knowledge might be interrogated as being malleable as an important consideration for my study. I earlier cited literature that suggests the importance of interrogating beliefs in ITE. Here, a student teacher might come to a PGCE having felt themselves to have been academically successful, ascribing this to a positive teaching and learning experience, and thus unquestioningly considering particular teachers as having been 'good'. Interaction with new knowledge experienced and reflected upon during the Learning and Teaching module, particular pedagogies and theories about learning might come to challenge the idea of 'what is good' and thus a view of their education might be changed. This was explicitly acknowledged in the quantitative survey where a question asks for any identification of change in terms of their perceptions about their own education. Knowledge thus becomes a process of iterative interaction within particular contexts. This is defined further below.

Recognising the probable importance of interrogating and re-conceptualising the 'apprenticeship of observation' with which student teachers come to ITE, I propose a third context for learning that making progress in the other two are contingent upon.

I view that the much-lauded synthesis between theory and practice cannot be realised in reflection without careful attention being paid to this third site: the previous experiences of student teachers, the unconscious assumptions about effective teaching and learning that have become beliefs. This third context is one that, once re-conceptualised through interaction with new knowledge and experience, can be challenged and potentially altered. This again has resonance with Davis et al's conceptualisation of the potential of interaction in enactivist learning. Davis (1997, p6) suggests that unconscious thought (and I consider that this might well be what student teachers come to their ITE courses with) can be described as 'unformulated thought' (ibid). It is important, he argues, because learning must involve 'resolving tensions between tacit and explicit knowing, between emotional and reasoned actions and between intuitive and calculated responses'. In this way, student learning must interrogate this third context – what I shall caption 'beliefs' – and make clear for themselves their own histories, their affective responses to them and how they fit with developing knowledge and understanding in the other learning contexts. I suggest that successful ITE must acknowledge and consider if and how this happens. The student survey explicitly considers this.

My study, therefore, recognises social constructivist proposals of interaction as being key to student teachers' learning and in underlining effective ITE. However, drawing on enactivist theories about cognition and knowledge, I consider that the environments within which student teachers are embedded – university, schools, family, past experiences, cultures (Begg, 2013) – mediates this interaction. Furthermore, it is iterative so that it promotes change and self-reflection through negotiated learning in interconnecting and co-dependent spaces or environments. Interaction is thus malleable and subject to revision and re-conceptualisation, and resonates with an aspect of enactivist thinking (Maturana and Varela, 1992).

3.2   Case study

This case study is a Master's module (the Learning and Teaching module) of a Primary Postgraduate Certificate in Education and the data has been drawn from current student teachers, recently graduated alumni in their first year of teaching (NQTs) as well as lecturers on the course. It presents a context in which to consider the research question, 'What is the contribution of a research-informed master's module?' What potential has it for ITE? What are the perspectives of student teachers, NQT alumni and lecturers?

This research is particularly suited to being analytically framed by a case study. The Learning and Teaching module offers an individual interpretation of Master's requirements, and case study offers a means of exploring in depth. The context can be said to be singular or particular (Tight, 2017). In other words, it is 'highly pertinent' (Yin, 2018, p13). It offers me the ability to 'drill down and get at its complexity' (Ashley, 2017, p114) and to draw on multiple stakeholder views and data collection methods.

The exact definition of case study has seen a variety of iterations over time since its inception in about 1855 (Tight, 2017). For example, some authors define case study

in terms of its being entirely qualitative in nature (Punch, 2005; Burns, 2000), which this study is not. Robson (2011) and Yin (2018) make clear that this is not necessarily so, and Tight (2017) considers that this might be because of the association that case study has of being more aligned to interpretivism. Given that definition is an issue, it is important to describe my understanding of what a case study is and to be clear how this research sits in relation to the declaration that 'virtually every social scientific activity is a case study or can be conceived as a case study because it is an analysis of social phenomena specific to time and place' (Ragin, 1992, p2). 'A case study is an empirical method that [1] investigates a contemporary phenomenon (the case) in depth and within its real-world context, especially when [2] the boundaries between phenomenon and context may not be clearly defined.' (Yin, 2018, p15). In my study, the Learning and Teaching module (the phenomenon) and the context of the PGCE course and the university have opaque boundaries with one contingent upon characteristics of the other.

In defining how I am using case study in underpinning my design, this research is exploratory in that the single case, the Learning and Teaching module, is being considered in depth and from data, both qualitative and quantitative, gathered from multiple sources. Additionally, inherent is consideration for gestalt and for the idea that it is made up of multiple perspectives that offer some degree of data confirmation. A case study of this nature thus offers an opportunity to apply multiple lenses to the 'case' and can be argued thus to offer a more 'rounded, richer, more balanced picture' (Thomas, 2016, p5). Using Stake's (2005 in Denzin & Lincoln (Eds)) purpose distinctions, it is instrumental in that it is evaluative and seeking to use the case to interrogate particular issues in ITE.

One criticism of case study research is that it does not seek to offer generalisations and in this way might be subject to Hargreaves' (1996) condemnations that have been laid at the door of educational research generally (see literature review). He laments the lack of evidence regarded as 'scientifically sound as a worthwhile response to guide professional actions' (1996, p2). This positivist stance might be seen to foreshadow the 'what works' (Atkinson, 2000) view of teaching and learning; that research needs to be able to be re-enacted and used by a wider community with a concept of cause and effect. In other words, case study cannot offer a worthwhile contribution to 'knowledge' and therefore has little validity. I acknowledge that, as this is a single case study, it might appear merely to explore a singularity. However, that is not to say that what it discovers might not point to areas for further 'cases' to explore, to compare and contrast.

In a case study conducted amongst trainees on an employment-based route, the Graduate Teacher Programme, now School Direct Salaried Programme, Smith and Hodson (2010) interrogated the student teachers' apparent rejection of university and associated theory. The student teachers in their small case study valued the additional professionalism they found in being a long-term member of a school team but were very reliant on being able to access time for reflection with mentors to problematise practice. This was not found to be consistently available. Their work highlighted similar concerns that are laid at the door of apprenticeship models: the possible lack of development of a broader understanding about 'alternatives to

practice' (p274) being considered. It recognised that interrogating this through opportunities for greater research engagement when accessing their centralised university programme would be positive in going some way to address this. Although this was a single case, it offered potential to speak to an audience of ITE providers as its description of the case is sufficiently detailed to offer other programmes the opportunity to see where there are similarities and differences in order to evaluate the relevance to their contexts and provision. This speaks to the potential of case study in being valuable beyond the immediate context.

I consider my study's merits as contingent on mixed methods and seeking the in-depth understanding that will offer a broad and rich picture of the case in my study. Findings might in turn be the catalyst for further research. As a single researcher, had I looked to multiple cases for comparison that might offer further, perhaps more 'generalisable' evidence, I would not have been able to draw on what is described as one of the key strengths of a case study: the 'in-depth, detailed and particular nature of them' (Tight, 2017, p29). Moreover, if I were to ascribe to a more positivist view of research, it would contradict one of the very core values that I have set out: I am not seeking to propose a 'what works' view of ITE but rather a careful evaluation of what happened in this context to consider its possibilities for others.

Thus, use of case study in this research plays to Bassey's (1999) notion of 'fuzzy generalisations' (p4). These he describes as being statements about findings that have 'built in uncertainty' (p52). This recognises the likelihood of there being exceptions in educational research in particular, where the undeniable complexity and individuality of humans and their experiences is so key. This aligns with the theoretical perspectives discussed earlier: knowledge is context-dependent, malleable, impermanent and subject to iteration and change. Bassey (1999) highlights the need to ensure a rich enough presentation of findings and interpretations so that readers can recognise aspects that might offer illumination or influence other potential cases and thus make use of the 'fuzzy'.

This is an evaluative-type case study (Stenhouse, 1985, p50). Bassey recognises this type as having origins in the 1970s when Parlett and Hamilton (1977, in Bassey, 1999) offered evaluative research as resonant of a social anthropological paradigm (interpretivist): one that sought to consider the actual experiences of participants, thus uncovering 'significant features, recurring concomitants and critical processes' (Parlett and Hamilton, 1977, in Bassey, 1999, p29). Drawing on Yin's (2018) definition of an 'embedded' case study or Thomas' (2016) 'nested', my research used three different participant units: the student teachers, the NQTs, and the lecturers working both on and off the Learning and Teaching module, delineated by different interaction with the case – the whole.

To a degree, the research is also sequential in design in that timing is an important factor in the method. The student participants' views were sought at the beginning stages of the Learning and Teaching module; at its end when writing their final submission; and then as a focus group, once they were apprised of their submission grading, had completed their final school experience and were about to finish the PGCE. Semi-structured interviews were carried out with NQTs after two terms of

teaching in their own classes. I judged this as being sufficient time to have gained some experience in their respective schools. Lecturers' focus groups were held after the end of the whole PGCE course so that a wider picture of student learning both in school and university could be reflected upon.

This study, as already stated, is of a singularity and argued as occupying a very particular place in ITE. However, it does interrogate problems and possibilities proposed by associated literature and might therefore offer some potential consideration by other ITE providers be they school- or university-led. Important too might be the value of the learning as experienced by student teachers in this study and thus possible for consideration as a potential part of ITE and its pedagogy. Equally, if perceptions of efficacy and influence described by the lived reality of the various participants do not appear to meet either the stated aims of the Learning and Teaching module in relation to Master's level work, or what has been considered as being its potential by literature, then this could warrant adaptation or complete reconfiguration.

My place as an insider researcher in this case study can be viewed as being on a continuum (Hockey, 2006; Labaree, 2002). For different participant groups, my role and status varied. I was an insider to the lecturer participants and known to the other groups, although a peripheral part of their context, particularly for the NQT sample. I acknowledge that there are both positives and negatives associated with the insider researcher role that must be acknowledged. There is an argument that the context might be too familiar to the insider researcher and that the researcher might be biased (Hockey, 2006). In this study, drawing on the discussion and sharing of data with fellow doctoral students and colleagues as well as being self-reflective and aware of these issues offered some answer to these criticisms but they must be acknowledged as limitations.

3.3   Mixed methods

In previous work, my research has drawn solely on qualitative data. This being so, defining my theoretical framework has seemed less challenging with the aforementioned interpretivist paradigm and associated concepts of knowledge and how it can be sought and defined being perhaps comparatively straightforward. For this study, I was keen to embrace some means of drawing on a multiplicity of perspectives whilst maintaining caution against asserting truisms. I therefore needed to establish what my thinking was around quantitative data-gathering and how to recognise the place of both in research.

Creswell (2003) and Plano Clarke (2011) describe mixed methods as being a fairly recent entrant into the research arena despite there being instances of research using multiple methods of data-gathering as far back as the 1950s. They consider that the mutual appreciation from researchers in what were quantitative and qualitative camps, as well as the increasing pressure to inform evidence from research audiences and policy-makers, led to the development of what is now termed mixed methods design. The 'paradigm period' (p25) emerged in the 1970s and 1980s when, unsurprisingly, researchers encountered difficulties with the apparent contrasting

philosophical assumptions inherent in conducting quantitative and qualitative research. This has led to defining a 'third paradigm' (Johnson and Onwuegbuzie, 2007, p14–15), which utilises the positives from the first and second in order to meet the needs of the research question – a 'pragmatist' approach (Greene and Caracelli, 2008). Creswell and Plano Clarke (2011) assert this approach is that which is most easily reconciled with mixed methods as it embraces the possibility to change one's world view in response to differing data-gathering stages.

My research largely reflects an inductive paradigm but also draws on some quantitative survey use in seeking to describe the perceived influence of the module and the inherent implication of being research-informed at Master's level in ITE. The data collection followed a concurrent parallel design (Creswell, 2003) where qualitative and quantitative findings are analysed separately but drawn together for joint consideration in interpretation. Therefore, neither the quantitative data gathered during the implementation of the two surveys, nor the qualitative data from semi-structured interview or focus groups, were given a leading or prioritising role in terms of the weight ascribed to them. Rather, their findings were integrated during post-analysis interpretation where convergence and divergence of themes and viewpoints could be considered. The large-scale survey findings did, however, additionally offer avenues for questions to be considered during the semi-structured interviews and focus groups.

This embedded, sequential design offered a boundary for inquiry and a structural process within which any appropriate methods for investigation of a research area can be applied. It can be understood with reference to Luck et al's (2006) metaphor of a 'bridge' (2006, p107) where multiple methods are 'mutually informative rather than distinctive'. In this study, the pragmatics of a single researcher, seeking to have a wide range of perspectives considered, meant that the use of quantitative descriptive analysis of data from Likert surveys, in addition to the qualitative data from focus groups and semi-structured interviews, was considered to offer breadth to the viewpoints considered.

Each data set was used to offer alternative, possibly contrasting or complementary ideas in pursuit of addressing the research question. The design drew on perspectives from as wide a range in terms of type and number as logistically possible. This concurrently recognised the additional depth that the prospect of collaborative dialogue might offer, underpinned by the aforementioned theoretical framework that describes potential knowledge being explored, developed and perhaps altered through interaction and iterative reflection.

Creswell and Plano Clarke (2018) highlight the 'conundrums' that need to be considered in undertaking mixed methods research. Of particular concern to me was that of negotiating and reconciling the inherent philosophical assumptions (p21). Rather than needing to change my worldview, I believe that central to it is the consideration of the place of the researcher themself. Whilst positivist stances might be considered to look at data with a scientific and apparently unbiased, distant eye, and be reported as a series of facts or truisms, key to my work, drawing on both qualitative and quantitative data, will be the place I make for myself in its

interpretation. Making myself a visible player in what I suggest I am reading from the data should mean that I offer conclusions not as fact, but possibilities, described in my proposal, to reach 'fuzzy' generalisations (Bassey, 1995). Moreover, in my consideration of quantitative data, my insider knowledge must be acknowledged to be crucial in my understanding. Thus, to a degree, I align myself with this pragmatist approach but with a constructivist eye. This study therefore uses survey, semi-structured interview and focus groups in data gathering.

3.4 Samples

For the surveys, the purposive sample was drawn initially from the full cohort of student teachers enrolled 2018/2019. This was 235 in December and reduced to 225 by the time they completed the survey for the second time in May.

My insider role has to be considered in relation to sampling. As a member of the Learning and Teaching module lecturing team, my potential desire to find positive perceptions could have limited the voluntary recruitment of participants across the student teacher and lecturer focus groups as well as the NQT semi-structured interviews. Those who might wish to share less than favourable views might have felt reluctant to share them with someone who can be viewed as having a vested interest in a positive outcome. Perceptions in these participant groups must therefore be interpreted with this sample in mind.

For the semi-structured interviews, the newly qualified teachers (NQTs) were a sample drawn from the full cohort of graduating student teachers from the 2017/2018 intake. They were accessed by placing a message on the part of the learning platform (Moodle) that the university's alumni have access to. I asked them to email me to volunteer. This meant that the sample were those that were remaining in touch with university news. I acknowledge that this might mean that they were likely to be those that had had a positive 'university' experience and possibly continued teaching experience and therefore be those that would offer positive pictures of their practice and feeling about the Learning and Teaching module. Equally, I wondered if they would be a group that I knew and had taught and that their positive relationship with me might mean that they would be more likely to volunteer. I was aware that these points would all need to be considered in relation to the findings and their validity.

The inclusion of NQTs in my research was essential. Although I suggest that it might be important for student teachers to make links between research-informed pedagogies and their practice, there is little point to this unless it can be seen to have long-term impact on the teachers that they become. The consequence of this would be manifest in research engagement being positioned as being a tick box that must be shown to have been achieved before one can get down to the realities – the *real* business of the classroom. For my research, it reinforces the importance of including NQT perspectives in this research. It is all very well to consider the perceived learning that the Learning and Teaching module offers student teachers, but I consider that, to be truly effective, it needs to have longer term influence.

I had originally planned to interview four NQTs as I was conscious about the amount of data that this would generate and my capacity for analysis. However, I had eight volunteers and I was reluctant to turn any away. This meant that, in the end, I had seven participants, having used one to pilot questions with. I had taught two of them in a different aspect of their PGCE course, not the module in question, and I had supervised one in school. I had not had any direct contact with two of the volunteers. I did not look at their module outcome nor any other aspect of their performance or profile.

For the two lecturer focus groups, I asked all lecturers working on the PGCE to volunteer. I wanted to have a balance and mixture in each focus group of those that worked on the Learning and Teaching module and those that did not so that the possibly positive attitude of those with very obvious invested interest in it might be balanced with other perspectives. The result was five participating in the first survey and six in the second, using one volunteer to pilot my strategy for generating discussion.

For the student focus group, the initial intention was to ask for volunteers. However, finding a time when this could be reasonably scheduled became impossible due to the target day being one where they had to attend tutorials at very different times. Consequently, I ended up asking a group of student teachers that I had supervised in school as I knew that I could schedule my tutorials accordingly. I had not taught any of them during the Learning and Teaching module, nor did I know what mark they had achieved for the requisite essay. I am aware that, as a supervision tutor, as well as a lecturer on the Learning and Teaching module, I might have been more likely to have discussed and promoted aspects of pedagogy and research integral to the Learning and Teaching module than those supervisors that work on other aspects of the course. Therefore, they might be more likely to have had their practice discussed in school with my dual hats on. I would say, however, that that would apply to many other 'dual-hatted' lecturers. I would anticipate that the underlying ethos of the programme and associated aims would make this a common aspect of supervisory discussions.

3.5   Survey

As stated previously, a survey was used to broaden the scope of the study, offering opportunity for as many perceptions to be drawn in as possible. I remained aware of potential issues that might arise. As I was not looking to establish facts but rather perceptions, not to scientifically ratify particular theories, I viewed that my analysis and reporting of the data would be important in realising this end. I am aware that respondents will not necessarily report their true feelings in pursuing a socially desirable response (Robson, 2011). However, I made clear that their identities would be completely anonymous and therefore felt that they would be more likely to be honest. The fact that they completed the survey remotely offered a degree of privacy and there could be no overt researcher influence. The survey developed used a Likert scale. Use of this measure was in pursuit of quantifying attitude in what can be viewed as being a scientific manner although within this mixed methods study, as stated earlier, my interpretivist eye will be key in analysis.

For my research, the individual statements were developed in order to tease out the perceptions of key themes of the research question: what was proposed as being important for inclusion in ITE and how it was manifest through the module in terms of the actual student experience. I wanted to consider the conceptions of reflectivity and criticality – both on research evidence, their practice and in relation to their 'beliefs' about effective teaching and learning. I also thought it important to uncover their perceptions about how important research is seen to be for practice and the ways in which it is viewed with criticality and in alignment with what I have defined as being research-informed. Additionally, if they considered that it influences views of autonomy, their self-efficacy, professionalism and performance, both on them as student teachers and on teachers generally. Thus:

- 'Being able to understand research has a positive impact on teacher's efficacy.'

- 'It is important for teachers to be able to critically analyse research.'

I also wanted to find out if they saw this research understanding as being manifest in satisfaction in the teacher role:

- 'Research-informed practice increases teachers' job satisfaction.'

I theorised that they might consider the actual rubber stamp of Master's level as being important to the profession in terms of its status and think that it was important for education in England. They might also indicate in comments any association with the draw to and/or the retention of teachers:

- 'Having a Master's level qualification is important for the status of teachers.'

I also wondered how I could interrogate whether they saw research as contributing to shaking the instinctive beliefs about what good teaching and learning might be as developed through their 'apprenticeship of observation' as pupils themselves:

- 'A better understanding of research has made me think differently about my own education and teachers.'

Overall, I considered what I hoped could be realised by the Learning and Teaching module in terms of its contribution to my conception of what ITE might hope to achieve but also what aspects might be challenging. Furthermore, I wanted to uncover some of the typical issues levelled at ITE that I theorised might be countered by the Learning and Teaching module. To this end, I devised statements that I thought might expose theory-practice gaps:

- 'I find it hard to put research into practice.'

- 'Understanding research has made me dissatisfied with teaching I have observed in schools.

Additionally, I wondered if they ascribed research understanding as being of value both to them as student teachers and to teachers in classrooms:

- 'Being able to understand educational research has a positive impact on teachers' efficacy.'

- 'It is important for teachers to be able to critically analyse research.'

Also, finding practice very different in the reality of school, whether this might provoke dissatisfaction and not valuing research. I wondered whether student teachers would find it more comfortable to fit in with either their 'gestalts' (Korthagen, 2010) of teaching and learning and/or an imitation of the class teacher they were with.

- 'I would like just to be told how to teach, I don't need to know why.'

Having argued for being research-informed as a career-long aspiration for teachers and recognising that university might have an ongoing role to play in that, I also asked for response in relation to:

- 'I would like to do further academic study.'

To see if the actual writing of the essay was valued for more than its academic requirements:

- 'Writing the Learning and Teaching essay will improve my teaching.'

Additionally, I wanted there to be clear opportunity for offering a negative view of Master's level study in ITE, hence:

- 'I would rather not have the Master's modules as part of my PGCE.'

I altered some to be framed negatively and positively to reduce the possibility for an unthinking marking in the same box for each statement and increase the potential for suggesting that the data was reliable and valid by trying not to be leading and to reduce 'positivity bias' (Groves et al, 2009, p239).

A five-point, symmetrical scale was used. Each question offered a position of neutrality in between two extremes of strongly agree and strongly disagree. I am aware that this can be criticised in terms of there being less opportunity for accurately capturing 'the objective reality of people' (Joshi et al, 2015, p398). This might pose a dilemma for respondents in choosing between two equally undesirable possibilities, but I considered that the opportunity for further comment might provide for this potential issue. Robson cautions against acquiescence bias (2011) where there is a tendency to agree with statements. Questions were framed to generate both negative and positive responses so as to promote engagement with the question beyond just unthinking marking in the same boxes throughout.

The survey was conducted on two occasions when the student teachers were in university for a whole cohort lecture. Survey Monkey was the tool used as it offered easy access and quick completion thus not overburdening the student teachers in terms of time and also potentially meaning that the response rate would be positively influenced. Each survey statement offered opportunity to comment further (see Appendix 11). In total, completion took less than 15 minutes including accessing the survey.

3.6   Focus groups

Gubriam (2007), suggests that the primary reason one would employ focus group methodology is to enable observation of assent and dissent amongst participants. I suggest that that is not entirely satisfactory and that it presents more complex theoretical underpinnings, contingent on a view of collaboration that this may imply. I view focus groups as being a useful means of gathering data for two main reasons. The first is that I recognised they offered an opportunity to gather multiple viewpoints in a relatively short length of time. Additionally, the collaborative dialogue that they engender fits well with my theoretical framework where I posit that conceptions about phenomenon might be seen with a fresh eye or through a new lens once interrogated in collusion with others. In this way, I was not seeking to use the presence of others as necessarily changing viewpoints but rather to offer the experience as one where joint perspectives might prompt new thinking or spark untapped ideas or experiences from which to consider the theme and questions posed.

The focus group has been explained as a methodology that allows the researcher to obtain data from participants with an experience or situation in common (Merton, 1987). This also has resonance with Wenger's (1998) work as both the student and lecturer groups independently fulfilling the three elements that define 'communities of practice' (CoP): the shared 'domain' membership, relationships built within a shared 'community' and a shared 'practice'.

One key strength of the focus group methodology is that it offers opportunities for participants to express views that may be at odds with what they perceive may be the desired response of the moderator, emboldened or ratified by the group context. It additionally provides possibilities for building on a multiplicity of ideas. It can be proposed that they are more likely to be candid because 'the focus is on the group rather than the individual; the respondent soon realises that the things he or she says are not necessarily being identified with him or her' (Hess, 1968, p19). Where the researcher is a known insider (as in this case), this might be a particularly important aspect.

Furthering the alignment with the possibility for focus group's benefits with one aspect of the concept of enactivism (Davis, 1997; Bateson, 1987), the physical interaction of the participants is seen to be of importance. Gesture, expression and movement – all part of the focus group – are used in the building of ideas. To this end, note was taken of paralinguistic features such as nodding, looks of puzzlement, etc. This will offer further insight into the sometimes unconscious assent and dissent

within the groups. Within focus groups, Wenger's (1998) notion of 'boundary encounters' is pertinent. This is where opportunities lie for changing the way in which the lecturer groups and the student groups discuss and consequently offer insights into the ways that they saw the learning inherent to the Learning and Teaching module as being realised.

The focus groups were all asked to respond to the same open-ended question 'What do you perceive to be the impact of the Learning and Teaching module on PGCE student teacher education?'. This offered potential for a wide-ranging discussion.

Data-gathering through focus groups and semi-structured interviews offers some areas for criticism that must be acknowledged. Beyond the time-consuming nature of both in terms of collection, transcription and analysis, I was very conscious of the potential for my possible influence as a lecturer on the Learning and Teaching module, in both the student and lecturer groups and in the NQT interviews. The concern was that my 'insider' role might make it more likely that participants would feel they needed to offer positive views or those that they theorised as being in alignment with what my views might be. In the student focus group, I thought that the timing, after the whole course had been completed and where there could be no feeling that what they said might influence assessments or similar, might go a little way to mitigate for this. In both the lecturer and student focus groups, I was very clear that I wanted to hear all ideas and opinions in seeking out challenges and negatives, in pursuit of potential improvements. At the same time, the very nature of focus groups can enable participants to feel emboldened by the other members and happier to share what they might view as being ideas or views that they could view as being more controversial for the researcher as an insider to hear. The same opportunity was not afforded the NQTs in the semi-structured interviews and there is no doubt that their views and interpretation of them must be interpreted with greater caution.

I was careful to draw less vocal members of focus groups into the discussion by asking them directly for their responses or perspectives. Where I noticed indications of assent or dissent that were not voiced, I shared my observations and asked directly if they could share their thinking e.g. 'You are nodding to that, can you explain why?'

3.7   Semi-structured interviews

In a similar way to focus groups, knowledge can be constituted through conversation (Rorty, 1979). In semi-structured interviewing, the enactivist (Davis, 1997; Bateson, 1987) perspective might have less direct bearing as I was not actively sharing my own experiences and perspectives. Therefore, I was not presenting possibilities for there being dialogic talk that would alter the apparent truths that were being represented by the participants. This does not detract from the potential power of the interviewer. Here, being an insider and having a good understanding about the Learning and Teaching module under examination was important in guiding and prompting where I saw appropriate. That is not to say that knowledge cannot be evolved through active reflection (Dewey, 1933), which can take place through thinking while talking, prompted by the interviewer. However, I would suggest that

interviews offer less possibility for experiences being considered iteratively, influenced by those of others with similar yet alternative ones or prompting a change in ideas or perspectives during its course.

Originally, I had wanted to conduct focus groups for gathering NQT perspectives but this was not possible in reality. Again, pragmatics played some part in the data collection. I viewed the probability of organising a time when a group of willing NQTs would be able to get together as being unlikely. The individual interviews did, however, offer advantages not inherent in focus groups. Here, participants were given greater time and scope to develop and consider their responses – no power struggle or over-dominance of individuals had to be managed. I also wanted to interrogate the possibility that they were unhappy with their practice or had decided that they did not value the learning and development done during the Learning and Teaching module under examination. I wanted them to feel free to express this without the possible feeling of it being at odds with their ideal and the picture that other NQTs might paint. I anticipated that as teachers now in school, and in very different schools, there might be reluctance to share aspects of their practice that might by this stage be in contrast to what they might consider would be a desirable pedagogy. Whilst it might feel acceptable to share in confidence to me, it might feel unprofessional to disclose to teachers from other schools.

The NQT semi-structured interviews offered an opportunity to test the reality, to actually see whether the proposed impact of the Learning and Teaching module was indeed achieved. Interpretation of data drew on polymorphic interviewing (Eisner (1992) in Denzin and Lincoln (Eds), 1998) where findings reflected the multiplicity of perspectives rather than solely a synthesis of commonalities through the conduit of the researcher. The small number of participants in this part of the study meant that their individual experiences were seen to be noteworthy.

3.8   Ethics

There were important ethical issues to be addressed in my research. I followed BERA guidance (2018) and all necessary permissions were obtained, and I discussed the research and my proposal with leaders of the PGCE course. All participants were advised of the purpose and scope of my study through provision of an information sheet (see Appendix 5). There was no obligation to participate; people were free to choose to withdraw at any time and this was reiterated during data collection.

Data was held securely and will be for no longer than the five-year maximum. Additional permission was sought to share data with my supervisors, one of whom is a joint Primary PGCE leader.

For the student and lecturer participants, there are issues around the power that I as an insider researcher might be perceived to hold. Saidin (2017) points out the challenges that this might pose. The insider researcher occupies a potentially valuable role, powerful in recognising the nuances and minutiae that might be found as a result of the knowledge and understanding they bring as far as the nature and content of the 'case'. I realised that I must acknowledge issues around objectivity

when I gathered data, analysed and wrote up findings. Moreover, in undertaking focus groups where thoughts are shared between participants and the potential for this constraining what is offered, I asked all to respect the confidentiality of individual contributions within the groups and pseudonyms used in the write-up. There may be concern that expressing possibly negative views on the Learning and Teaching module in question might be challenging for all participants. I thus assured participants that all views were welcome in seeking improvement and development of ITE. Additionally, I was clear to share with those I sought permission from to conduct the research that findings might not throw positive light on the element of the course that is being explored.

3.9 Analysis and interpretation of data

Robson (2011) cautions against the positivist and thus reductionist assumptions that might be viewed by blindly analysing data, suggesting that interpretation – 'shedding light on meaning' (p412) – should be the focus of both qualitative and quantitative data.

The analysis and interpretation of qualitative data drew on Creswell and Plano Clarke's (2007, p129) process.

- Transcription

Both the semi-structured interviews and the focus groups were transcribed. This was done externally. I am aware that transcription can offer one means of familiarisation with data and indeed has been regarded as being an important phase (Bird, 2005; Reissman, 1993). However, in common with Bird (2005) in her initial efforts, my typing skills are poor enough to inhibit anything more than concentration on the act of accuracy and would be extremely time-consuming, particularly with the volume of spoken data I was working with. Thus, practicality demanded the employment of a skilled transcriber who was subject to a confidentiality agreement (see Appendix 2). I was mindful of Braun and Clarke's (2006) advice to check the recordings for accuracy and to spend a good deal of time reading and re-reading to assure myself of proper familiarisation. The qualitative data generated from the two surveys were added as two further cases on to NVivo for organisation under the same coding.

- Initial exploration of the data

As I had not self-transcribed the interviews or transcripts, I viewed this stage as being important. Not only did I read transcripts repeatedly in synthesis with re-listening to consider intonation and tone, I noted where this was significant in interpreting the emphasis or checking that the meaning was clear. I also worked with other doctoral students in considering the quantitative data by discussing and justifying decisions made. This helped in securing my understanding about what alternative views might need to be considered.

- Coding

High-quality analysis as described by Yin was adhered to (Yin, 2019). A priori themes (see below) (King and Horrocks, 2010, p168) had resonance with what was offered by considering the literature in the field. This is what Braun and Clarke (2006) term as being theoretically driven: a 'top-down' (p13) approach, a 'theoretical or deductive' (p12) means of considering the data 'driven by the researcher's theoretical or analytical interest and is thus more a detailed analysis' (2006, p84).

My a priori themes were: theory-practice dichotomy, research-informed teaching, reconceptualisation of beliefs and professionalism. I found that these seemed to encapsulate the features of what I had considered in relation to the research question and that they were effective in guiding the organisation of the data. I also used Figure 3 below when interpreting the comments from the survey as a structure for guidance where synthesis with the interview and survey data would be likely to arise.

Figure 3.   Themes and related survey statements

Theme identified	Question on survey
Reconceptualisation of beliefs	A better understanding of research has made me think differently about my own education and teachers.
Research-informed teaching	Writing the Learning and Teaching essay will improve my teaching.
	It is important for teachers to be able to critically analyse research.
	Being able to understand educational research has a positive impact on teachers' efficacy.
	Research-informed practice increases teachers' job satisfaction.
Theory-practice dichotomy	I would like just to be told how to teach, I don't need to know why.
	Understanding research has made me dissatisfied with teaching I have observed in schools.
	I find it hard to put research into practice.
Professionalism	I would like to do further academic study
	I would rather not have the Master's modules as part of my PGCE.
	Having a Master's level qualification is important for the status of teachers.

I used NVivo 12 to organise the data from the focus groups and semi-structured interviews. I colour-coded the semi-structured interviews so that I could easily identify their sources even when reorganised under nodes (themes).

I was aware of the criticisms that could be directed at the use of software in analysis. I emphasise here the use of the word organise, not analyse. Similarly, the use of transcription can be seen as distancing the researcher from the data and imposing codes for analysis that would offer a less rich and contextualised picture. I believe, however, that for my study the use of a priori themes (King and Horrocks, 2010, p168) in initially coding the data to form nodes to examine the cases enabled the software to do no more nor less than if I had been working through my data manually. It also meant that multiple nodes applied to particular data could be more easily managed. Additionally, I worked through the data iteratively and listened again to extracts of recordings to consider the relative stressing of particular words and how they coloured the meaning. I had not used a note-taker in focus groups, as I was aware that this could add a layer of challenge in terms of willingness to share opinions on the part of the participants. Mindful of this, in addition to taking notes, my recorded words were helpful in noting assent and dissent e.g. 'I see you are nodding when you hear X say that' and 'You disagree, G, can you say why?' and acted as an aural aide memoire.

Despite this deductive approach, in seeking to offer all the evidence, data gathered in a qualitative manner inevitably offered alternative avenues for more bottom up or inductive themes and that can be recognised as one of its strengths. King and Horrock's (2010) definition that 'themes are recurrent and distinctive features of participants' accounts, characterising particular perceptions and/or experiences, which the researcher sees as relevant to the research question' (p150) seems to encompass the ideas of Braun and Clarke (2006), with themes being contingent on the idea of 'keyness' (2006, p11) in that they seemed to be pertinent to the research question under consideration as well as to those that might have been anticipated given the literature. Thus, I was mindful to consider what data was outside my a priori themes. I 'attended to all the evidence' (Yin, 2018 p137). I also looked carefully for alternative interpretations and the unexpected or 'orphan' (Auerbach and Silverstein, 2003) pieces of data that arose.

I initially organised the data from the NQT interviews under very broad deductive themes – my a priori themes from the literature review (see above). The transcripts from each participant were coded to identify themes (see Appendix 7). Following this initial coding, once I began amalgamation of the different data sets, and having returned to the literature conceptual and theoretical frameworks (see Chapter 2), the themes (NVivo nodes) of beliefs, dichotomy, synthesis, research-informed, research-based, criticality, status, professionalism and writing process were initially used to organise the data in NVivo. Additional data from the student focus group and two lecturer focus groups enabled me to identify emergent inductive themes and nodes for use in NVivo. (An example of analysis of an extract from the lecturer focus group can be seen in Appendix 8.) Initially, I found it very challenging to identify themes to organise the data across all sets logically and frequent discussion with fellow students and academic colleagues was essential in managing the process. I was constantly mindful of my researcher position and the critique and prompting of reflection from these discussions offered an additional lens to meet the potential for bias. NVivo was invaluable for offering a straightforward means of dual-coding data, where appropriate (for example, see Appendix 9).

Revisiting the data iteratively was essential in cross-checking for frequency of ideas and to ensure that I was not disregarding data that was evidenced across the various sets. New additional themes that I used in organising the data were: satisfaction, autonomy, strategic compliance, reflection, Master's impact, professional dialogue, pedagogy, and teacher educator role. These were utilised as additional nodes on NVivo.

I then had to begin the analysis again as I found that the introduction of new nodes required further work on the NQT semi- structured interviews.

When analysing the comments from the surveys, I recognised that it would be useful to use very basic quantitative analysis in that recurrence. I looked for patterns of response across the data. To a degree, prevalence was considered in thematic generation: a 'repeating idea' (Auerbach and Silverstein, 2003). To a lesser degree, I also did this for the NQT interviews, recognising where repeated perspectives might be interpreted as offering additional weight. This was done with caution due to the limitations of the sample in terms of size. Despite this, I consider that, as an exploratory study, there is opportunity not for seeking answers but for recognising a range of possibilities. Therefore, the fact that an idea, viewpoint or stance is only highlighted by one subject might well be fuel for further consideration in that they offer some interesting divergence from the expected.

My insider role has clear implications for influencing the perceptions shared. Undoubtedly, 'people's willingness to talk to you, and what people say to you is influenced by who they think you are' (Drever, 1995, p31). All participant groups were assured both of anonymity in the write up and that all perceptions would be welcome; this being of 'prime importance in informing our effective practice as teacher educators and for future cohorts of student teachers' (see Appendix 6 Information sheets and consent forms). The lecturer focus **g**roups were volunteers from the full range of lecturers on the PGCE programme (N=46) and I ensured that the two groups were made up of a mix of those not lecturing on the Learning and Teaching module, and those who did. I viewed this as offering a potentially more balanced view**:** those who lectured on the module could potentially have positive bias towards a programme that they lecture on. Additionally, the lead for the module was not invited to participate as I viewed their presence as challenging for critique to be made.

The student focus group was formed by students that I had supervised in schools and had developed a relationship with. There is thus potential that they would have been less willing to share negative perceptions with me although I did emphasise that all opinions would be helpful in developing/improving the Learning and Teaching module, but findings must be interpreted with this in mind. The students doing the survey were completely anonymous and, therefore, I propose would have been less influenced by my insider researcher's role, both in their voluntary participation and views.

3.10   Response rate

The student teachers were not incentivised to respond apart from being told how valued their perceptions would be and they were also given a face-to-face reminder from their Learning and Teaching module lecturers the first time the survey was administered. The second time, a number of lecturers shared that they had forgotten to remind them as it was a more pressured session time-wise. I wonder if that could partly account for the much lower participant response rate. Additionally, it might be thought that, as the survey was the same, they had already completed it and thus did not need to repeat. The survey tool did not allow one to see whether anyone had viewed the survey and then not completed it, but I suspect that this was a possibility. My methodology did not gather data regarding the individuals' demographics therefore any peculiarities or commonalities of the group cannot be offered in considering the reason for a null response.

In considering the significance of the response rate, the more commonly used methodology literature does not seem to offer any concrete numbers with which to judge one's data response rate and thus to evaluate possible response bias. A recent study was conducted (af Wåhlberg and Poom, 2015) that sought to offer clarity as to negate the uncertainty surrounding the possible impact the non-respondents might have on the reliability ascribed to results. Their work that compared a compulsory initial survey followed by two waves of voluntary was able to provide evidence that the much lower rates gathered on the latter two still bore out the findings of the first. The sample data sets were analysed for means, internal consistency and correlations and the effect of non-response variance was found to be very low. This offers one encouragement in describing and asserting validity to the response to the study. Despite this, I did want some indication of what I might expect. To that end, I looked to surveys asking for evaluative perceptions of other aspects of our course. Consequently, in terms of response rate, I looked at another survey that they were asked to complete to see what I might reasonably expect. They completed two evaluations during the same terms as I conducted mine. The response for the first was 35.7% and for the second 12%. I surmised that the lower rate of the second return might well be to do with the feeling of pressure of time that one is aware of as a lecturer on the course. I thus hoped for response rates above these levels and being open about my numbers would offer transparency about the validity I gave them.

3.11   Cleaning the data

The survey was conducted using Survey Monkey. Data generated by this online service are security protected, fully comply with GDPR and HIPAA data handing requirements and privacy law. Log in credentials are required for all data access. Data were therefore secure. Data were exported to Excel for scrutiny and interpretation. There were no missing data and all participants had responded to all statements. In checking the data, I looked for any respondents that had given the same response to each question suggesting that they were not really considering their response. Although there were none, I would have rejected these if they did not show additional engagement by offering comments with at least one response.

3.12   Analysis of a potential change between December survey and May survey

I theorised that there may be some overall difference between the responses given in the December and May surveys. In addition to the direct comparison between individual questions by looking at percentage rates, I wondered whether the perceptions of the student teachers about research and its place in learning might be regarded less favourably overall given the fact that they had just received their feedback on the first draft of their essays for the Learning and Teaching module and that could be viewed as being a challenging time for them. The responses to statement seven, 'I would rather not have the Master's modules as part of my PGCE', to statement eight 'Writing the Learning and Teaching essay will improve my teaching' and to statement 11, 'I would like to do further academic study' were ones that I thought may have altered in response to the time change.

All the statements offered opportunity for further comment. These were coded in synthesis with the other qualitative data but I thought this particularly important where student teachers had made comments that appeared not to regard the Learning and Teaching module and research knowledge positively as I considered that this would be less likely to feature in data-gathering where I had been present, as stated previously.

I thought that reliability and validity in terms of the engagement with the survey would to a degree be evidenced by the number of comments offered. A high number of student teachers making individual comments would indicate that they were putting thought into what they were completing.

The survey was subjected to descriptive analysis as inferential statistics. Seeking to offer conclusions beyond the confines of this individual case were not within its scope nor resonated with the theoretical framework proposed. Thus, results from both surveys were tabulated on spreadsheets and converted directly into graphs for each question, showing the distribution across responses for both December and May. Examples of survey comments are shown beneath each table as well as an indication of how they broadly offered underlying impetus for the response options.

3.13   Conclusion

This chapter has demonstrated how my personal reflections on social constructivism and enactivism has served in considering the potential of methodological choices i.e. focus groups and semi-structured interviews. I have justified the use of surveys in providing a breadth of data, for framing the research as a case study and reasons for selecting the three sample groups that were studied. I have also explained my reasoning for the timing and order of data gathering. The next chapter demonstrates how I interpreted the data in response to the analysis described above.

Chapter 4 Findings

This chapter will first offer descriptive analysis of quantitative Likert data of the surveys. Subsequently, in alignment with the threads from the literature review, it will use the themes of: theory-practice dichotomy, research-informed teaching, reconceptualisation of beliefs, and professionalism to show interpretation of the quantitative data from the survey comments, NQT interviews, lecturer focus group and student focus group. This is done in synthesis with the interpretation of the individual survey statement responses.

4.1 Survey analysis

The survey was conducted twice (December and May) and was open to the full cohort of student teachers actively enrolled on the PGCE at the time. The surveys were completed by 142 (n=235) PGCE student teachers in the December and 93 (n=225) in May. The fall in numbers can be accounted for by student teachers deferring, interrupting or choosing to leave the course. The variables were recoded to reflect the rank orders that had been designed to be negatively framed to offer an additional layer of validity.

The results were scrutinised on Excel line by line to see if there were any participants that appeared to simply complete the survey giving the same response for every statement. This was not evidenced in either the December or May surveys with variation being represented throughout. Each question also offered opportunity to make comments and these were considered in relation to the other qualitative data. Statements are represented in the findings by a student number and either M (May) or D (December) e.g. (M63) refers to student 63 in the May survey.

My initial reason for implementing the survey twice was in anticipation of potentially finding difference between the same responses to the same survey item. I considered that might be indicative of the student teachers ascribing changing ideas about the place that the Learning and Teaching module had in their learning. Whilst mindful of the limitations on asserting weight to this, scrutiny of the results revealed that there was no notable change. In re-examining what this might mean, I then considered the timing of the two surveys and came to recognise that, given the student teachers had just been given the feedback on their initial first submissions of the essay, were in the throes of their final school experience as well as having the prospect of a considerable amount of work in getting their essays drafted for a final submission, this would be the very time when a much more negative view of the Learning and Teaching module might have been presented. One might therefore view this lack of change as being positive indication of value being perceived in terms of the process of essay completion in synthesis with their development of pedagogical understanding. Where I do make comments on apparent differences, I offer them tentatively.

A further possible reason for this lack of change was that the two surveys, despite being implemented with the same overall student group, could have been different student teachers rather than the same set twice as indicated by the sample sizes (see Limitations). That being said, the perceptions asked of them still had potential to be

different given the time lapse. So, despite the caution offered above, and if it were an entirely different group of student teachers responding in May, the further experiences on the course would offer possibilities for change as they are representative of a sample of Primary PGCE student teachers undergoing the same collective experience.

The standard deviation was calculated to provide an indication of the spread of response from the mean. I wished to consider this in the response to each question (see Figure 3) and in any change in the standard deviation across the two data that might indicate a change in perception given the time difference between the implementation in December and May. The deviation was considered to be low if n= <1 and high if n=>1 (Marsh and Elliot, 2008).

Figure 4.   The standard deviation between survey responses in December and May

Survey statement	Statement	December	May	Change
1	I find it hard to put research into practice.	high 1.07	high 1.15	
2	I would like just to be told how to teach, I don't need to know why.	low 0.71	low 0.76	
3	Understanding research has made me dissatisfied with teaching I have observed in schools.	low 0.67	low 0.91	
4	Being able to understand educational research has a positive impact on teachers' efficacy.	low 0.8	high 1.03	low to high
5	Writing the Learning and Teaching essay will improve my teaching.	low 0.97	low 0.99	
6	Research-informed practice increases teachers' job satisfaction.	low 0.66	low 0.86	
7	It is important for teachers to be able to critically analyse research.	high 1.19	high 1.27	
8	Having a Master's level qualification is important for the status of teachers.	low 0.9	high 1.17	low to high
9	I would rather not have the Master's modules as part of my PGCE.	low 0.92	low 0.89	
10	I would like to do further academic study.	high 1.03	low 0.98	high to low
11	A better understanding of research has made me think differently about my own education and teachers.	high 1.13	high 1.26	

Low standard deviation was considered an indicator of some degree of reliability showing a convergence of opinion. The responses across both December and May to survey statement one, seven and 11 showed a high level of deviation. This suggests that perceptions were divergent and might suggest that one can make less assertive assumptions about possible meanings. The low deviation in response to statements two, three, five, six, and nine show more congruence and might be open to offering a more certain view. Statement eight: 'Having a Master's level qualification is important for the status of teachers'; statement nine 'I would rather not have the Master's modules as part of my PGCE'; and statement ten: 'I would like to do further academic study' can be viewed as having a common theme, that of offering perceptions about the academic and qualification aspect of their learning. It might also suggest that there is more ambivalence about the relationship that Master's level study has with research.

Outliers (Marsh and Elliot, 2008, p168) were considered to have potential influence on results. The data were examined to identify whether extreme individual responses might have influenced the standard deviation. This was not apparent for statement one, seven or 11 that had been identified as having a high level of standard deviation. Scrutiny of the raw data showed that there was distribution across all response options in both December and May. I thus considered outliers to have had no significant effect on my results.

4.2   Data interpretation across all sets

All data from the NQT interviews, lecturer focus groups and student focus groups were transcribed by a professional transcriber (for confidentiality agreement, see Appendix 2). Once returned, they were read while listening again to the relevant interviews/focus groups to verify precision. They were found to be very accurate with mistakes only occurring where specialist knowledge of the field might be needed in interpreting e.g. the Educational Endowment Foundation was transcribed as Educational Dowment Nation. All data from the semi-structured interviews, focus groups and additional comments from the survey were uploaded on to NVivo12 for thematic analysis.

The following findings are representative of my decision to make this interpretation as transparent as possible to the reader, following initial, broad themes that I chose in interpreting the data:

- Theory-practice dichotomy

- Research-informed teaching

- Professionalism

- Reconceptualisation of beliefs

The themes used in organising the data in NVivo are discussed under these broad headings where applicable. Some were found to be relevant to more than one e.g.

professional dialogue is considered in relation to research-informed teaching as well as professionalism.

The deductive themes used were dichotomy, synthesis, research-informed, research-based, criticality, status, professionalism and writing process.

The inductive themes used were satisfaction, strategic compliance, reflection, Master's impact, professional dialogue, pedagogy, autonomy and teacher educator role.

4.3   Theory-practice dichotomy

The theory-practice dichotomy is an experience that challenges ITE for both student teachers and then further as qualified teachers (e.g. Falkenberg, 2010; Korthagen, 2010; Flores, 2016; Van Nuland, 2011). Literature and research have evaluated a range of strategies and proposals for ameliorating this (Allen, 2007; Allen and Wright, 2012; Allsopp et al, 2006; Levine, 1997; Robinson & Darling-Hammond, 1994, 2005). Unlike ITE that looks to select schools that align practice closely with philosophy and theory/research espoused by particular universities, student teachers in this case study are currently placed in schools where practice varies considerably. It would be challenging for any ITE in England with such a large number of student teachers to be highly selective over settings for school experience.

The Learning and Teaching module seeks to offer student teachers an opportunity for considering theory and literature in the light of their own practice. Explicitly, this is realised in the completion of a 5000-word essay to be assessed at Master's level. I wanted to discover whether the student teachers had found that the theorised gap existed, whether it had been challenging for their learning and whether, despite the challenges, they valued understanding research, reading and the underpinning pedagogies in their practice.

This theme was explored through three statements:

- I find it hard to put research into practice.

- I would like just to be told how to teach, I don't need to know why.

- Understanding research has made me dissatisfied with teaching I have observed in schools.
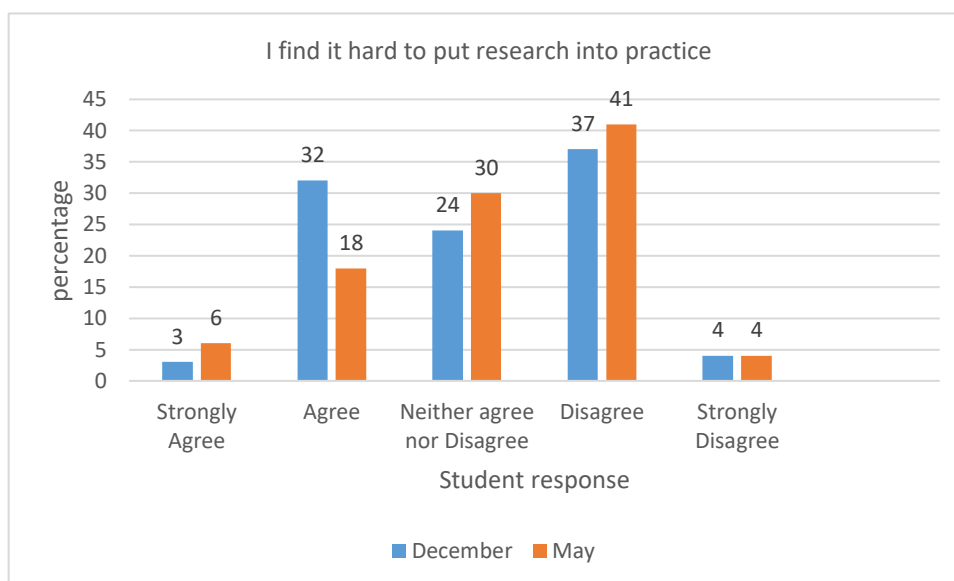
These results show that those that indicated that they considered themselves to have experienced difficulty with putting research into practice, a dichotomy, was at 35% in December and 24% in May. 41% recorded that this was not challenging for them in December and 45% in May. Those that did not feel strongly were 24% in December and 30% in May. It might be that this ambivalence reflects that they had anticipated and were ready to encounter challenges, or potentially that they had not considered it. The only comment that seems to explain the view was that of 'sometimes'.

Across both December and May surveys, there were 35 comments in total from 235 people. The number of comments in December was 27. All the comments reinforced a view of research being challenging rather than the converse. They highlighted differences that schools offered in terms of pedagogies as compared to university. Many reflected a negative perspective on practice in relation to their developing understanding of theory and research. These indicated dissatisfactions with not being able to realise research in practice: 'It can be disheartening to learn incredible theory and not being able to apply it due to the school we are placed in/work in.' (D71) Also: 'Often schools can be restrictive, so personally I have struggled with being allowed the freedom to implement what I have researched.' (D131) Further, the view that schools present a 'problem' for them: 'It depends on how the school is run, it is not always possible to incorporate into practice.' (D76) Additionally, 'Schools are stuck in their ways so – even though you know how to do better – it's difficult to implement'. (D40)

Discussion in the student focus group reflected the view of schools being problematic, too. In the student focus group, one said:

> In my last placement, the teacher I was working with followed the procedures and I would try and engage in conversation with her about, do you agree with it? It was sort of like, it doesn't matter if I agree with it, I'm going to follow the process. There does seem to be that lack of

willingness to just think, okay, could I do this differently? Could I challenge the processes? (P5)

Another student teacher in the focus group did feel empowered to make a significant change to the practice that she encountered, fuelled by what she had considered in relation to the Learning and Teaching module:

> I was a bit worried at first because they were [an] all-ability group and I just changed one boy. I said, can we just try him on a different table and it worked really well, so I was like, can we just change the whole class… it was just so much better. (P3)

It might be unlikely that many teachers would be so willing to acquiesce to a student teacher's proposals and indeed, comments made on the survey are suggestive of student teachers recognising this, as these comments illustrate: 'My practice is influenced by the class teacher' (D69) and 'Schools can be restrictive so, personally, I have not been allowed the freedom to implement what I have researched.' (D131)

Challenges regarding ability grouping appear a number of times across data. This might be as a result of its being an issue that features in one of the Learning and Teaching module sessions and can be further explored in response to one of the assessment questions. Crucially, it is an area of practice where there often seems to be explicit difference in what student teachers have come to believe is effective and what they find in school. If they have engaged with the literature in the field (e.g. Boaler, 2013, 2015; Brown & Zhang, 2017; Hallam and Parsons, 2012; Marks, 2016), they may have come to recognise that grouping and notions of ability are well-researched and are important to consider in one's philosophies about education and consequent practice. Observations and experiences in the reality of schools, where ability grouping is frequently part of practice, might reinforce views of university and research proposing an unrealisable pedagogy (Cahill et al, 2019; Fletcher and Luft, 2011). In addition, this might reinforce beliefs with which student teachers have come to their ITE: given the long history of grouping by ability practices, their own schooling may well have given them first-hand experience.

In considering the implications of this for current student teachers, the challenges that were reported might indicate that they are struggling to understand research and its relevance. However, the comments offered by the student teachers completing the survey suggest that they are recognising a disjunct between what they have been learning at university and the practice that they are experiencing in school. Words such as 'restrictive', 'constraints' and 'stuck in their ways' ascribe perceived limitations in implementing pedagogies that they might consider to be effective based on their university learning. I theorise that this could negatively impact creativity and innovation in solving problems or to develop professionally in terms of their autonomy.

It might be that the student teachers who found it hard to put research into practice might be exercising good judgement in recognising that a desire to explore research-informed practice might be at the expense of developing positive relationships with

the teacher in whose classroom they are placed. They might well be adopting a strategy of strategic compliance. The student teacher in the focus group who described how she had altered the organisation of the class to move away from what she considered to be 'ability' groups could have encountered a very different response from the class teacher. Others in a similar context might have considered that falling into line with existing practice might have been better for maintaining professional relationships. The phrasing of this statement on the survey may have further served to indicate the possibly wrong way to think about school and university. 'Putting research into practice' might reinforce the 'schism' (La Velle, 2015), a translational view with 'application' of research and in fact might be seen as being counter to the iterative critical reflection that is suggestive of effective student teacher learning.

Despite challenges reported, that student teachers saw value to theory and research is recognised in the following data. Perceptions in response to the next statement, 'I would like just to be told how to teach, I don't need to know why', appeared to reject a 'what works' (Atkinson, 2000) model for their own learning and a majority of student teachers did want to understand the underpinning 'whys' of teaching and learning.

Figure 6.   Responses in December and May to the survey statement: 'I would like just to be told how to teach, I don't need to know why.' (N=460)
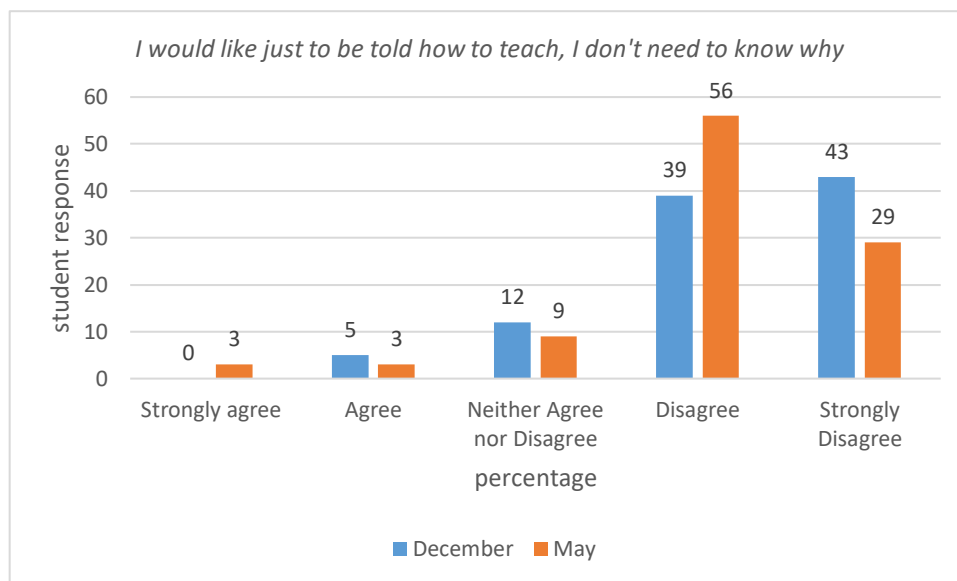
Figure 6 shows that 82% of student teachers in the December and 85% of student teachers in May wanted to understand teaching and learning theory; the 'why'; only 5% in December and 6% in May did not. This suggests that the majority of student teachers who responded wanted their teaching to be informed by their own understanding about what might be effective. I interpret this as being representative of a desire for independence and autonomy.

There were 23 comments across the two surveys to this statement. Two of these thought that there was not enough about the 'how' and talked about a need for a better balance between theory and practice. The remainder offered positive choices

with reasons such as: 'I want to think for myself,' (D9) 'Why be a teacher if this is the case...?'(M54) and 'I want to understand teaching, not just do it.' (D71)

In the student focus group, there was discussion about 'others'; considering that *they* might feel that just being told what to do might be desirable:

> You can understand that. Just being given a resource and told, teach this and not having to go home and plan for hours and just being able to walk into the classroom and putting it up on a board and saying, this is what we're going to do. You can understand how people feel comfortable with that. *Student focus group (P1)*

This statement also uncovered some changes in relation to how student teachers thought that they would learn about teaching and learning, a pedagogy for ITE. They might well have been those that initially were seeking a simplistic 'tips for teachers' from ITE. Their initial conceptions about the process of becoming a teacher, their idea of how they would learn about teaching had been changed:

> I did just assume it would be a lot more in the classroom, they tell you what to do and you follow it like that. So, when the university said, we're not really going to teach you, I was like, what are you talking about? Just show me how it's done, and I'll get on with it. But now, I think obviously at certain points I was like, this is fairly painful, but at the end of it, you can see the benefit of it. *Student focus group (P7)*

This student had thought that they would have an experience that resonates with an apprenticeship approach where they would be instructed on what to do and that this might be relatively uncomplicated. Initially being unhappy that this was not to be the case, they were now viewing this as being beneficial. This adds to another layer of complexity regarding beliefs. Student teachers might well come to their ITE with a particular idea about how they will be taught and what they will learn. This too could be considered to be a belief that they need to have the opportunity to reflect on.

The NQTs did not seem to have rejected theory and research now they were in post. All expressed that they were actively considering how research could be seen in relation to their own current practice. What they shared demonstrated an understanding of a research-informed approach to their practice. This seems to recognise the centrality of themselves in the process: their interpretation and their self-efficacy. One suggested that:

> reading and understanding research… and trying to apply them in to practice, but not being slavish to what that research says… because most of the research that you read has a specific context and when it says some specific thing is better, it's usually a little bit better and you need to get that little bit better without losing whatever is already good about what you're already doing. *NQT 4*

Another suggested that it prompted them to assume the role of being a 'risk taker':

> whether you… even if you think it might not work, still try it out and see for yourself because not every class is the same. What works for one might not work for yours but is still worth trying, taking that risk. *NQT 3*

These comments and the response to the survey show that student teachers and NQTs perceived research evidence as being an important aspect of educational knowledge and understanding.

The next statement that the student teachers were asked to respond to in the survey looked to the perceptions about an affective response to practice in the light of research engagement. Given that they had experienced differences in school and university, what impact this might have on their enjoyment and satisfaction in their role is important to consider. Should ITE seek to minimise the differences by placing student teachers in school contexts where pedagogies, ideals and philosophies align with what university attributes as being good practice? This strategy certainly seems to have been what has been considered in various programmes internationally such as Allen, 2009; Allsopp et al, 2006, 2012; Falkenburg, 2010; and Levine, 1997.

Figure 7.   Responses in December and May to the survey statement: 'Understanding research has made me dissatisfied with teaching I have seen in school' (N=460)
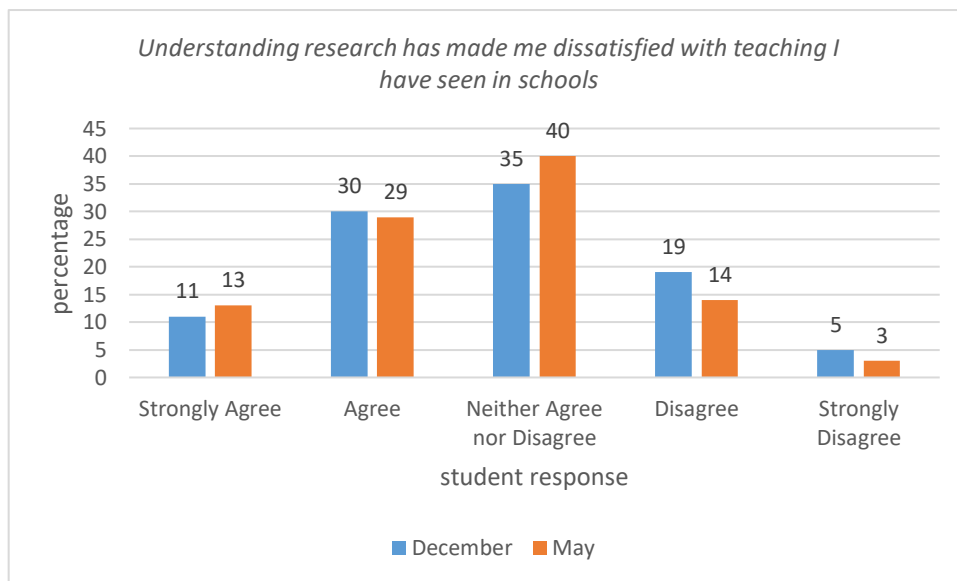
This result shows that 41% in December and 42% in May of student teacher respondents indicated that their understanding of research had negatively influenced their view of practice seen in school, again indications of a dichotomy. 24% in December and 17% in May did not consider this to be so. Those that did not feel strongly either way numbered 35% in December and 40% in May. Further reflection suggests that this statement was not as well framed as it might have been. This might be evidenced by the popularity of choosing the 'neither agree nor disagree'. A more explicitly phrased 'Understanding research has increased my ability to critically analyse what I have observed in school' might have been more effective in offering insights into student teachers' perceived ability to use their theory in classrooms as

a tool for critical reflection. Moreover, this statement could be viewed as reinforcing an underlying implication that 'university knows best' that could be reinforcement of a problematisation of the gap between these two contexts for learning.

There were 22 comments offered to this statement 'Understanding research has made me dissatisfied with teaching I have seen in schools.' Some commented on the excellent practice that they had been a party to, demonstrating a synthesis between theory and practice. Of the remainder, only one explicitly said that it had had no impact. This had been disheartening for some, as these comments illustrate: 'It has made me frustrated at times'; (M15) 'I wonder if it would be frustrating to want to change the way you practice based on research, only to find that this is not feasible within your school for one reason or another' (D128) and, 'There have been instances where you observe some teaching that goes against a lot of research we have read e.g. ability groups which makes it difficult to objectively observe some teachers' practices'. (M44) They also acknowledged the differences: 'The pressures of schools and other authorities sometimes overwhelmingly contradict what research shows in practice.' (M46) Student teachers therefore showed awareness that schools operate differently from one another and that they might not fit with their own teacher ideals.

The lecturers too considered that the difference between school and university presented a challenge:

> From the perspective of going into schools, it can be really difficult for them not to conform to a kind of growing consensus. (L7)

> I've noticed in the past few years, many schools aren't really engaging in the development of students in terms of true partnership as they should be and that concerns me and I think if they're going in with an even deeper theoretical understanding and expectation, some schools are there. They are just delivering the curriculum in a certain way so that every Tuesday afternoon we do this. So, they don't even think about it, it's just there. That worries me and so that's got implications for partnership I think…You're a body in front of children and you need to do your job, kowtow and behave. (L9)

Nods from others in the group suggested affirmation for this view.

This perception seems to point towards seeking out partnerships with more like-minded and like-practising schools for student teachers so that they might be able to 'practice what we preach'. I suggest that points to what might ultimately be an over-simplification of teaching and learning, minimising its complexity and diversity. However, these unproblematic experiences can be seen in the survey, too: 'The teaching I have seen has been extremely good and in line with research.' (D102)

Other student teacher comments to the survey show that although there has been some dissatisfaction, this has not had a negative impact on them: 'It has not made me dissatisfied but more curious/questioning.' (D128) Another said: 'With greater insight comes greater appreciation but both improve my practice.' (M20)

When I was initially drafting these findings, I became conscious that I was conceptualising the management of this dichotomy with vocabulary choices such as ameliorating and mitigating. I recognised that I was ascribing what Mayer (2019) describes as being an 'unhelpful rhetoric' (p35). This was compounded by the student teachers' comments using words like 'restrictive' and 'stuck in their ways' in describing schools. It would be easy to consider that aligning the two contexts of school and university in terms of research, theory and practice might better serve student teachers (Allen, 2009; Allsopp et al, 2006, 2012; Falkenburg, 2010; Levine, 1997). However, in this study, this has not consistently been the context, and, despite this, many student teachers and NQTs have found themselves to be successfully working in what they consider to be a research-informed way. This led me to consider that, if schools do not present student teachers with a variety of practice, then a potentially a superficially straightforward research model is being experienced and potentially reinforced. This may not serve student teachers well as they move to other contexts or their own class.

The following data consider perceptions of the research-informed learning that student teachers have been experiencing in completing the Learning and Teaching module.

4.4   Research-informed teaching

The British Educational Research Association (BERA) drew on seven teams of researchers in order to consider international contexts and studies for developing recommendations for the place of research (BERA-RSA, 2014) in the English context. This provided impetus to suggest that effective ITE programmes should enable student teachers to develop a clear sense of theory-practice links with associated opportunities for exploration of, and building on, research. The Universities Council for the Education of Teachers (UCET) drew on these ideas and provided further momentum for policy to ensure that student teachers are offered the skills to use research in their teaching (2016). Whether student teachers' perceptions ascribed value to being research-informed and accorded with BERA or UCET ideals was the focus for the following survey statements:

- Being able to understand educational research has a positive impact on teachers' efficacy.

- Writing the Learning and Teaching essay will improve my teaching.

- Research-informed practice increases teachers' job satisfaction.

- It is important for teachers to be able to critically analyse research.
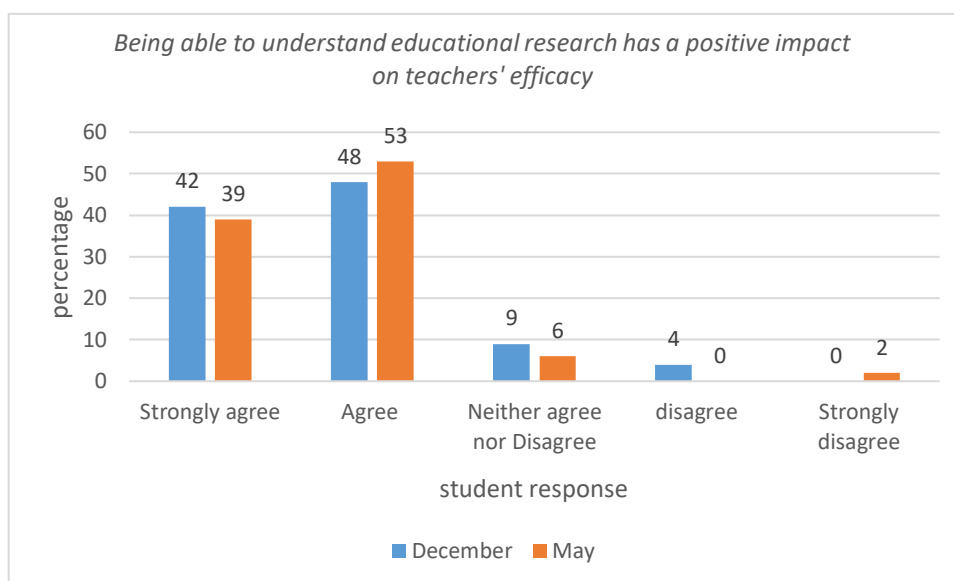
Figure 8 shows that 90% of December and 92% of May respondents perceived that bring able to understand educational research has a positive influence over teacher efficacy. With such an affirmative view, I anticipated that there might have been a similar number considering the Master's element of ITE to be of importance (see Figure 12). That not being the case seems to need consideration. There might be for some student teachers recognition of research engagement being a feature of other elements of their ITE programme. It could suggest that the Learning and Teaching module was not effective in communicating its distinctive contribution.

There were 34 comments in relation to this statement (Figure 8): 17 of them explicitly associated research understanding with effective pedagogy, as these examples illustrate:

> Evidence-informed pedagogy is such an essential tool. It helps to improve our teaching and to make us more reflective. (D15)

> Educational research is important for understanding what works and what does not work in education in general and how to improve practice, but it depends what research is and whether a teacher agrees with the research through their own experience. (D41)

Some indicated that they associated it with a place for reflection and consideration: 'It provides context and food for thought'. (D37) Others stated that they agreed but found research challenging to understand: 'Absolutely but sometimes it is confusing'. (D75)

One student teacher in the focus group showed that they saw research as being a resource for seeking alternatives and then exercising self-efficacy in their own work. This looked to what they felt they would do as an NQT in response to school practice and new initiatives:

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… to know the background where the research had come from and stuff. I think for example, if X happened in school, I would definitely be more inclined to look at what are other people saying about that, before just going along with something. *Student focus group (P5)*

Student teachers had sometimes found it challenging to teach in a way that accorded with their developing ideas about research and how it might be manifested in the classroom. Some NQTs, who now had autonomy in their own classrooms, offered a picture where they did feel able to exert authority within their contexts. This had enabled them to negotiate their own pedagogy within the school parameters, despite the differences that were found between what they felt might be effective and the accepted practices in their schools. They indicated that they saw research literacy as enabling them to contextualise the requirements of the school, not to accept its practices but to think further about how it aligned with their own understanding of pedagogy:

Every school has its things that it expects of any teacher. What Learning and Teaching module allows is to put everything into context and to do that while also thinking about, is that going to be everything, or what else do I need to do? *NQT 1*

I'm trying to think, what kind of teacher am I? How does that apply to my teaching? *NQT 5*

… there's a tendency where schools are so different and if we were to just go straight in, you tend to be moulded to how that school does it, but doing Learning and Teaching module, you have to think independently or what you think about it. So, it makes our teaching style, we really think about it, so we are the product of our own thought as well as what we've experienced in schools. *NQT 3*

I interpret this as showing NQTs being able to recognise that their understanding of research enables them to evaluate its potential in their own classrooms. Moreover, as assisting them to see beyond the ongoing implementation of school practices to make personal choices about pedagogy for teaching and learning. In ITE, therefore, there seems to be a need to note and recognise not only the complexity of teaching and learning, but also have a means of critically reflecting upon them both. Without this, I argue it might be more likely that NQTs could fall unquestioningly into line with practice found in school or back upon beliefs about teaching and learning with which they came to their ITE; challenges highlighted in the literature.

It was evident that one of the NQTs found that they were less constrained in what they were able to do, in part because they had been able to gain employment in a school that was less prescriptive with regards to curriculum and pedagogy:

My school doesn't have ability grouping anyway, which is good, because when I was doing my essay that's what I wanted. So, it comes in handy so a lot of what I was researching about the school were using as well, so I can implement it in my classroom and try things out, which I think has a

difference compared to schools in my placements that did use ability grouping. So, it's been useful to kind of see the difference between different schools. *NQT 3*

One NQT did acknowledge that there might be issues with changing what was accepted practice and a view that their ability to act with autonomy had the potential for being restricted by their school context. They suggested that they had encountered colleagues who had expressed the idea that what has been taught at university is a mismatch to what really goes on in school and moreover that university did not offer a realistic proposal for teaching and learning:

> … there is resistance I come across a lot of, 'That is what they teach you, but this is the actual reality of the situation.' *NQT 4*

Despite this message being given to them, NQT 4 does seem to have been proactive in putting into place their own ideals and practices, negotiated through their deputy head:

> I spoke to SLT (senior leadership team) about it because I was initially disheartened, because I was like, 'Can we try this' and they were like, 'No, this is the worksheet we've done for the last ten years so this is what we'll use.' But then talking to the vice principal, she was saying, 'What are your views on this?'… She said as long as I cover the curriculum and cover the topics then I can do my own discrete activities – you should be sharing this good practice. *NQT 4*

I suggest that perceived autonomy and convictions about effective pedagogy offered this NQT confidence to proactively seek change despite the views of colleagues.

Another interesting insight was offered by another NQT, who reported feeling disheartened in not being able to implement what they felt was effective teaching and learning. At Christmas, after their first term in school, their personal tutor from their ITE had emailed them and this had had a positive influence. They had already discussed how they had now changed the grouping of their class and this had been challenging because they had initially conformed to what they found other colleagues were doing. More recently, they had altered the way they organised the class and were now recognising positives from the changes:

> When I became an NQT, you learn so much but sometimes you just see yourself going back and doing what the other teachers are doing. But then I read an email from P and he said, you're probably… it's a bit overwhelming and if you're doing things that don't completely go with your morals, because you're literally just trying to survive at first, that's okay, as long as you still have them in your mind and you go back to them and stuff. That was helpful. *NQT 5*

A simple email from a tutor had been the prompt for renewed reflection on their practice. This might be one straightforward means of reinforcing/reinstating a sense of self-efficacy that might be challenging in the initial stages of a career, a reminder

of personal philosophies and to hold on to them. This might have implications for the on-going role of teacher educators.

Student teachers' responses to the survey shared that they recognised a view that research should be subject to interrogation and further consideration: '… it is biased or might be irrelevant'; (D20) '… not everything should be taken at face value'; (D32) and 'Take it with a pinch of salt.' (D53) Others showed that they understood that context was important: 'See what may work for you as a professional'; (D88) 'Every school setting is different and every child is different, therefore educational research should not be taken as gospel but critically analysed in relation to each'; (D127) and 'You can't take a piece of research and just apply it to your classroom without carefully reflecting on it.' (M32)

The NQTs' consideration of how research could be seen in relation to their current practice seemed to suggest an understanding being 'research-informed' had been explored with them. One suggested that:

> … reading and understanding research … and trying to apply them into practice, but not being slavish to what that research says… because most of the research that you read has a specific context and when it says some specific thing is better, it's usually a little bit better and you need to get that little bit better without losing whatever is already good about what you're already doing. *NQT 6*

These comments and the response to the survey show that some student teachers and NQTs perceived research evidence as being an important aspect of educational understanding and that it is a particular sort of understanding that needs to be viewed in the light of practice and, crucially, differences in the contexts of schools and children. What use they made of the research-informed essay is considered next.

Figure 9.   Responses in December and May to the survey statement: 'Writing the Learning and Teaching essay will improve my teaching' (N=460)

Writing the Learning and Teaching essay will improve my teaching
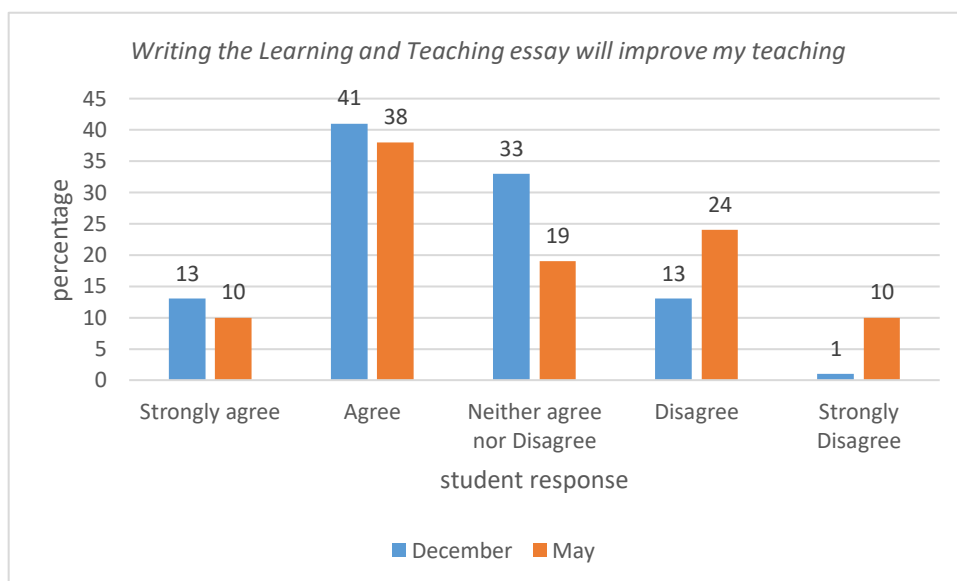
This shows that in December 54% thought that writing the essay would improve their teaching and in May 48%. I propose that these student teachers can be considered to ascribe intrinsic value to the process of writing this essay. As an insider in the research, I am aware that this assessment is unsurprisingly viewed as being a challenging aspect of the Learning and Teaching module. Whilst mindful of constraints in interpreting the data, I was unsurprised by apparent alteration from 14% to 34% across the December and May surveys of student teachers that perceived the essay as not leading to better teaching or being a part of a pedagogy for ITE. This is because, in December, the student teachers do not yet know the essay titles and requirements. In May, the student teachers were in the post-formative feedback stage of their essay-writing and currently in the process of re-drafting. Consequently, they could have been in a better position to judge it more or less positively in terms of its contribution to their own learning. I consider that struggles that are inherent to writing might be influencing their perceptions.

Thirty-six comments were made in response to this statement. The themes of the comments did alter over the two surveys. The December comments offered perceptions that they anticipated that the essay would be beneficial and positive comments were made with 'hope' featuring. The ten comments made in May (after an initial submission and formative feedback given) offered four that were positive, two that described stress, and others that commented on the process: for example, of wanting to read other student teachers' essays.

The data that were gathered through the student focus group and through NQT interviews indicated perceptions of the process of writing the essay as developing and reinforcing NQT and student teachers' philosophies about learning and teaching. Even though nearly a year had passed, the NQTs were able to very clearly recall and reflect on the essay question they had responded to. They also remembered the inherent issues and research that they discussed and how this was manifest in their current practice. I hope that this would not be the only aspect of the Learning and Teaching module that they realised in their classroom. It might, however, be that their chosen essay theme was where they felt most knowledgeable and confident about their own convictions and thus this area of their pedagogy would be most likely to have been influenced. This was illustrated in the comments. NQT 5: '… getting an argument down in 5000 words really helped me feel confident about what I believed and I really articulated that…' NQT 3: 'It extremely had an impact on filtering my own understanding and my own biases.' NQT 7 shared that they had continued to reflect on their understanding now they were in school as a teacher: 'I think I still support the arguments made in my essay, I just have more anecdotes to support my arguments.'

Student teachers in the focus group, after competing and having had their results from their essay submission, seemed to acknowledge the essay's intrinsic worth, recognising it as offering them confidence: one: '… I probably read more …. Because I did find the topic really interesting and it helped me feel confident' (P4) (cue lots of nodding and indications of agreement from the group as a whole) and another: 'it gives you confidence to challenge.' (P7)

There was evidence of change in underlying/unconscious preconceptions; perhaps what I have described as being beliefs:

> When I first started writing the essay, I looked at it as the home and pupil having the biggest impact on underachievement. If they were poor or from a disadvantaged background that they were more likely to underachieve, and my thinking changed so dramatically in the space of redrafting the essay that in the end I decided that teachers and schools had such a huge impact and I think that's affected my thinking. It's made me feel more positive about going in to teaching. *Student focus group (P4)*

These three quotes seem to demonstrate developing self-efficacy:

> I do think that I could have just floated along, gone with whatever the teacher said in the classroom just to get by, but by actually having to do research for myself in my own time, it just makes me think that actually, I want to change how things are done. So, it actually gives you more independence in your own teaching. *Student focus group (P2)*

> … and you know why you are doing it, not just being told what to do, you know how you are benefitting… I would 100% feel confident in saying that I disagree with ability grouping now, whereas before, I would be like, I know university told me various things, I did a bit of reading, but now it's like, you've done extensive research and formed an opinion based on that. So, you are not going to just sit there and listen to someone say, that is how it should be done and these are all the benefits when it's like, that's not borne out by research at all. It's opinion based on research so it definitely carries weight. *Student focus group (P7)*

> We are the product of our own thought as well as what we have experienced in schools. *Student focus group (P5)*

The student teachers in the focus group who had completed the programme were very positive about the writing of the essay and how it had influenced their practice. Here, two show that they felt their awareness of 'ability grouping' was an issue that would influence their future practice.

> … having to write about it and research it and look at it in the classroom just made me so much more aware. So, I think it has instilled it a bit more in my brain going forward that I will ensure that the children aren't labelled, set in ability groups. I just think that having them all mixed is what we should be doing. *Student focus group (P2)*

> … after writing my essay, realised I really didn't like it. *Student focus group (P3)*

This student teacher continued to share how they had then tried moving one child to work in a different group from his normal one and seeing that this was successful,

the class teacher had helped them reorganise the class away from ability groups completely. Therefore, for these student teachers the essay focus chosen seems to be powerful in influencing practice and their pedagogy.

The lecturers discussed the essay as being a driver for linking theory and practice:

> It's a painful process but it's incredibly powerful. Because it forces, you know, sometimes there's a bit of mismatch between what we do here and what happens in school. But the essay even though it's pretty… the students find it very tough… forces the students to think very clearly about the theoretical underpinning. The research that we discuss and have lots of room to reflect on, it forces them to put it in the classroom. *Lecturer focus group two (L5)*

One lecturer who did not teach on the Learning and Teaching module had decided to ask to read the essays submitted by student teachers that they were supervising in school, prompted by curiosity for what had been shared about it during post-observation discussions. This lecturer had found this to be a very valuable experience and thought that it enabled them to support the translation and consideration of the theoretical in practice. Although reading the essays of student teachers was positive for this lecturer, workload might be a barrier for others. What might be indicated here is more opportunity for time for the lecturers on the PGCE to learn from one another and to participate in professional dialogue about teaching and learning in ITE. Research into the professional development needs of teacher educators (Czerniawski, 2017; MacPhail et al, 2019), found that they have a strong appetite for professional development and value opportunities to learn from one another. The fact that I had two groups of willing volunteers for my focus groups of lecturers, some with no teaching input in university, might be considered indicative of a desire to become more familiar with and reflect on ITE practice. Providing time and space for exploring expertise might facilitate critically reflective dialogue and, in turn, better equip lecturers supervising student teachers in schools to support mutual critical analysis of practice in relation to foci for the essay. Again, this might offer an opportunity for utilising the 'gap' between school and university, to offer in-school space for discussion and critical reflection.

In the May survey, the impact of writing the essay led to student teachers revealing challenges: 'It has made me quite stressed and I feel I have not been able to give 100% attention to my placement' (M89) and 'I did not find any benefit to writing this assignment, it has caused me so much stress (ongoing, as I know I have failed) that I have been on anti-depressants.'(M4)

These student teachers clearly had not viewed the process of completing the essay positively. Instead, they found it burdensome and damaging to their emotional health. As this survey was completely anonymous, it was not possible to identify any other characteristics of these student teachers to know if there had been any change in their perceptions across the two implementations of the survey. Whilst these might be isolated instances, this should not take away from the negative impact on these two and demands consideration as to what additional support might be

needed. At this point, these student teachers viewed the essay as being a 'hoop' to jump through without further value being recognised. I wonder if their perceptions changed with some distance and opportunity for further reflection.

Reflection on the various perceptions shared leads me to consider whether essay-writing might be a rehearsal for a particular way of thinking. In this way, the process could be conceptualised as being an act of metacognition (Flavell, 1956) for problematising and critically reflecting and considering practice for prospective teaching as NQTs. In this way, I consider that the attributes of the Learning and Teaching module have potential influence on teaching and learning beyond the end of ITE, into teaching posts.

The next survey statement sought perceptions of any impact of research on the job satisfaction of teachers.

Figure 10.   Responses in December and May to the survey statement: 'Research-informed practice increases teachers' job satisfaction.' (N=460)
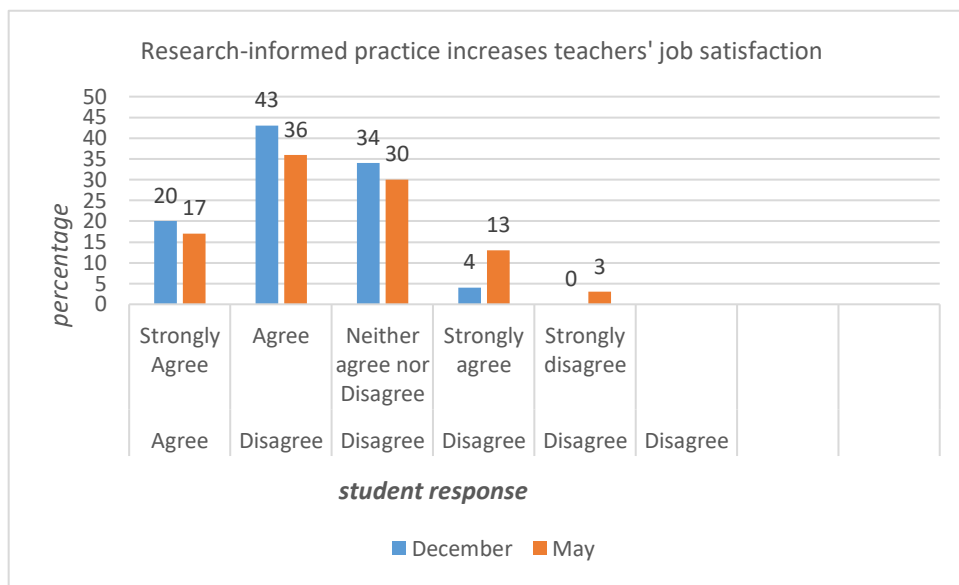
Figure 10 shows that in December 63% of student teacher respondents indicated a perception that there was a link between job satisfaction and research-informed practice; in May this was 53%. Those that saw no association was at 4% in December and 16% in May, whereas 34% in December and 30% in May did not feel strongly. Overall, I interpret these responses as being a moderately positive view of the concept of research-informed practice impacting potential job satisfaction.

There were 25 comments overall in response to this statement. Of note, nine offered a justification for a negative response: 'Teachers are happy to teach without understanding educational research' (D69) and 'Many teachers I know don't know about research but are quite satisfied'. (D80) Two recognised a potential for their understanding of research as offering dissatisfaction: 'I can't see how knowing about research but not being able to apply it would boost satisfaction' (D71) and '… frustrating to want to change your practice based on research only to find that it is not feasible within your school for one reason or another.' (D128) This is again

recognition of difficulty implementing practice in alignment with an interpretation of research. Positive comments are reflected in these two examples: 'It makes us more confident as teachers and therefore we will feel more content in what we are doing' (D81) and 'Knowing my decisions are informed by research has made me feel more confident.' (M71)

The survey indicates positive perceptions of the satisfaction that might be brought about by understanding research, with some acknowledgement that this might be frustrated if school was experienced as being a barrier to using research in informing practice. Again, implied is the role for ITE to offer means of managing this concern to prevent potential dissatisfaction.

NQTs were not asked specifically about research-informed practice and satisfaction. However, they were asked about their own enjoyment of their current roles. All reported enjoying their placements (this was asked after the pilot). This is shown in the following comments: NQT 3: 'It's definitely extremely rewarding … really enjoying it' and NQT 5: 'It's still challenging but, it's as expected so I'm enjoying it … every day is something new.'

Whilst enjoyment of the job might not appear in the aims for the PGCE of this ITE, nor of the aims of the Learning and Teaching module, I believe there are implications for lack of satisfaction being experienced. This is because, if NQTs are not able to teach with some degree of autonomy, and being research-informed would require this, there is potential for experiencing conflicts between colleagues and policies. The consequence of either conforming or feeling dissatisfied or pursuing one's own course in conflict with others might impact retention in the profession.

The following statement considers perceptions of an aspect of teacher knowledge and skill in relation to research.

Figure 11.   Responses in December and May to the survey statement: 'It is important for teachers to be able to critically analyse research ((N=460)

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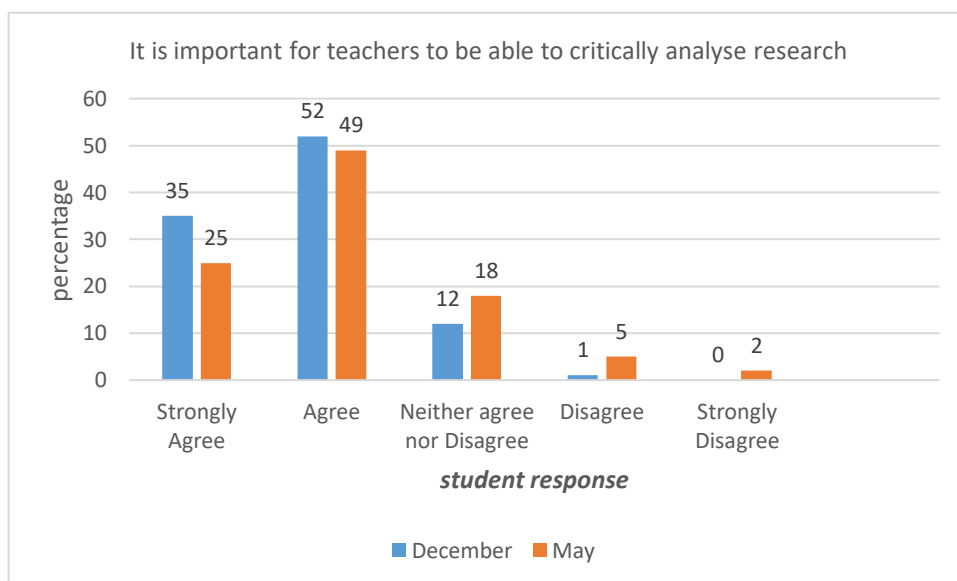
This shows that 87% of student teacher respondents ascribed importance to teachers' ability to analyse research in December and 74% in May. Those that did not view it as being important went from 1% in December to 7% in May. Here some of the 30 comments across the two surveys indicated that this critical analysis was viewed as being about recognising the non-linear research into practice relationship with the teacher being seen as the mediator to an individual context: 'Not accepting things at face value,' (D20) '… not taken as gospel' (D127) and 'We can't all just believe what we read.' (D68) No additional comments were given for the disagree/strongly disagree statement.

Other student teacher comments show perceptions of critical analysis being about understanding, drawing on relationships between research and practice. They recognise the need for contextualisation:

> You can't take a piece of research and just apply it to your classroom without reflecting on it. (M32)

> Every school setting is different and every child is different, therefore educational research should not be taken as gospel but critically analysed in relation to each school setting. (D127)

Other comments ascribe importance to personal interpretation and self-efficacy:

> To know what you believe. You should never accept everything. Able to take everything with a grain of salt. (D53)

> At the very least, teachers need to be able to discern what is valid research, especially when judging the utility of resources and assertions about pedagogy. (M31)

I view these comments as aligning with being research-informed in that they offer themselves in the mediation between it and their practice, as being autonomous and as having agency over knowledge.

Critical reflection of research was further discussed in relation to the Learning and Teaching module by NQTs, student teachers in the focus group and lecturers. This was communicated as being a tool for evaluation of school pedagogy: using research to look at what is actually happening in school objectively. The responses are resonant of the student teacher comments in relation to the survey:

> It's looking at what research has been done and thinking about how can we change the way we teach? Sometimes we teach and we think, it's not really working and there's a lot of research out there to say that all these different things work or they won't work. *NQT 6*

> When you see schemes coming into schools and those schemes are entirely based on something that's come out in one paper. This is what we're going to do, this is the point… the golden goose has laid its egg. Whereas if you're informing your practice, you're going why don't I try

that and see what happens and re-evaluate and then look at how it worked and go, that didn't work, why didn't that work? And then look into another bit of research and go, maybe it didn't work because of this aspect affecting it.' *Student focus group (P1)*

This student in the focus group's comment was met with nods from the remainder of the group. They articulated clearly the need for them to be able to use research to consider what to do when, to borrow their analogy, the goose doesn't lay the egg!

NQT 5 valued the understanding of theory in relation to what might be understood as being effective practice:

> I think that it's important for all teachers to have a grounding in theory, things that they would come across. Also, to read studies about children's attainment and the relationships between that and positive expectations and stuff. If you don't know that, how are you supposed to do it?

Lecturers in group one voiced this as being an important aspect of the particular contribution that the Learning and Teaching module makes for student teachers when they assume roles as teachers:

> I think it then helps them when they go into school to exercise the criticality that we are constantly asking them to do and not just accept what they see in school at face value. I think it's probably the Learning and Teaching module that does that more than anything else. *Lecturer focus group one (L2)*

Another lecturer also highlighted the opportunity that was offered in terms of tackling challenging issues in education. This they considered as being mediated through time, space and thinking. They too expressed a view of the Learning and Teaching module being powerful in effecting direct bearing on efficacy.

> They reflect individually when they do the readings and they reflect in groups in the sessions and I think we tackle the really thorny issues such as ability grouping in some real depth and there is space to really wrestle with some of the complexities. And I think it's that, it's the understanding that they get from having the space to do that, is the understanding I always think that they get from the module that really gives them the chance to be truly outstanding teachers as opposed to good teachers because they have the space to think and wrestle with some of those really complex ideas. *Lecturer focus group one (L8)*

And another:

> There is something about the criticality that the Learning and Teaching module encourages that I think can live with students when they go into the profession. And even if they can't, like we talked about this morning, even if they can't maintain some of those high ideals in their first couple of years because they're just grappling with so much they just have to

ability group for their first year because it's the only way they can manage. Hopefully they're coming back. *(L1)*

This shows acknowledgment that there might be issues for NQTs in initially offering a critically reflective approach to their practice but that this might be mitigated by ongoing influence of the Learning and Teaching module over time.

A third suggests similarly:

> I think it then helps them when they go into school to exercise the criticality that we are constantly asking them to do and not just accept what they see in school at face value. I think it's probably L&T that does that more than anything else. *(L4)*

That critical reflection is important for teachers in post was not only the perception of student teachers but importantly seemed to be the reality for NQTs. For them, the Learning and Teaching module does seem to have been an impetus for enabling critical reflection upon their own practice and they reported that it was directly recognised as being a tool for learning that they had carried to their first posts:

> It gave a reflective approach to the sense that I would try something out, okay, has that worked? How can I do it differently? I think that's definitely one of the focuses of the Learning and Teaching module, to reflect and be evidence-informed if you like. *NQT 4*

The following NQT credited the Learning and Teaching module with assisting in developing their thinking and articulating the iterative process of critical reflection:

> … really learning and really thinking about what is going on. That's the other impact I think it [the Learning and Teaching module] can have. You're better able to have that reflective conversation with yourself about what is going on. *NQT 2*

One NQT shared that they felt that they had been enabled to use the thinking that they had undertaken during the Learning and Teaching module to have a wider view of effective teaching and learning than if only following school programmes and pedagogies:

> Every school has its things that they expect of any teacher. What Learning and Teaching module allows is to put that into context and to do that while then also thinking about, is that going to be everything, or what else do I need to do? That's the full picture. At least what I found is that you could tick box the five things that any given school want and not do that great a job for the children if you just tick box it. *NQT 2*

These examples show that the Learning and Teaching module has been perceived as offering a catalyst for critical analysis of research and reflection on practice. This has resulted in NQTs feeling that they are able to implement practices in their schools

that correspond with personal evaluations of effective practice according to their interpretation of evidence and research.

4.5 Professionalism

I considered that Master's level study accreditation might be important to student teachers in terms of their recognising an association with their prospective status (UCET, 2018; Thomas, 2016, 2018) and potentially improving the perceptions about teaching and the respect it holds as a profession in England. If the student teachers did not see Master's study as being an aspect of their ITE that they valued then, potentially, reconsideration of what it currently offers might be indicated.

Additionally, successful completion of the Master's element of the PGCE enables NQTs to use the credits in order to complete a full Master's within five years. If the Learning and Teaching module offered impetus and enthusiasm for continued study, then the potential positives of continued engagement with academic study might be realised. This was considered in relation to the following survey statements:

Having a Master's level qualification is important to the status of teachers.

I would rather not have the Master's modules as part of my PGCE.

I would like to do further academic study.

Figure 12. *Responses in December and May to the survey statement: 'Having a Master's level qualification is important to the status of teachers' (N=460)*

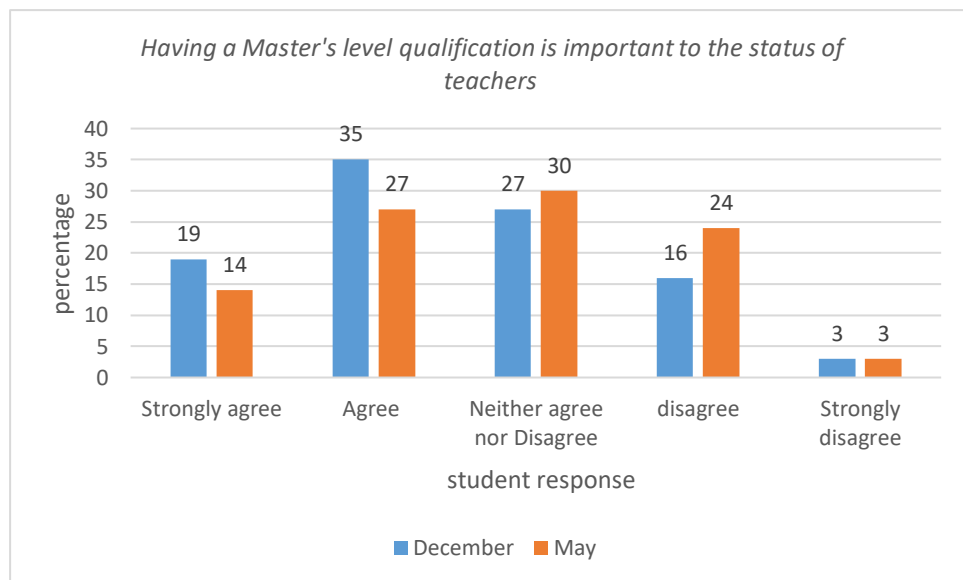Figure 12 shows that 54% of student teacher respondents in December considered that the Master's level qualification was important in influencing the status of teachers. This contrasted with 19% that did not. In May, this had reduced to 41% with 27% considering it to be unimportant. 27% in December and 30% in May neither agreed nor disagreed. The ambivalence that might be indicated by the 'neither agree

nor disagree' may be indicative of a student perception that status is not something some of them had considered as being an issue.

Across the two surveys, there were 49 comments made. Of these, only one made a statement that indicated any correlation between status and academic achievement and back up a 'strongly agree' response: 'I think that the status of teaching should be elevated in the UK and academic qualification is one way in which this could be done.' (M61) This was, however, offered with the caveat of 'I do not think that this is the only way.' Other comments focused on the content that actually doing the Master's would add to their efficacy as teachers: 'The level of critical thinking and engagement with the literature necessary for a Master's is extremely beneficial for reflective teaching.' (M13) Only one comment saw it as being of importance to professionalism: 'it increases professionalism'. (D18) But again, this might be a comment on the content. It may be that those that neither agreed or disagreed, or did not think Master's impacts status, might feel confident in the relative status of teachers in England. No comments suggested that there was any relationship recognised between the attractiveness to prospective teachers being influenced negatively or positively by status or Master's qualification.

On the student survey, 27 comments offered what I interpret to be negative views of this statement: 'Irrelevant.' (D26) 'Teacher presence and pedagogy do not come from having a Master's,' (D13) 'Not required for primary teachers in my opinion,' (D56) 'The status of teachers shouldn't be determined by a qualification' (D117) and 'I think in the long run it does not matter how teachers are viewed as I don't think people who aren't teachers usually realise it's a Master's level academic qualification.' (M52)

NQTs also made comments that considered the status of teachers in relation to qualifications with more indication than the student teachers surveyed that they were aware of the possible links between status and qualification:

> I think it's a shame that people don't understand the depths of what it is to be a teacher… teachers, you meet some that are not academic, but they're amazing teachers and I don't know if it's the best way of going about giving them the credentials and the respect that they need. But especially someone who has got a Master's and thinking… it's not for everyone is it? *NQT 3*

> I think it's really important. I actually think that training for teachers should be much longer and more thorough. If we compare how the teacher status is in different countries, like Scandinavian countries, they have a higher status and that would be because they have a much longer training period and I do think it's necessary for teachers to be trained for longer. *NQT 2*

One NQT perceived the Master's level qualification as being important in terms of status, but saw it as being something that needed attention through being further academically engaged throughout careers:

I think that's a big barrier, so having a part of the Master's education as part of the initial education is probably the first step, but I think it needs to be much more beyond that as well… if you were to really take continuing education seriously, you'd spend a lot more time on that and that isn't there the way it is in other fields. *NQT 4*

Lecturers saw it as influencing a more general view of teaching:

What would it be like if it wasn't there in the training? I think it would give the message that the intellect is something that is not supported in teaching and I think the intellect is critical to teaching. *(L5)*

This appeared to be the feeling shared by the group as it was met with nods and 'mmm' of assents.

The value of Master's accreditation was considered in relation to other possible advantages. Some survey comments considered the Master's in terms of career development positively and negatively. They did not appear to recognise it beyond the extrinsic and utilitarian advantages offered. One felt: 'You don't actually benefit since the pay scale change.' Whereas another thought the Master's was 'for future career development.' Yet another stated: 'If you aim to advance in your career, higher level qualifications are a benefit.'

Career advancement was also seen as being influenced by the Master's by the NQTs:

I think there's definitely a drive in the profession to have more formal qualifications… I think what I've seen so far is a lot of teachers who over three years have achieved SLT status because they have had a Master's. They've kind of used it as a vehicle to push up through middle management, get into SLT, because of virtue of the fact they stand out because they have a Master's. *NQT 3*

These perceptions resonate with the findings of Thompson (2018) and Graham-Matheson (2010), both of which show correlation to Jackson's study in 2009, relatively early in the Master's introduction to PGCE programmes. This indicated that 30% of her sample associated the Master's accreditation with potential career advancements.

NQT 1 saw it as being important for remaining open to change to one's practice, asserting that there needed to be ongoing learning:

… having a part of the Master's education as part of the initial education is probably the first step… otherwise, I suspect that individual teachers could just be islands unto themselves to say, this is the way I do it for myself and I can see that it works. They might be right for a time but I'm sure that would get stale.

One lecturer did not seem to see it as being essential.

> Well that's a really good question, I don't think it's necessary, I think it's beneficial. *(L2)*

But others did:

> I think it can be helpful and important, I do. Because I think otherwise what can happen and it doesn't have to be that they go into, they do a Master's, it doesn't have to be that. But one of the things that we talk about is how will you stay connected in some way with theory, with research? When you get into the classroom, how are you going to stay connected? And because I think they've had their appetites whetted for it, they're open to suggestions like well sign up to get the email from the Education Endowment Foundation, you know the monthly email from them. So, although I don't think it's necessary that they do further study in a formal sense, I think whetting their appetites to stay connected with research in some sort of way while they're practising is a good thing. *(L1)*

> It would be a mistake to not have the academic because it challenges the mind and teaching is an act of mind. *(L6)*

This developed into a consideration of having a full Master's and the possible barriers to that. One observation was that being more qualified might lead to the cost implication of employing one being a barrier to employment:

> … it's as if the more qualified and the more experienced you are, the less valued you are… because it's how much you cost. *(L9)*

This was an interesting consideration as this had not occurred to any student or NQT; that having a Master's could potentially be a barrier to employment. This could be an area for further investigation as to whether this insight from the lecturer was borne out in practice and actual knowledge or had come from a place of wondering.

The knowledge and understanding gained from learning done on the Learning and Teaching module seems also to have enabled NQTs and student teachers to engage in dialogue about teaching; to use colleagues as a means of evaluating ideas and sharing perspectives on practice; in other words, a professional dialogue:

> You're just able to have that conversation in an educated way… I can participate in that conversation and not be just a bystander. *NQT 1*

> … the Master's…, I think that's where it has an impact for new teachers, in that it allows us to have the right conversations. *(P4)*

> … helped me to have the conversation in the staffroom or at staff meetings about why different ways of doing things might have a better impact… have that conversation in an educated way. *NQT 4*

Next, I consider the perceptions of Master's as being part of ITE.
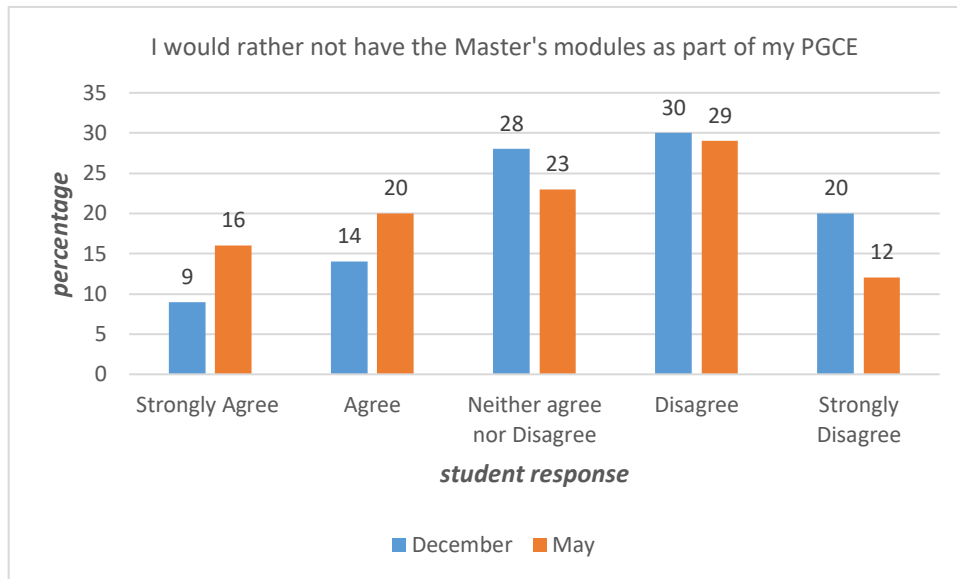
This shows that In December the percentage of student teacher respondents that shared that they would rather not have a Master's as part of their ITE was 23% and in May 36%. Those that indicated that they valued it was at 50% in December and 41% in May. Those that did not feel strongly either way was at 28% in December and 23% in May.

As was referred to earlier, it might be notable that there is not more positivity expressed as, with the myriad routes possible for ITE, student teachers might have pursued one that did not require them to complete Master's modules, or to have done only one. I wonder if this suggests that the Master's element was less impactful than student teachers had anticipated at the outset of their ITE.

The apparent increase in the number of those that were more ambivalent about the Master's modules in May was not unexpected as the second survey was conducted at a particularly challenging time on the course in terms of Master's assessments and negotiating their final school experience as was commented on above.

There were 50 comments offered to this statement in total. Seven suggested that they thought it should be optional while 15 broadly described that they had valued/enjoyed it. Some commented on the pressure and stress it had caused them and some acknowledged this but still attributed value to the Master's.

As acknowledged in the limitations for this study (6.1), the survey statement that declared 'I would rather not have the Master's modules as part of my PGCE' was not perhaps worded explicitly enough. Comments showed that there was consideration of this in terms of both modules – the Specialism module and the Learning and Teaching module. Despite this possible difficulty with meaning, there were some

comments of note, nine respondents thought it should be optional and again, stress and pressure were issues that had been experienced by 11 respondents.

NQTs were universally in favour of Master's being a part of their ITE. One already had a Master's but recognised value to thinking about learning and teaching 'at this level'. They had been surprised to find that a friend who was doing ITE at another university had been given the option of whether to do Master's work or not and they were 'shocked' to hear this. Another recognised the anxiety that it had caused others but felt that without it they would have been 'going into it a bit blind'. They also shared that they had felt a sense of achievement and pride in successfully completing the Learning and Teaching module. That was the only time that personal achievement was mentioned across all the data from NQTs and it did not feature in the comments on the survey. The student focus group did, however, mention enjoyment in relation to the process of writing the essay.

Impetus for NQTs to return to university to undertake further study might be dependent on some sort of affective response to learning given the challenge that this might pose. I believe that considering ways to foster satisfaction in the academic might be important to take action on if the reading and research engagement that I propose as being important is to be maintained. The following considers the appetite for further study.

Figure 14.   Responses in December and May to the survey statement: 'I would like to do further academic study' (N=460)
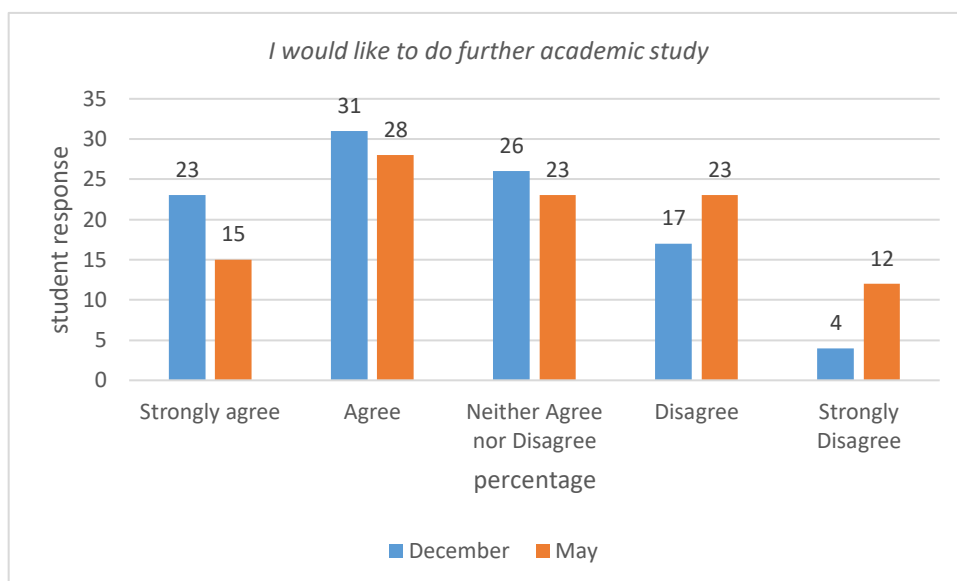
These results show that 54% in December and 43% of student teacher respondents in May wanted to pursue further academic study. By contrast, 21% in December and 35% in May were not. Those that were undecided were 26% in December and 23% in May.

A downturn in enthusiasm for the 'academic' by student teachers that were surveyed might well have been expected due to its timing as discussed earlier in relation to the essay-writing and associated demands. I believe that it would have been interesting to ask this again once the student teachers had had their final mark from the

assignment as it was seen as being a successful year with a high number of student teachers attaining top marks.

There were 29 comments made in response to this statement. Eleven of them suggested that they hoped to do further academic study. Three mentioned PhD aspirations, two that they hoped to complete a Master's in educational psychology and one in sociology. Others indicated that they had not decided yet. One stated that the Learning and Teaching module had put them off further study.

In thinking further about their own professional development, one of the seven NQTs had a firm plan to enrol for completion of their Master's. Another who had already got a Master's was enrolled for a PhD. The others did not rule it out, but wanted to concentrate on their own practice for now.

I consider NQTs that are able to pursue academic study might be proactive in pursuing research-informed practice, find agency in their jobs and this could have a positive impact on their retention in the longer term. Having Master's as part of ITE might be an antecedent to this. In Jackson's cross-institution study of 2009, although three-quarters of student participants expressed a desire to continue with Master's study, they felt that this would be once they were established in schools and had got past the initial challenges anticipated. That seems to accord with what NQTs shared in my study:

> Not yet. At this point, I'm just trying to feel comfortable and confident with what I'm doing and then I'll see. I see there's basically a couple of years in front of me before I feel, I get what I'm doing and I know what I'm doing and then I'll see if I have the time and inclination for further study. *NQT 1*

> I think, for now, I really just want to focus on the teaching. *NQT 6*

The lecturers in both focus groups discussed the idea of the Learning and Teaching module being a starting point for inspiring further study:

> It's about… whetting their appetite and then thinking oh actually I can do this; this isn't for people over there in an academic institution, I as a classroom practitioner can do this. *(L7)*

> For some students it definitely… I know that because I've got two students who are in my group last year who contacted me this term to say what I thought about them coming to do their Master's here, this year, this coming year. And so, through that dialogue they're both signing up to do their Master's. And I know another student from last year who's doing his Master's this year, so he's doing his Master's during his NQT year. And some of my students from this year have asked about it… I think the Learning and Teaching module helps. *(L2)*

All the NQTs reported that they were engaging with research and reading:

> … obviously am reading quite widely still. I've signed up to quite a lot of internet feeds and Twitter feeds and I get TED every week to try and keep up to date with new research. *NQT 6*

> … my head teacher sends out… every newsletter, she'll have different research that's taken place… look at the newsletters, our staff training or inset that we have every Monday, talk about it and then we get together in groups then I would go and do my own research and see how I could involve it in more planning. *NQT 4*

One explicitly described that they had taken action to engage with literature and research in response to a problem:

> I went off and did research and thought okay, this could be dyslexia. Then she was tested, but then I went off and read different articles to support her. So, for instance, I think I'm very much driven by either identifying a problem or seeing what it is and then going and reading widely to see how it can put good practice in place for that child. *NQT 2*

This NQT was showing that they recognised research and literature as a resource for tackling issues. This is a strategy that any new teacher might choose, if given experience of considering research and literature as presenting possibilities rather than answers.

Only about half of student teachers indicated that they would be keen to return to university once in post. By what means they are offered opportunity to engage with ongoing research and literature to shed light on their practice is therefore an area for consideration. Where there is no obvious place for this as part of their role, continuous progress and positive impact on children's education might be curtailed. Perhaps as a possible answer to this, the new Early Career Framework (2019) that is to be piloted over the next year offers an 'entitlement' (p5) to training and development. As yet, it is challenging to assess from the document exactly how this will be manifest as it is rolled out. However, it does show acknowledgment that continued professional development is necessary for new teachers and it has potential to keep them engaged with literature and research as well as offer them time for 'critical thinking away from the fray' (Gerwitz, 2013, p12). If this is realised, then the Learning and Teaching module offers a basis for development. If not, then it has offered some of them a means of thinking about what they are presented with in schools reflectively. This has been fuelled by a developing understanding that pedagogies and ideas about learning and teaching are contested and complex and might be taken, to quote from the findings, 'with a pinch of salt.'

4.6   Reconceptualisation of beliefs

The concept of beliefs has been shown to impact upon potential development of student teachers (Burn et al, 2015; Calderhead and Robson, 2001; Dewey, 1933; Giradet, 2017; Pedersen and Thomas, 2003; Pajares, 1992; Pellikka et al, 2018).

They have already been exposed to an 'apprenticeship of observation' (Lortie, 1975). A consequence for falling back on these beliefs or valorising them over ITE work, both in theory and practice, might inhibit development of effective teachers. Without this challenge to student teacher learning being addressed, there is potential that they remain, to borrow the 'audience' (ibid, p62) metaphor from Lortie, 'understudy imitators'.

This was explored through the survey statement:

- 'A better understanding of research has made me think differently about my own education and teachers.'

Figure 15.   Responses in December and May to the survey statement: 'A better understanding of research has made me think differently about my own education and teachers' (N=460)
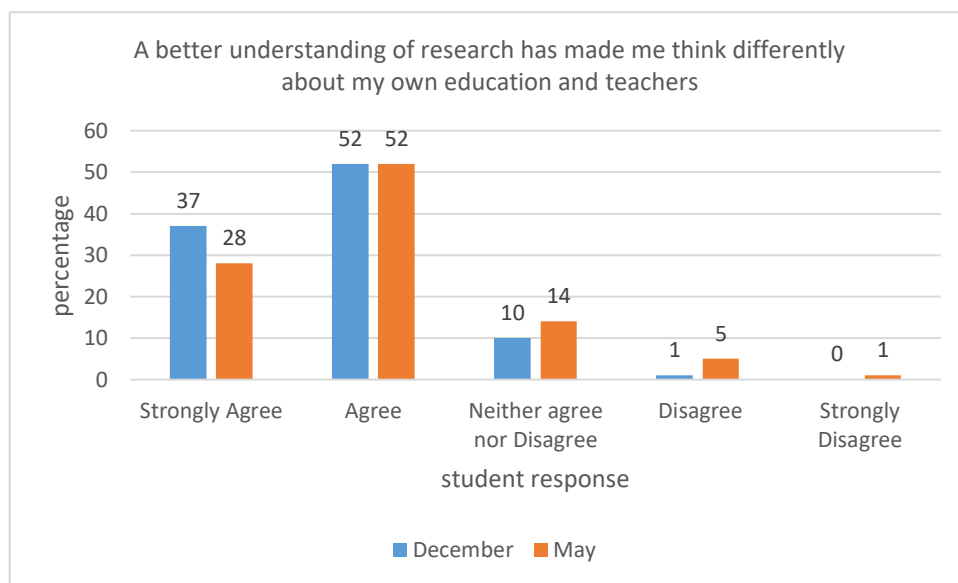
This shows that 89% of student teachers in December and 80% in May felt that their perceptions of their own education had been altered through research. Those that did not recognise this comprised 1% in December and 6% in May.

There were 21 comments offered to this statement, all of them related to the 'agree or strongly agree' choices:

> I now question whether the way I was taught enabled me to get the best education possible or if I was just taught to achieve a level and a grade to convert to a statistic. (D65)

> In hindsight, the quality of my pre-university teaching was very poor in comparison to what this course suggests teachers should be and how their attitudes towards their own learning is key. (D75)

> It's made me question everything about my own education and made me want to be a better educator. (D41)

It's made me more critical of my own educational experience, which I think has informed my values/aims. (D128)

One lecturer of the Learning and Teaching module considered that it be a catalyst for challenging student teachers' naive views of teaching and learning through the iterative process of writing the essay:

… a worrying number of students come with the impression that the education system and the curriculum and the way schools are organised is the result of deep thinking at government level. And they write that into their essays, and I say are you sure about this. Surely if then they have another think about that, and I think there's a kind of naivety that Learning and Teaching Module polishes. (L6)

One of the NQTs suggested that their thinking about potential unconscious bias had been affected:

I did the relationships and collaboration question and I wrote about race and different things that can affect how teachers teach the children. That's definitely had an effect. … I noticed in myself even, I would be like, 'Aaron, why are you out of your chair?' But then if middle-class Clara, for example, would just be up walking around, I would think, she's probably doing the right thing. She knows what the right thing is and then I realised that I was potentially treating children differently depending on their class or race even. I thought about that since and tried to keep thinking about those sorts of things. *NQT 3*

The following student teachers describe how they have changed their views about effective teaching and learning. This neatly describes the unpicking of previous, unconscious conceptions that have been formed. The following comments relate to previous ideas – beliefs about teaching and learning that had formed through their own, untutored experiences:

I think I thought it was fine because my grades were still okay, but I still thought it was boring, but I wouldn't be like what pedagogy are they using? Because I was 15. (P3)

I had loads of teachers who just put a book in front of us, read page 246. That's what you're doing in the maths lesson and that was it … I never thought about it. I just did it because it was a school and I just did what I was told. I never really questioned it. Now I look back and I think, I can't believe that happened. (P5)

I believe that these show that student teachers' 'beliefs' about teaching and learning had been altered and that unconscious biases too had been challenged. Prior to undertaking this study, I do not believe that I was sufficiently aware of this being an area for ITE attention. Although there is evidence that, for these student teachers, this has been successfully addressed, I propose that in maximising the possibility for

this, active acknowledgement of this with student teachers and marking beliefs as a context for learning with them, might be an area for ITE development.

4.7   Conclusion

The data revealed that some student teachers experienced similar challenges in their ITE to those that have been identified by literature. There were differences found between what they considered effective practice and their school experience. This had been a source of frustration and dissatisfaction for some. Lecturers also suggested this was problematic. Once in their own classroom, NQTs had experienced a similar challenge but in spite of this had been able to effect change in some cases. Student teachers did, however, value having knowledge and understanding of theory and seem to overwhelmingly reject a simple 'what works' pedagogy.

Despite expected challenges being realised, student teachers and NQTS reported that, even if they were not able to implement the teaching and learning experiences that they wished to, this did not necessarily mean that they reverted to preconceptions (beliefs) about effective education or assimilate into the practice of schools; rather that they were able to recognise their own central roles in mediating and effecting change, even if not in their immediate context. Moreover, research-informed practice was perceived by many as positively impacting job satisfaction.

The essay-writing seems to have been difficult for many and about half of the student teachers surveyed both previous to and during the process of drafting did not seem to recognise it as a tool for learning. The focus groups of student teachers at the completion of the programme and the NQTs revealed perceptions of the process being of intrinsic and lasting value in their ITE.

In terms of the contribution that the Master's accreditation might offer to the status of the profession, only about half of student teachers considered that this was the case. NQTs and lecturers were more positive and also considered that it might be important for career advancement.

All participant groups expressed differing views as to whether the Master's was desirable for all teachers. In terms of its being an antecedent for further study, about half of student teachers showed intent to pursue this. NQTs had either enrolled or had not rejected it for the future, with all reporting that they were staying abreast of research in some way, some by personal pursuit.

A large majority of student teachers perceived their own educations differently and attributed it to a better understanding of research. In terms of addressing one of the key challenges to effective ITE, this seems to have been notable. The process for this might well be attributable to the wider influence of the PGCE programme but the focus groups and semi-structured interviews seems to suggest that the Learning and Teaching module has played a part in this outcome.

Findings therefore point to perceptions of effective content and learning effected by completion of this Master's module. These might be considered more widely once conceptualised for inclusion on other ITE programmes.

Whilst not necessarily being within a Master's Module, findings indicate that a key challenge for student teacher learning, that of their beliefs and preconceptions, can be addressed by explicit consideration of all the sources on which they are expected to draw and the process of professional learning. There are three contexts that need to be acknowledged as sources of learning and I argue that it is important for student teachers to be aware of the differences that are likely to be found in what each suggest about effective practice. Moreover, the potential activation of cognitive dissonance is important for their learning. Being aware of this can be described as being metacognitive. Explicit teaching about this phenomenon and how it might be managed could offer student teachers metacognitive insight into a process of learning and reflecting on theory and practice that might endure beyond ITE into teaching careers. Just as we make explicit learning objectives and success criteria as a matter of course for children we teach, the peculiarities of how student teachers effectively learn should not be veiled in mystery but offered with clarity. Some means of sharing this process with student teachers might thus be indicated.

Chapter 5   Discussion

In this chapter, I reflect on the findings and how they resonate with the literature in the field. I use them in evaluating what the Learning and Teaching module has been perceived as adding to the experience of becoming a teacher and where the potential that I thought it might have was not evidenced. The themes explored are: the dichotomy between theory and practice; learning for critical reflection; status and the Master's; learning for professional autonomy and satisfaction; and learning for retention.

My research question asks: What is the contribution of a research-informed Master's module to initial teacher education? In considering my findings, I draw on my analysis of literature to show what I consider ITE needs to achieve for student teachers. The part contributed by the Learning and Teaching module forms the basis for my discussion.

I propose that ITE needs to offer student teachers the ability to:

1. Acknowledge and interrogate their beliefs and (pre)conceptions about teaching and learning (referred to as a third context for learning in the theoretical framework for this study) in order to view the pedagogy of teaching and learning through the eyes of educators not just the educated

2. Use critical reflection in recognising the impact they are having on the children they teach, drawing on the dual contexts of school and university to (re)consider what effective teaching and learning might be and to implement effective pedagogies accordingly

3. Use an understanding of research and literature, contextualising it in order to exercise professional autonomy and confidence in their teaching and as contribution to a community of practice (Lave and Wenger, 1994; Wenger, 1998)

4. Aspire to continue developing through further study and/or continued engagement with research and literature

5. Enjoy teaching and want to continue in the profession.

In response to these proposals, I explore how the Learning and Teaching module has been perceived as mediating and utilising the experienced theory-practice dichotomy and the potential influence of beliefs through the experience of cognitive dissonance (Festinger, 1957) or 'perturbation' (Rossi, 2011).

I consider the way that, for some, perceptions of being informed by research and literature has been a catalyst in contributing and participating in collaborative, professional dialogue as part of a community of practice (ibid) and what potential there might be in building on this further in ITE.

I reflect upon the process of writing the assessed essays, recognising the intrinsic value that some student teachers in the focus group at the end of the course and NQTs seemed to ascribe to it. I propose that, by conceptualising the process, student teachers faced with this assessment might be offered a view that assists them in recognising it as being a learning opportunity; a resource for use once in post as teachers.

I discuss possible reasons for finding that some student teachers did not see the status of teachers elevated by Master's level study, in contrast to the NQTs and lecturers, and reflect on the lack of appetite amongst student teachers to continue with academic study. Additionally, I consider possible implications of what impact the module might have on teacher retention in the profession.

5.1   The dichotomy between theory and practice

In this case study, student teachers, NQTs and lecturers indicated that there were differences in the ways they thought effective teaching and learning might best be implemented and what they found in classrooms and schools. This finding resonates with potential challenges identified by literature (La Velle, 2015; Falkenberg, 2010; Van Nuland, 2011; Korthagen, 2010) that what is being proposed by engagement with theory and research is not consistent with the reality of classroom practice. This phenomenon can be argued as of even more importance when the transition from student teacher to NQT is made. This is where 'reality shock' can occur; where expectations of teaching compare unfavourably with the reality of everyday classroom life (Veenman, 1984; Kim and Cho, 2014; Cahill et al, 2019) and negatively impact not only pedagogical choices but also the potential retention of teachers in classrooms (Voss and Kunter, 2019).

As was discussed in the literature review, internationally there have been initiatives to respond to differences between university and school pedagogies for student teachers in ITE (Allsopp et al, 2006; Allen and Wright, 2014; Falkenberg, 2009; Levine, 1997; Mutton and Burn, 2015; Robinson and Darling-Hammond, 1994, 2005). Many initiatives seek to minimise the differences that student teachers encounter; in other words, to align schools with university proposals for effective pedagogy or vice versa. This strategy is promoted by the OECD (2019). It proposes that practice schools be chosen to be 'sheltered environments' for student teachers to experience a strong culture of professional learning (p110). The logic of this seems straightforward. The alternative is that if potentially effective pedagogies explored at university are found to be disconnected with real contexts, this would lead to their rejection and to student teachers' assimilation into the practices of a school. Moreover, it could lead to a generalised disenchantment with and reduced value being ascribed to university learning. I believe that the findings in this case study offer an alternative view.

In seeking perceptions in relation to this, the survey asked student teachers whether 'Understanding research has made me dissatisfied with teaching I have observed in schools.' About 40% of both the December and May surveys indicated that they had agreed or strongly agreed with the statement. A first interpretation of this might be that it offers the Learning and Teaching module a challenge in realising a synthesis

between school and university; theory and practice that could, on the face of it, lessen its potential influence and devalue the learning undertaken at university. However, some comments offer indications of resolution in the face of differences and dissatisfaction. One student teacher remarked, 'What I have seen in school is not what I have learned but I'm seeing mistakes that are taking place that will make me better.' Another felt 'it has made me more aware of influences on teachers.' One felt '… not dissatisfied but more curious/questioning.' Whereas another observed that 'With greater insight comes greater appreciation and criticism, but both improve my practice.' Finally, one student teacher declared, 'it makes me more determined to improve children's education.' These comments seem to indicate that, although what they have seen might not align with what they have come to think might represent good practice, there is a realisation that they are not impassive in how they will 'be' as teachers. This has resonance with a developing confidence and suggests that where practice does not 'fit' it offers potential for critical reflection and a learning opportunity.

Thus, although the study confirms that the 'gap' exists, the way that student teachers and then NQTs experienced and managed differences could be seen as an important part of ITE pedagogy. I do not think that effective teaching and learning is the result of being presented with a neat, easily grasped and implemented body of knowledge. Therefore, for student teachers, having an opportunity to experience this, to recognise this complexity and learn ways of managing it might be important. This means that practice encountered in school, and what student teachers might be considering in terms of pedagogy explored and considered at university, can be seen as a source of essential cognitive dissonance (Festinger, 1957). What the Learning and Teaching module in this study has enabled, for some, is a means of working with that dissonance. This seems to suggest to me that having the means to present this process to student teachers, and to offer a means of describing and considering it, might strengthen the impact of the Learning and Teaching module.

I argue, therefore, that an element of effective ITE is to enable student teachers to experience the diversity of practice and contexts, to come to regard teaching and learning as being complex and probably the source of frustration and cognitive dissonance (ibid). Cognitive dissonance through disparities between contexts can thus be seen as having a place in ITE pedagogy; where student teachers recognise the complexities of teaching and learning and yet are enabled to manage them, to rearrange thinking, in order to make autonomous, contextualised decisions about pedagogy (Rossi, 2011). This seems to contradict Hirst's (1980) and Ellis' (2010) concerns about students being burdened with having to take a central role in their theorising about practice. As this is certainly going to be a feature of their lives as teachers, surely opportunity to rehearse and acknowledge this while they are in ITE is vital.

Student teachers and NQTs show evidence of recognising and managing the theory-practice dichotomy as has been discussed above, but I would not wish to present the management and experience of this simplistically. There is evidence that, despite student teachers and NQTs drawing on a research-informed approach in considering any schism, it has not been without difficulty. One pedagogical consideration where

this seems to have been highlighted is that of ability grouping. This issue appears repeatedly through the data. The student teachers have the opportunity to explore research and literature that interrogates this practice and can consider it in more depth in response to one of the essay questions (Appendix 1). For some, the engagement with research and reading had facilitated new perspectives on what they had experienced in practice.

One of the student teachers in the focus group talked about the experience that the reading and writing for the essay had 'instilled in my brain' the feeling that they questioned the efficacy of ability grouping and had negotiated with the final school they were at to use alternative means of class organisation. One of the NQTs shared how she had struggled with what her new colleagues were doing in organising the grouping in their classes and doing what she felt was the 'right' thing to do. She was told by her partner teacher in the next class, '"if you want results, you need the TA with that group [low attainers] and sit with the top, push the top." … So, it really… I have been through a thing with it, where I questioned, is this the right thing to do? It was really hard because I was, like, how am I supposed to support all of these children when not sitting with them all the time? I was thinking, should I just do it how he does it and get the results that I need? But I kept thinking, they said it was better for everybody if it's mixed ability and done in the right way. So, I have… at the end of last term, it was a bit of a dip, where for a while it did seem like the low-attaining children were just sitting with me or a TA a lot. So, then I just redid everything and thought, from the research, it's the right thing to do.' This NQT seems to have indeed felt able to assert her own practice despite the potential impact of colleagues.

One NQT, now teaching in Ireland, described the fact that practice there did not seem to use ability grouping as much as they had experienced when they were undertaking their ITE in England. This had meant that they were able to be much freer with organisation and had not had to negotiate this aspect of their practice with their new colleagues. This was also the case for another who was at a school in England that did not ascribe to ability grouping. They shared that they had been keen to gain a job there because they felt that, 'You have to kind of believe in what the school does.' This might point to an NQT who had not necessarily thought that they would be able to assume self-efficacy in any context and had consequently sought out a setting that aligned with their own philosophies and pedagogy.

The importance of there being a place for interrogation of the issue of grouping practices is evidenced in the light of a study in the USA (Patterson et al, 2015) that evaluated the impact of having beliefs about fixed intelligence and the potential influence that teachers felt they could have on children. Viewing children as being of low ability was shown to correlate with teachers considering themselves to be less responsible for their academic performance. This belief could have a negative impact on the efficacy of these teachers given the long history of research that is indicative of the importance of high expectations and challenge (Rosenthal and Jacobsen, 1968; Cooper and Good, 1983; Saracho, 1991; Freidrich et al, 2015; Dweck, 2015). NQTs had found it presented barriers to their self-efficacy, too. One NQT described grouping as being a challenging aspect of their practice, aware of a change in their role:

> … now I'm seeing things from a teacher's point of view and why a lot of teachers do prefer setting. I'm not saying that I agree with it, but I see what exactly they find challenging, especially with my class. I've got six children on the special educational needs spectrum. Within them, they've all got different targets and then a group of children who need a lot of support, a lot of my time, and then you've got the children in the middle who can do really well, but they need that slight push. Then I've also got the children who I need to push further. It is challenging, especially when you don't have an extra adult in the class. So, I don't agree with setting, but … *NQT 3*

This NQT knew the arguments and had written about them for their module assignment yet had assimilated into the practice of the school. In this instance, their understanding of effective teaching and learning seems out of kilter with what they are implementing. This might be an example of coming with particular beliefs that they felt were legitimate but then managing the resultant cognitive dissonance by considering that more experienced 'others' might know best (Cahill et al, 2019; Fletcher and Luft, 2011; Voss and Kunter, 2019; Zeichner and Tabachnick,1981).

A mixed picture emerges from the perspective of student teachers and NQTs here. There were examples of NQTs actively using their consideration of what effective learning and teaching might be to find a school that seemed to accord with their ideas about teaching and learning. Others used autonomy to go with what they believed, despite what other teachers were implementing. Some found themselves going against their understanding of what 'good' pedagogy might be but had not lost sight of it. Student teachers also assimilated into school practice but saw this as being a temporary state, one that could be resolved once they were in their own classrooms as NQTs.

I offer a note of caution here as I would not wish for student teachers or NQTs to consider that there is a right way to teach; this has echoes of an evidence-based conception about teaching and learning and does not reflect the model of critically reflective metacognition that I propose (6.1). Engagement with research and literature could lead one to consider that in the case of 'ability' there might be a strong case for drawing attention to research suggestive that ability grouping practice in schools needs to be carefully considered and is subject to long debate (e.g. Boaler, 2013, 2015; Brown & Zhang, 2017; Hallam and Parsons, 2012; Marks, 2016). Other pedagogies such as experimenting with questioning or developing assessment for learning strategies, practices suggested by other essay titles, might have less potential for causing a direct conflict with classroom practice.

Whatever practice is found in school, a consideration for effective ITE could be to enable student teachers to have the self-efficacy and resources to question both theory and practice, and to consider how to draw on their resultant conceptions about teaching and learning in their own classes. Although there was some appropriation of practices by NQTs, despite experiences of what I would suggest were cognitive dissonance, it could be that the NQT who fell in with what colleagues

suggested might later come to feel confidence in trying an alternative approach. I wonder if this might be bolstered by some additional contact with university, a reminder of the ideas about effective teaching and learning that they had formed during their ITE. This seems to have occurred in one case where an email sent by a tutor at Christmas seems to have prompted one NQT to rethink and draw on renewed confidence to go with their own ideas for grouping in their class. The need for cognitive dissonance to be recognised by student teachers as part of their learning suggests a requirement for a means of sharing and acknowledging it as part of their ITE. Consideration of this has led to my development of a model that could offer students preparation for this as being part of their process of learning and an aspect of thinking that will help in their journey to becoming teachers (see Figure 16).

5.2   A reconceptualisation of beliefs

There seemed to be very little support for the model of learning to teach that is suggested by the statement 'I would like just to be told how to teach, I don't need to know why', which, if student teachers who had found the research-informed module in this study unsatisfactory, might well have rated more strongly. This suggests that the student teachers perceived a value in the research-informed module that encouraged them to have agency in their learning. Moreover, it rejects the idea of receiving an accepted body of theoretical knowledge, ready to apply. This is what student teachers might expect to be offered by ITE: the 'what works' model (Orchard and Winch, 2015). This seems to have been a factor of how one student teacher thought they would learn to be a teacher:

> I did just assume it would be a lot more in the classroom, they tell you what to do and you follow it like that. So, when the university said, we're not really going to teach you, I was like, what are you talking about? Just show me how it's done, and I'll get on with it. But now, I think obviously at certain points I was like, this is fairly painful, but at the end of it, you can see the benefit of it.

A comment on the survey also showed that their idea of how they would learn to be a teacher had changed in direct response to the Learning and Teaching module:

> I didn't think this at the start, but discussions in the Learning and Teaching module have made me realise that we need to be taught about how to think about teaching and adapt.

The theoretical framework for this study asserted the relevance of recognising the interdependence of learning within the context of school, of university and the importance of a proposed third context, that of the education already experienced by the student teachers themselves. Explicitly, I proposed that the assumptions about their learning might need to be critically reflected upon and considered anew. Student teachers embarking on a teaching career might well consider that the teaching they have experienced has been of good quality as evidenced by their own success and thus essentially be unquestioned. Additionally, as a learner, they have not been a party to the complex educator role and the thinking and choices invisibly

made. This consideration is important because of the pervasive influence that this has the potential to have on the forward trajectories for their pedagogy (Dewey, 1933; Nespor, 1987; Bandura, 1986; Nisbett and Ross, 1980; Pajares, 1992; Haigh et al, 2017).

Acknowledgement of this challenge foregrounded my inclusion of the survey statement, 'A better understanding of research has made me think differently about my own education and teachers.' In December 89% and in May 80% of respondents agreed or strongly agreed with this statement. A perception of this as experienced by student teachers can be argued to be important in indicating change in terms of their views. It is significant in enabling 'beliefs' about teaching and learning to be viewed in a different light, mediated by research understanding. Some comments on the survey statement offered further evidence that they felt that they had changed their thinking about what might be effective practice. One said, 'it has shifted my thinking from transmission to constructivism.' Another offered that it had '… changed my perspective.' Another shared that it had 'opened my mind.' Others shared that their own educational experiences were being viewed in a less favourable light. For example, 'In hindsight, the quality of my pre-university experience was very poor.' And another, 'I am more critical of my own education.' And similarly, 'It's made me question everything about my own education and makes me want to be better.' That student teachers seemed to have experienced this crucial alteration in their beliefs would offer ratification to their engagement with research and its potential for promoting critical reflection in the context of their previous experiences and expectations. Student teachers in the focus group added to this evidence:

> I had loads of teachers who just put a book in front of us, read page 246. That's what you're doing in the maths lesson and that was it… never thought about it. I just did it because it was a school and I just did what I was told. I never really questioned it. Now I look back and I think, I can't believe that happened. (P5)

This resonates with an important part of what I have proposed as the theoretical framework for this study: that experiences as a learner have provided one with 'knowledge' and beliefs. That these have potential and opportunity to change is important for student teacher learning. This idea has some resonance with an enactivist (Davis, 1995; Bateson, 1980) description of learning where knowledge cannot be neatly captured as fact. Instead, it is subject to iterative consideration that might alter previously held conceptions and alter schema through self-determination and interactions between the contexts or environments experienced. As considered earlier in this chapter, it also highlights the cognitive dissonance (Festinger 1957) or 'perturbation' (Rossi, 2011) and the consequences of encountering challenges to these beliefs.

For the student teachers' learning, literature recognises this as being a prospective issue, that the pervasive nature of Bacon's (1689) 'false idols' have the potential to negatively influence their efficacy moving forward. In school as student teachers, there thus needs to be learning that offers a foundation for considering the teaching and learning process as problematic. This should also offer an opportunity for

acquiring agency in using critical reflection on both evidence from research and practice in order to develop as student teachers. Moreover, in moving to assume new posts in school, it is important for student teachers to maintain an ability to see themselves as having a means of problem-solving for particular children and contexts, drawing on research and their own interpretation of how it might have merit. Again, this offers a reinforcement of my view that diversity between theory and research and the practice of school should not necessarily be minimised, rather be recognised as inevitable when the act of teaching and learning is so complex and contextualised.

Consequently, I argue that there are three context shifts where a pedagogy for ITE needs careful consideration. For the student teachers, there seems to be ratification for research understanding as interrogating and changing the first context – that of the previous beliefs produced through experience, which is important. This cannot be ascribed as wholly down to work undertaken on the module in this case study, as it does not clearly operate in isolation from other aspects of the course where research features. However, in terms of what the Learning and Teaching module seems to have contributed, it has been perceived as offering both opportunity and acknowledgment that education is problematic: that there are different ways of thinking about what effective education might be, and that research is a resource that can be used in offering an additional lens to view practice.

It is clear from literature that there is great potential for NQTs to turn to teaching that is representative of how they were taught – their preconceptions about teaching and learning – and for ITE impact to be negated (e.g. Cahill et al, 2019; Falkenberg, 2010; Fletcher and Luft, 2011; Flores, 2016; Korthagen, 2010; Moon, 2016; Van Nuland, 2011; Zeichner and Tabachnick, 1981). Here I propose a need for student teachers to have the challenge of interrogating their potential 'beliefs' acknowledged and highlighted as part of their ITE. Although many student teachers in this study did alter their perceptions about their own education in response to their developing understanding about teaching and learning, I consider that if they had been aware that this needed to be a feature of their thinking it might have enhanced the likelihood of its having an impact long into careers. In conceptualising a model that draws on cognitive dissonance, I argue that this dissonance must not only be used in considering similarities and differences between school and university contexts but also in this third context – their previous beliefs (see Figure 16).

5.3   Learning for critical reflection

The student teachers in both the December and May surveys showed strong support for the statements: 'It is important for teachers to be able to critically analyse research' and 'Being able to understand research has a positive impact on teachers' efficacy.' This would seem to correlate with the low number – 6% in both the December and May surveys – that agreed that they 'would like just to be told how to teach, I don't need to know why.' I interpret this as an indication that conceptualising teaching pedagogy is in part contingent on research and that this needs to be mediated through critical reflection. The comments here showed an understanding

of this, recognising the uncertainty about research evidence and the need to interrogate it.

I had hypothesised that a benefit of the Master's module might be what it is perceived as offering in terms of the space and time for reflection, a place for inductive and deductive reasoning, or what Eraut (1995) suggests as having potential for reflection on, as well as for, action. This sort of reflection might foreground the sort of learning that has been successful in prefacing the innovation ascribed to communities of practice that are part of in-service practices in Hong Kong (Zhang, 2019).

Out of the 57 comments made across the December and May surveys, none of the student teachers mentioned that the Learning and Teaching module presented an opportunity for collaborative reflection or dialogue. One of the lecturers in the focus group, however, shared that they considered this to be offered by the Learning and Teaching module. They felt that they had seen a change over the time they had worked with their student teachers where, by the end, they were a more cohesive group and perceived that 'they came together as a community of learners'. This general gap in evidence, however, could offer an important point of action for the ITE in this study. For student teachers to benefit from the range of practices and to find differences, similarities and challenges within them, in relation to the pedagogies being explored on the Learning and Teaching module, they need to feel that they have an opportunity to participate in the community of practice provided by peers and lecturers. They will also benefit from the 'space' conceptualised by enactive learning (Maturana and Varela, 1982), where interdependency between participants is a resource for growth and learning, leading to 'autopoeisis' (p199). Autopoesis is the capability of being self-sustaining through active critical reflection, to be able to manage one's own learning and progress with independence. This process is activated through exposure to a multiplicity and divergence of views and is further foregrounded by the essay-writing required of the student teachers.

Although findings that indicate the power of the essay are encouraging, essay-writing presents student teachers with only one means of critical reflection. The opportunity to rehearse the potential professional dialogue that seemed to be valued by the NQTs seems to have been not explicitly recognised by the student teachers. Despite being given time to discuss and analyse during the Learning and Teaching module seminars, they might benefit from attention being drawn to the purpose of this – the value of collaborative dialogue when they are in post. Not to give enough prominence to this would be unfortunate and detrimental to student teachers becoming the research-informed professionals that Master's study can offer.

5.4   Status and the Master's

It was surprising to me that student teachers did not view the status of teachers as being enhanced by a Master's accreditation. Although 54% in December and 41% in May agreed with the statement, 'Having a Master's level qualification is important for the status of teachers', only four comments out of 54 offered support for a positive response. Many comments reflected the idea that the content is useful but

that the qualification itself was less so. For example, 'Teachers should not be defined by a degree. It is what the qualification entails which is more important.' (D45) This could be attributable to student teacher participants in this study not viewing the teaching profession in England as having issues with status or not being aware of comparisons with other countries where education is held in high regard such as the Finnish context (Sahlberg, 2011, 2011b).

International evidence suggests that where education and educators are rated highly on comparative measures such as Progress in Reading Literacy Study (PIRLS), Trends in International Mathematics and Science study and the Programme for International Student Assessment (PISA), systems such as in Finland and Singapore are recognised as being particularly effective (Darling-Hammond, 2011). Finland has invested heavily in its initial teacher preparation (Sahlberg, 2011) and teaching is considered a 'top job' (p76). Salhberg's (2011b) work with Finnish primary teachers indicates that rather than salary (which is slightly higher than the national average) being a draw, it is the professional autonomy and academic status that is important. Finnish teachers are given time and independence to develop their practice, unencumbered by standardised testing, inspections or a salary dependent on accountability. As such, they have a strong sense of being an esteemed professional.

The value of the intellectual association that Master's accreditation might be seen as having was recognised by the lecturer group. There was a view that not having it would give the wrong 'message'. No respondent in any of the data sets remarked specifically on there being a possible impact on recruitment to teaching. That one of the lecturers saw the potential salary cost implications of the additional qualification as a barrier to employment had not occurred to me. It would be interesting to explore this further and establish if more qualified teachers were in fact less desirable to employers.

One benefit ascribed to having the Master's was that of career advancement, which was commented upon by both the respondents to the survey and the NQTs. A number saw moving into leadership as being bolstered by academic qualification. This aligns with Brooks et al's (2012) findings of Secondary PGCE student teachers where moving into leadership was proposed as an advantage of gaining a Master's qualification. Thomas (2016), in considering the aspirations for a Master's level teaching profession, concluded that there was an appetite for studying at this level but that NQTs were too time-pressured to take advantage of the credits that they had gained through their PGCEs and that the focus should be for teachers further on in their careers.

Currently the credits from the Master's study in the PGCE can be used in completing a full Master's within five years of graduating. One might hope that the financial and time advantages to completing the Master's might be an impetus for further study despite an apparent lack of appetite amongst the student teachers I surveyed. Lecturers in the focus group were aware of some student teachers immediately returning to do a Master's. Further study was seen by the lecturers in my case study as being advantageous in offering teachers a means of staying abreast of research. They perceived that the Learning and Teaching module provides student teachers

with evidence of what they might gain from this. It was felt that having this initial taster – an idea and experience of what the learning at this level might be like – might encourage them to feel that they would be able to meet the challenge and would be reviewed as a positive influence on further study aspirations.

The Labour Government in 2008 supported a view that the profession's status would be advantaged by teachers attaining a Master's degree (DSCF, 2008). It was also posited as offering an opportunity to improve children's attainment (Totterdell et al, 2011) with correlation being drawn between this and teacher qualification: 'the quality of an education system cannot exceed the quality of its teachers' and 'the only way to improve outcomes is to improve (their) instruction' (Barber and Mourshed, 2007, p13). Research such as that of Bryan and Blunden (2010, in La Velle, (Ed), 2015) and Castel et al (2012 in La Velle (Ed), 2015) found that the Master's in Teaching and Learning that grew out of this initiative was perceived as having a positive impact on those teachers that took part, highlighting the theory-practice synergy that was created. The cessation of funding in 2011 had an impact on the programmes of partnership that had been created between schools and universities to support it. Thus now, in England, the impetus for completing a Master's comes from individuals.

Given that teachers may not be able to or want to continue in any formal way with their academic learning, the incentive to continue to use the critical reflection in remaining research-informed could be lost. One way that the Learning and Teaching module could have lasting influence would be for student teachers to recognise the importance of continuing to engage with relevant research.

With 54% of student teacher respondents in the December survey and 43% in the May survey indicating that they would like to pursue further academic study, the possibility for them establishing an ongoing influence of research and literature might seem hopeful. I was not surprised to see a lowering of appetite for study given that the May survey was implemented at a time when they had just had feedback from a first submission of the Learning and Teaching module assignment. Experience would suggest that this may not have been a time when they were feeling particularly enthused for all matters academic. The associated rise from 21% to 35% of those that were not keen to study again was a pattern that I might have anticipated. When asked about continuing, one of the student teachers in the focus group felt that writing the essay had made them want to continue: '… now I want to do more… I never would have been like, I want to do a Master's, but now I've done it I'm like oh yes, maybe I'll do some more.' (P3) This was met by four others nodding, smiling and looking as if they agreed with this. Another shared that they had enjoyed it but that they did not feel further motivated. I wonder if the recent flush of success might have influenced these student teachers to a positive feeling about academic study.

Given the number of student teachers that did not want to continue their studies, as well as the number that would in reality continue given the potential barriers discussed above, I wonder whether this is an area that needs further consideration. As referred to earlier, the Teach First programme is now in its second year of a two-year Postgraduate Diploma in Education (PGDE). This programme is school-based

with 'participants' working as unqualified teachers after a five-week intense preparation programme. Success means that they gain academic accreditation over a two-year period with Qualified Teacher Status (QTS) after the first and will have completed all but the final dissertation of a Master's qualification after the two years. With this programme being in its infancy and no cohort having completed it yet, it remains to be seen how successful it is but the two-year period and gaining a PGDE might have potential for development and adaptation to other ITEs. If there were to be a way of strengthening an ongoing university and NQT contact and development strategy then this would be an additional opportunity to really problematise practice, drawing on a wider community of practice than might be offered by in-school professional development alone. One of the NQTs said that they would have valued a longer period of teacher education: 'I think an initial period and then going in to [spend] more time at the school might be more beneficial… it should be much more thorough and much longer.' (NQT2) I do not anticipate that this is likely to happen given the funding implications that this would have. Another of the NQTs (NQT5) made a comment that I had not expected. They shared that their personal tutor from university had emailed their group at Christmas. It does not seem that onerous or costly to email our outgoing cohort of student teachers in their NQT year if it assisted them in being reminded of their learning and how they aspired to 'be' as a teacher. The potential for losing the impetus for engagement with research seems precarious and potentially haphazard. This could well be a point for learning with respect to this particular ITE. The recent Early Career Framework (DfE, 2019) might be viewed as offering some answer to this. It is proposed as underpinning 'an entitlement to a fully-funded, two-year package of structured training and support for early career teachers linked to the best available research evidence' (p3). It will be interesting to see its impact. Its introduction does show recognition for ITE as just the beginning of the learning journey in teaching.

It seems from what is reported by the NQT participants that the impetus provided by the Learning and Teaching module provided them with an understanding that research is part of education, integral to the process of learning and teaching, and gave them some metacognitive tools to draw on.

5.5   Learning through writing

Le Fevre et al (2016) argue that 'adaptive expertise', a key attribute of effective teachers, is contingent upon metacognition: 'Adaptive expertise is highly metacognitive and involves self- and co-regulated learning through continuous cycles of action and deliberate reflection' (p5). The interpretation of findings in this case study are suggestive of this being realised by those completing the Learning and Teaching module. This responds to the recommendations emanating from work by Mansfield and Volet (2010), whose small qualitative study suggested the 'importance of a metacognitive approach to learning about classroom motivation, where preservice teachers are encouraged to become aware of their own learning in this particular area, could be highly useful to address past experiences and secure future learning' (p1415).

Successful completion of the Learning and Teaching module is achieved through writing a 5000-word essay in response to a choice from a range of questions (Appendix 1). This requires student teachers to use recent and relevant research and literature to make an argument that uses their own practice to offer evidence of their understanding and views. The reflections of the student teachers in my study showed that an intrinsic value of essay-writing was not universally anticipated, as shown by the survey responses. Six respondents shared an explicitly negative view of essay-writing. Stress was mentioned by two, another two felt that they had already done this as undergraduates. Another valued the reading, but not the writing.

Some comments show that student teachers saw the process as being more than gaining the academic credits or what can be proposed as recognition beyond extrinsic value. One said, 'This can help in making reflections and evaluations on my teaching practice and new approaches in teaching.' (D130) Another that, 'Consolidating my own understanding/knowledge of teaching and learning theory as well as (hopefully) helping me to understand my own values.' (D68) Similarly, another declared, 'Linking theory to practice is a key part of being a critically reflective teacher and better understanding the classroom.' (M7) These quotations show that the essay-writing offered student teachers an impetus for considering their practice in the light of reading and suggests that they were able to apply a new theory/literature lens from which to critique. This resonates with models for reflection like Brookfield's (1995). It evidences the sort of learning described in my theoretical framework – the iterative, critically reflective process that, once removed from the actual context, re-evaluates, re-conceptualises and alters knowledge, again potentially shaking pervasive beliefs.

This process resonates with the impact that Secondary English student teachers experienced in response to writing essays at Master's level about policy and practice (Yandell, 2010). Yandell describes examples of these student teachers finding that the process of critical reflection and analysis needed for the essays, enabled their contextualisation and interpretation of literature and research in the light of their personal experiences. This developed new or changed ideas about teaching and learning. The process of writing was used as a form of critical reflection and offered opportunity to consider research evidence in their own contexts. This reflects similar perceptions of both the student teacher participants and NQTs in my study.

Findings from the focus group of student teachers and the NQTs show the writing of the essay appears to have been influential on the potential theory-practice divide that has been problematised. Even if the changes are isolated to this one aspect of their thinking or pedagogy, it might be that the experience of having views shifted in this singular instance could give them an insight into this as a possibility and indeed a desirable part of how they teach.

The actual writing of the essay has for some been an act of reflective metacognition (Flavell, 1976): an awareness of what one knows and does not know. A thinking experience that can be used to engender subsequent learning is one that offers real possibilities for ITE beyond being a form of assessment. It would seem for some to achieve the sort of metacognitive thinking that could serve student teachers as they

move into the classroom as teachers. They would be able to identify a situation where a particular set of understandings might apply – here, for example, might be the student teacher who said that they would know when they felt that 'something might not be "right."' (P7) Having written the essay, they have rehearsed and practised the strategy of reading and critically reflecting on research and literature in support of finding some possibilities for addressing the problem at hand. This could offer them a foundation for situated metacognitive knowledge and regulation (Flavell, 1979; Schraw and Dennison, 1994). Here, too, drawing on the understanding of research-informed practice that has been proposed as fundamental to the Learning and Teaching module might be recognised as being rehearsed by the process of writing the essay.

A something is not quite 'right' feeling resonates with Korthagen's (2001) proposal of gestalt and its influence on teacher learning: 'much of a teacher's behaviour is grounded in unconscious and instantaneously triggered images, feelings, notions, values, needs or behavioural inclinations, and often on combinations of these aspects. Exactly because they often remain unconscious, they are intertwined with each other' (2010, p410). A conscious, metacognitive act that has been rehearsed through the process of reflection, as scaffolded by the essay, might offer the student teachers a means of moving these event-specific gestalts to a developing schema of understanding about teaching and learning. That is, turning the unconscious and situated ideas through reflection into knowledge that can inform wider practice. This moves the proposed theory to practice challenge from being an application of theory on to practice to emphasising an iterative process triggered by metacognitive awareness. This might provide explicit and prompted use of the process of reflection, bringing instances of practice for interrogation, mediated by discussion and the consideration for multiple sources of possible evidence. The value of the essay can therefore be recognised as having potential in 'making thinking visible' that is lauded by the application of a clinical practice model (Kriewaldt and Turnidge, 2013, p105).

In offering potential for managing theory and practice differences, the Learning and Teaching module offers student teachers an opportunity to become research-informed, having rehearsed though the writing of the essay a process and opportunity for them to be critically reflective in the face of cognitive dissonance. In this way, they might be enabled to consider the context, how learning is or is not happening, what the experience is like for children and then, if necessary, look to other possibilities from wider theoretical and research-informed knowledge and understanding. Where this is not realisable as a student teacher, perhaps because of a perceived need to assimilate into the practice of the class teachers and school, it would seem to be important that their sense of self-efficacy and confidence is established so that, when they make the second move from university to school as an NQT, they are able to sustain their sense of this as important and part of their teacher identity.

5.6   Learning for autonomy

The concept of autonomy has been proposed by Hoyle and John (1998) as one of the central tenets of professionalism. This acknowledges that teachers are constantly

encountering situations that necessitate their making decisions both in and for practice. As largely lone practitioners in classrooms, feeling confident in operating autonomously must be important. How to attain that autonomy is therefore of pertinence for ITE.

The DfE (2010a) extolls the need for teachers to look to:

> 'best performing and fastest improving education systems… where… they combine high levels of autonomy for teachers and schools with high levels of accountability: so that professionals both feel highly trusted to do what they believe is right and highly responsible for the progress of every child' (p4).

Foucault (2001, in Olssen, 2005) asserts that teacher autonomy might only be perceived rather than be a reality. This echoes the potential impact of the experiences of learning with which student teachers come to ITE. Unless there is occasion for them to interrogate pedagogy, a sense of autonomy might simply become oblivious replication of appropriated practice. Without opportunity to consider other ways of teaching and learning, or to recognise a metacognitive strategy that enables a genuine autonomy of thought and action, realising effective practice might remain unachieved. The Learning and Teaching module, as offering a basis for attaining perceptions of autonomy and that autonomy having potential impact on job satisfaction as discussed in sections 5.2, 5.3 and 5.4, might play a part in the potential for retaining teachers in the profession. This is an issue considered in the next section.

5.7   Learning for retention

Initial teacher education might have influence on whether teachers stay in the profession. My research has led me to appreciate that the extent to which teachers are enabled effectively to enjoy and develop their role must be underpinned by their readiness for the realities and challenges of teaching.

Retention is an issue in England. Whilst primary teacher recruitment figures for last year showed that Primary had what might be viewed as a healthy 103% of the Teacher Supply Model target (DfE, 2018), government figures show that there are a significant number that do not remain in the profession. The key findings of an analysis done by the DfE (2018) indicate that after five years about one-third have left teaching.

Research in the field offers some indication of the multiplicity of factors that motivate a move away from the profession. These include workload; a desire for change and a new challenge; pay; feeling undervalued; pupil behaviour; poor management; and personal factors (Smithers and Robinson, 2003; Struyeven and Vanthournout, 2014; Buchannan, 2009; Tye and O'Brien, 2002). Specific reference to any inability to realise self-efficacy and maintain a critically reflective approach to teaching and learning is not represented, but feelings of frustration and dissatisfaction experienced as student teachers and then replicated when they assume roles in school could be theorised to be a factor in attrition.

A study on why teachers stay in the profession (Chiong et al, 2017) provides some indications that may offer further ratification for student teachers' perceptions that research-informed practice might offer teachers satisfaction in their roles. Teachers in Chiong et al's (ibid) study were motivated to stay for a variety of factors, amongst them being: enjoyment, feeling that they were really having an impact on society, a sense of achievement and a fit with lifestyles in terms of holiday periods. They considered that for some the strong community that they had built within their schools was important. This finding reinforces an earlier study (McIntyre, 2010) of long-serving teachers in inner-city schools in England, which showed that teachers had built up strong emotional ties with their school communities and a feeling of belonging (2010, p611). This resonates with the assertions made in the findings of a meta-study (Eells, 2010: in Hattie et al, 2018) that the beliefs that teachers have of their schools and their 'collective teacher efficacy' (p3) showed strong correlation with pupil achievement.

Feeling part of a school community, a collective that is making a positive difference to attainment and outcomes, might well offer emotional ties and satisfaction with their role for teachers. From this, one can surmise that, conversely, feeling separated from the collective and unable to align with the practice of others may not be conducive to staying in teaching. It may well be important, therefore, for new teachers to develop the confidence to find a school that offers them the optimum opportunity for assuming a teacher persona that is supportive of their self-generated personal philosophies about effective teaching and learning. Moreover, it suggests that new teachers need to assimilate into a 'community of practice' (Lave and Wenger, 1994, p63) or, as Langdon (2017) terms, 'relational communities of practice' (p529), where they can engage in critical and collective reflection and feel empowered through a sense of self-efficacy and confidence, a feeling of having control and agency.

The Learning and Teaching module was perceived by NQTs as having influence on their potential to contribute to the collective, the 'community'. They described the 'professional dialogue' that they felt they had been enabled to have with colleagues in school. They perceived themselves to have agency, a voice worth hearing; 'not just a bystander.' (NQT 1)

A feeling of being empowered to contribute to a dialogue seems to have been experienced by student teachers too at the end of the course. They discussed in the focus group how they had evaluated in collaboration with the teachers in school as to whether things might be done differently. A potential for contributing to a dialogue was echoed too by what lecturers articulated, 'They see that they are those other clever people and they can join in with it.' (L5)

One of the perceived strengths of the Learning and Teaching module was to enable contribution to a collective dialogue in a 'community of practice' (ibid) where this is used for mutual critical reflection. This again echoes learning that has resonance with enactive learning (Rossi et al, 2013) with an equality amongst participants sharing rather than exchanging knowledge.

5.8   Conclusion

The Learning and Teaching module has been experienced as offering student teachers and NQTs a means of learning about practice that does not offer a received wisdom, rejecting a 'what works' transmitted model of learning to be a teacher. Instead, it has been seen to offer a rehearsal – the metacognition of a process of learning – a critical reflection of and for practice that recognises the potential complexity of school contexts and strategies of exercising self-efficacy in operating effectively within them. In my theoretical framework, I have proposed this as being a process that acknowledges importantly three not two contexts of learning and their potential diversity and distinctiveness or contrast. These are seen as being a resource for, rather than a barrier to, learning. This process offers opportunity for working iteratively with them, ignited by cognitive dissonance and metacognition of critical reflection. The importance of this cognitive dissonance, as being part of the learning process, enables some mediation of the complexity of teaching and learning. It describes the way student teachers can be prompted to being alive to a way of thinking; of drawing on a range of resources provided by these three contexts as well as past experiences as learners; a community of practice, professional dialogue, research, theory and literature; in order to develop through an awareness of their own potential in exercising autonomy and the opportunities that this affords in the way of satisfaction and pleasure in teaching. It thus echoes Korthagen's' (2005) onion model in that it valorises the student, their inherent and individual qualities but, further, offers a view that part of ITE needs to equip student teachers with an opportunity to rehearse and recognise this act and the resources they draw on. Use of the Metacognition of Critical Reflection model (see 6.1 Contribution to knowledge, Figure 16) with lecturers and student teachers offers the prospect of recognising, highlighting and marking the process and its place in realising the potential of Master's level study in ITE and asserting the intrinsic value it offers.

Chapter 6 Conclusion

In this chapter, I first consider the limitations of my study. I next describe the contribution that I propose the findings and my interpretation of them has made to the knowledge in the field. In the last section, I return to my initial research question for final reflections.

6.1 Limitations

As in any research, some limitations can be anticipated and others arise as the data gathering and analysis unfolds. Here, I highlight issues that I recognise in moderating conclusions drawn.

The case study represents only one Master's module in one ITE programme and thus what is evidenced cannot be generalised. However, it offers opportunity for comparison with others and some of the conclusions might offer avenues for discussion beyond the university where the study was completed.

Although all student teachers were invited to complete the survey on two occasions, a significant number did not (41 % in December and 59% in May) and therefore are only representative of some people's perceptions.

The focus group with student teachers was conducted on a day when positive feelings about the course were likely to have been experienced as it was their final day and all had been successful. I had supervised them in school and my knowledge and understanding of the content of the module could well have meant that I had more conversations than other supervising tutors regarding research and its influences. I had not identified the group as being the ones I would use for the focus group until logistics meant that it was the only possible one that I could timetable. It might have been valuable to have a group that were supervised by a lecturer who was not teaching on the module.

The NQTs that I interviewed were ones that had volunteered. As awareness of my request meant that they would need to be monitoring their university email address, it is likely that they would be ones that had enjoyed and wanted to stay in touch with the university. They were a very small number out of the whole cohort of NQTs that were invited (n=260) so the views expressed were only of a very small minority and cannot be generalised.

In the focus groups and interviews, the participants were well aware of my insider role on the module and may have wanted to offer responses that would please me or would represent themselves in a good light. Although I have pointed out the steps taken to mitigate this, I am mindful that conclusions must be read with an awareness of this.

A number of the lecturers in the focus group were those that were part of the Learning and Teaching module team. They were more likely to have expressed positive views of the impact of the module.

In light of my theoretical framework lauding the potential for collaborative dialogue in both interrogating and challenging knowledge, a focus group of NQTs would have offered an additional lens though which to consider the Learning and Teaching module and gather data. In this way, the fact that they, as a group, would outweigh me as a researcher might have given them a feeling of security in offering perceptions that would potentially reflected negative views of the module. Additionally, following the NQTs for a further year or seeking the views of alumni from previous years would have offered data to permit evaluation of the continuing impact of the Learning and Teaching module's impact.

As discussed in Chapter 4, were I to do the research again, I would have worded three of the survey statements differently. The first two I reconsidered after I started to revisit the literature again post-data gathering:

- 'I found it hard to put research into practice'

I am now of the opinion that this promotes a view of schools being a problem; that research has primacy and needs to be 'applied'.

Similarly:

- 'Understanding research has made me dissatisfied with practice I have seen in school'.

I believe that this might have reinforced an unhelpful implied primacy of research and potentially university knowledge over practice and schools. That is not a view that I would wish to have perpetuated.

Another potential alteration I would have made is to:

- 'I would rather not have the Master's modules as part of my PGCE'.

Looking at the survey statements showed that I should have worded this more specifically as a number described difficulties with selection of their specialism for the other Master's module on offer and disappointment with not getting their first choice. Being specific about the Learning and Teaching module or focusing on the learning done at Master's level might have been better choices.

This case study is of a singularity and therefore the findings per se cannot be generalised beyond its confines. The degree to which they are relevant to other ITE providers will be dependent on contextualised contrast and comparison.

6.2 Contribution to knowledge

This research is specific to the individualised nature of one PGCE module. However, the inclusion of a Master's element in various guises is common to many ITE providers both in England and internationally. Although there has been work done to articulate a content for English Primary ITE and a framework and curriculum that they are working to (https://www.gov.uk/government/publications/initial-teacher-training-

itt-core-content-framework), this study has the potential to contribute to the field of knowledge by articulation and description of one aspect of pedagogy for teaching student teachers in ITE. The following extract from a student focus group articulates the way that one student sees the place of research in education. Here, they show recognition of where critical reflections play an important part in the roles of teachers in ensuring that research informs but does not dictate practice. They show that they recognise that research is a resource that they can use in evaluation and realising possible improvements to their teaching but that it is complex and needs to be mediated through their own lens.

> When you see schemes coming into schools and those schemes are entirely based on something that's come out in one paper. This is what we're going to do, this is the point… the golden goose has laid its egg. Whereas if you're informing your practice, you're going why don't I try that and see what happens and re-evaluate and then look at how it worked and go, that didn't work, why didn't that work? And then look into another bit of research and go, maybe it didn't work because of this aspect affecting it.

Engagement as a critical consumer of research and evidence, explicitly explored through guided and independent consideration of literature and research, with assessment through essay-writing, might become viewed as an important aspect of learning to become an effective primary teacher. This view rejects a notion of there being an easily described body of knowledge that student teachers necessarily require.

Despite the modular content and the titles of essays being context-specific, the demonstration of writing effectively at Master's level, which, by its nature, demands articulation of an iterative link between theories, research and practice, applies to other ITE courses. There thus might be potential for this study to influence their design so that the value of this process being articulated and its potential/limitations are better understood. Findings thus preface aspects of the module as offering a means of meeting some of the challenges of ITE and are conceptualised into a model of 'Metacognition of Critical Reflection' that articulates the process that has appeared to have been positively experienced by participants in the study.

Figure 16.   My Model: Metacognition of Critical Reflection
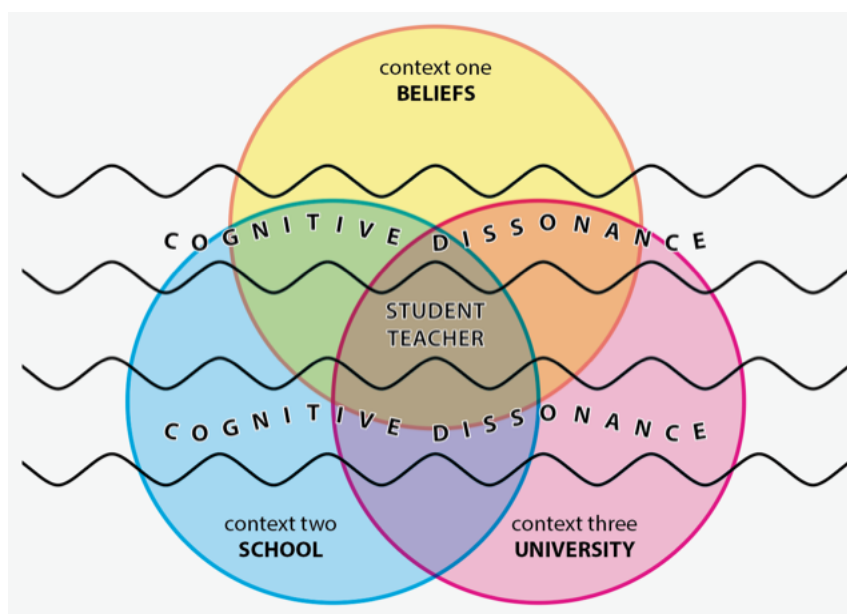
In designing the model in Figure 16, I reflected upon the idea that within ITE student teachers should be offered an insight into the particular nature of their learning. I viewed a model as having impact and the potential to be remembered; that it provided an explicit articulation of a metacognitive act, and therefore might be more enduring as a resource for ongoing reflection upon learning and teaching as the new teachers move into schools as NQTs and beyond. I wanted to conceive of a model that, without being too complex, would capture the key challenges in ITE – the impact of beliefs, the potential for differences being found between school practices and what student teachers regard as effective pedagogy – and, importantly, that it should be available as a resource for discussion. Cognitive dissonance can be an uncomfortable experience that might be made less so if acknowledged as being a central part of both ITE and ongoing teaching and learning.

I have shown the centrality of the student teacher in the process of learning – they are the mediators and have agency, knowledge and control over their teaching. I attempt to illustrate the interrelationship between three contexts where student teacher learning needs to occur: school, beliefs (as discussed in my theoretical framework) and university. These contexts provide different and possibly contrasting conceptions about effective teaching and learning. I show them as overlapping to illustrate their intersectionality. The potential cognitive dissonance is shown by undulating lines, which represents the uncertainty; the up and down nature of the thinking that is activated by student teachers in trying to make sense of similarities and differences. This becomes fuel for important critical reflection.

This cognitive dissonance can be mediated by active and conscious use of a variety of resources available: practice, research-evidence, wider reading, a community of practice and professional dialogue. The (student) teacher's self-efficacy and agency is promoted by use of this process. Recognition of the complexity of teaching and learning is therefore key to perceiving and realising efficacy. In this case study, the Learning and Teaching module essay seems to have offered an opportunity to

undertake this process. It has acted as a rehearsal or metacognitive act for learning in ITE and for subsequent use when approaching practice in classrooms as NQTs.

This model offers insight into the potential importance of the pedagogical contrasts between the contexts of school, beliefs and university for student teacher learning. If ITE programmes seek to minimise the differences that are experienced, then they might not prepare teachers entering the highly varied and complex world of teaching. In expecting schools to conform to the ideals of their university or beliefs or vice-versa, NQTs may become dissatisfied and this has potential to negatively impact their retention in the profession.

The Learning and Teaching module has therefore shown itself to have had some positive influence for those completing it, within and importantly beyond the ITE programme.

6.3   The value of a Master's to a Primary ITE

The module in this study is of course only a part of the ITE programme and, accordingly, the values and ideologies about research and its relationship to teaching and learning may well be represented across other aspects and have influenced my respondents. What this study shows is that knowledge and learning that are suggested to be at 'Master's level' and promoted by the module are being demonstrated in the student teachers' responses evident in the data. Moreover, it shows that they are valued by NQTs too in that they are drawing on the processes of learning that have been rehearsed in order to influence their practice in their own classrooms.

Research-informed practice is not represented as being unproblematic and, where there are very visible differences in what NQTs consider might be good pedagogy, it may be that they feel that they need to conform to the prevailing practices of colleagues and schools. This was shown in the instance of ability grouping. Influencing this organisational consideration for teaching and learning is challenging. If the student teachers choose this as an area for writing about, then what they conclude from their reading of research may well engender dissatisfaction with actual practice. This does, however, seem to have been influential on some choices for employment and to have shown evidence of some student teachers and NQTs being able to exercise self-efficacy in taking their own line on how they are going to operate in their classrooms.

Where 'falling in line' seems to have prevailed and there is potential disharmony with what NQTs aspired for in their classrooms and what they were in reality implementing, the email from a lecturer appears to have been influential in reminding the NQTs about their self-efficacy and identity; the fact that they might not be exactly the teacher they want to be currently but that this is not unusual. This strategy might also prompt them to remember their envisioned pedagogy and stimulate some timely critical reflection. Here, too, is an area for further work on the part of ITE. This was an isolated and personal act by one particular lecturer and I believe that it provokes the need for further discussion about how the ideals that we

might have for our outgoing cohort of student teachers might be challenged and thus need nurturing further. This is where promotion of ongoing current research and educational debates seems to have potential for becoming lost in the overwhelming beginnings of a career. There is an obvious maintenance of this with those that have been inspired to continue an engagement with Master's study. However, even the optimistic number that thought they would like to continue their Master's study may find their ambitions stymied by the barriers of time, personal circumstance and money, particularly where they hold a view of this as being of extrinsic worth.

My findings from interviewing NQTs show that schools are offering research literature to their teachers. ResearchEd (https://researched.org.uk/), with aspirations to promote research literacy, started from a single tweet in 2013 proposing a conference on education research. It has grown from a single conference to a series of events that invite participation from researchers, teachers and policy-makers. The apparent growing popularity of these (one recently sold out five months in advance) suggests that teachers in England have a desire to keep up to date with new research. It might be that university ITEs could be more proactive in reaching out and sharing their research. Whilst open access means there is opportunity for their alumni, might it not be more effective if this were more personalised and communicated by an email from a lecturer of whom they have knowledge and for whom they (hopefully) have respect? Of course, these things have consequent implications for workload, money and time. Nonetheless, the investment could be seen as potentially paying off and being of value, not only in meeting aspirations for maximising the efficacy of teachers and thus the educational experiences of children in England, which surely must be at the heart of any ITE, but also the maintenance of the university relationship might also encourage re-enrolment and an increase in numbers that are enthusiastic to continue with ongoing study. Thus, a strategic financing decision for a university could offset additional outlay on workload.

The student teachers seem to have had a positive view of research as an important aspect of teaching and learning. Many of them thought that it made teachers more effective. Few of them appeared to wish for less self-efficacy in pedagogical choices. They also seemed to reject a 'what works' view, preferring to base their practice on research, and seeing context and personal experiences as being important in considering its value.

There might be need for further consideration for maximising the potential that the module has for offering student teachers opportunity for collaborative dialogue and enabling them to recognise this as a means of developing practice. Perhaps, too, considering where additional work might be done in rehearsing the process of actually taking problems from practice to interrogate through this dialogue guided by some relevant (or not!) research of literature. This would add to the modelling that the metacognitive act of essay-writing appears to have enabled for some.

The process of writing the essay seems to have been valuable as rehearsal of the metacognitive act of being critically reflective. It was apparent that it had, for some, supported both a strategy of seeking out and reading research but also of reflecting on their practice in relation to what they have read. Not so much in terms of a

research 'project' but as a tool for taking time to consider it in relation to their own experiences and context. This rehearsal might well be important as a part of ITE pedagogy and development of the teachers that the ITE in this study seeks to nurture. It also offered some an opportunity for challenging their own beliefs and values – not because they were told by a lecturer but through their own discovery and contemplation. This supports my proposal of learning being non-linear, malleable and subject to reinterpretation and movement from gestalt (Korthagen, 2001) to schema. Thus, the essay might be seen as an opportunity for reflecting *for* practice, too (Eraut, 1995). Some expressed pride and passion for what they had written, and that it was going to offer them self-efficacy (Bandura, 1977) and a confidence in their future practice.

There is no doubt that, for a minority, the essay was a cause of stress and anxiety. Whilst that is manageable for some, perhaps careful articulation about the role that the process of writing is offering at an early stage, might, whilst not negating the associated worry over any assessment, valorise it as being important for more than just the grade. I think that once the process is complete, this might be a realisation but perhaps it is not currently sufficiently acknowledged at the outset of the process. This might be because, as lecturers, we are not sufficiently cognisant of this as part of the intrinsic value of this assignment.

The survey suggests that many student teachers appear to have had their previous beliefs and ideas about teaching and learning reconceptualised; that 'third context' that I proposed should be revisited. Clearly, other aspects of this ITE may well have influence here and this might only be in part by this Master's module. Nonetheless, this process of realising that events and experiences are subject to being recast is important and I believe that needs to be recognised as an important part of ITE. The module appears to have offered a means for recognising the complex and uncertain nature of knowledge and the consciously reflective process that student teachers go though in writing the essay might offer a means of influencing their ongoing development in their own classes as qualified teachers.

That Master's level study was not seen as being important to teachers' status to a high number of respondents in the survey was interesting. I had anticipated that there would be possible recognition of other ramifications of this such as respect and the bearing this might have on recruitment to the profession. This contrasted with the positive perceptions expressed about the content of the module and what it offered to teachers.

England's ITE is diverse and this presents a challenge for all providers in terms of competition. I believe it continues to be important to better understand and evidence the content of ITE that appears to support the development of an effective profession that can take children forward into uncertain futures. The more clearly providers of ITE can say what 'good' teacher programmes consist of, the better they will be able to argue for continuing roles going forward.

From this study, it would appear that a module that draws on research and literature, promotes critical reflection and presentation of education, teaching and learning as

being complex and potentially contentious appears to have, for some student teachers, been recognised as contributing to their understanding of the valuable role that research-informed thinking can have in their roles as teachers. Many seem to have had their ideas about what effective teaching and learning are unsettled and interrogated. Some NQTs that have completed the module are apparently using their modular engagement as one means of establishing themselves as professional teachers, imbued with a sense of self-efficacy, recognising that 'what works' might not! And that they have a means of finding, evaluating and trying out alternatives.

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Appendix 1: The Learning and Teaching module essay questions

Child Development

Critically explain how an understanding of children's prior learning and prior experience underpins effective teaching and learning.

Curriculum

Critically analyse the ways in which the curriculum addresses the learning needs of children.

Collaboration and Grouping

'Well some people are just, you know cleverer than other children, that's what decided our groups in year three and it hasn't changed' (Marks, 2016, p22). How might grouping affect children's learning?

Metacognition

How does thinking about thinking support children to improve their learning and understanding?

Relationships

Do children's different experiences and lives affect how we as teachers need to provide for their learning?

Assessment

Demonstrate through theory to practice how assessment promotes pupil agency and learning.

Learning Theories (two essay titles)

'Rewards and punishments are the lowest form of education'. Critically reflect on this in light of your understanding of learning theory (not simply behavourism) and how this applies to classroom practice.

Critically analyse how teachers use their understanding of learning theory to inform their planning and teaching to meet the learning needs of the children they teach.

Diversity, Equality and Difference

How might teacher perceptions of ethnicity, gender or social class impact learning?

Appendix 2: Confidentiality statement for persons undertaking transcription

The recordings you are transcribing have been created from services that you provide. Recordings may contain information of a very personal nature, which should be kept confidential and not disclosed to others. Maintaining this confidentiality is of utmost importance. Signing this form means you agree not to disclose any information you may hear on the recording to others, and not to reveal any identifying names, place names or other information on the recording to any person other than the researcher named above. You agree to keep the recording in a secure place where it cannot be accessed or heard by other people and to show your transcription only to the relevant individual who is involved in the session, i.e. Georgina Merchant.

You will also follow any instructions given to you by Georgina Merchant about how to disguise the names of people and places talked about on any recordings as you transcribe them, so that the written transcript will not contain such names of people and places.

Following completion of the transcription work you will not retain any recordings or transcript material, in any form. You will erase any material remaining on your computer hard drive or other electronic medium on which it has been held.

You agree that if you find that anyone speaking on a tape is known to you, you will stop transcription work on that recording immediately and pass it back to Georgina Merchant.

Declaration

I agree that:

1. I will discuss the content of the recordings only with Georgina Merchant.

2. I will keep all recordings in a secure place where they cannot be found or heard by others.

3. I will treat the transcripts of the recordings as confidential information.

4. I will agree with Georgina Merchant how to disguise names of people and places on the recordings.

5. I will not retain any material following completion of transcription.

6. If the person being interviewed on a recording is known to me, I will undertake no further transcription work on the recording and will return it to Georgina Merchant as soon as is possible.

I agree to act according to the above constraints.

Appendix 3: The NQT interview questions and justification

• How are you enjoying your new career?

This question offered a soft and friendly beginning and an opportunity to understand how the NQTs were viewing their roles. Clearly, job satisfaction and pleasure are important if teacher retention is to be addressed. This can be seen as particularly challenging for NQTs.

• Thinking back to your time doing your PGCE, what impact do you think your completion of the Learning and Teaching module has on your practice currently? Anything else? In what ways?

This question sought perspectives on and to an extent recall of the content and impetus of the Learning and Teaching module in reflection on and relation to their current practice.

• Tell me about what you wrote about for your Learning and Teaching essay.

This question was designed to preface the next question.

• Have your ideas changed or developed?

Here, I was particularly interested to see if the theme of the essay had seen continued refection in regard to their current practice.

• Do your think that Master's modules should be a part of initial teacher education?

This question explored whether they felt that it had value or if they now felt that the Master's modules had been an addition they would have rather not had to do.

• What do you consider the advantages of Master's modules being part of initial teacher education?

Here, if they had answered the previous question in the affirmative, I wanted to uncover whether they could articulate what they saw as being distinctive in it. I also considered that this might offer some insight into whether they felt there was any resonance with teacher status or retention/desirability of the role. The next questions were designed to probe further.

• What impact do you think that having a Master's level qualification might have on the status of primary teachers?

• Please can you share any disadvantages that you can think of?

I wanted to be clear that I sought a balanced view and was open to hearing negative views.

• Can you say what you think being research-informed means in terms of your practice?

Given that this is a key tenet of both the Learning and Teaching module and of the ITE programme as a whole, I wanted to see if they could articulate their understanding of the term and if they viewed themselves as being influenced by it in their current roles.

• Have you any thoughts about going on to further study? What are the drivers/barriers?

If they were keen to continue their engagement with the academic, this would offer some ratification for its inclusion in their ITE. It might also give them further collaborative dialogue and opportunities for developing their engagement with research, which seems to be important for the profession.

Appendix 4: The aims of the Learning and Teaching module

The Learning and Teaching module's published aims for student teachers are to:

- empower you with a critical, research and enquiry-led approach to teaching and learning based on current, recent and relevant research/publications

- maintain a commitment to social equity and social justice for the whole range of school students, teachers and schools; working towards a culturally diverse society in which the rights and responsibilities of all are recognised and promoted in teaching and learning

- provide you with an excellent basis for professional practice as a classroom teacher that meets and extends beyond the statutory requirements of the standards for QTS

- enable you to become a critically reflective practitioner and academic writer at Master's level.

The expected learning outcomes for this Master's level module are as follows:

a) To demonstrate an understanding of key aspects of the field of study and practice, exemplified via:

- a grasp of issues and critical insight into professional pedagogic practice

- an understanding of learning processes and the various contexts of learning

- an ability to be creative, independent and successful in the application of knowledge in teaching and other work with a range of learners and colleagues.

b) To demonstrate the ability to explore, analyse, discuss and reflect on teaching and learning, exemplified via:

- a capacity to analyse teaching and learning within immediate and wider professional contexts

- an ability to draw from and apply appropriate intellectual perspectives to teaching and learning

- an understanding and analysis of values underpinning or influencing pedagogic approaches.

(UCL IoE programme document)

Appendix 5: Ethics

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 is 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 data-protection@ucl.ac.uk. 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	Master's study in Primary PGCE: its part in ITE Pedagogy
b.	Student name and ID number (e.g. ABC12345678)	Georgina Merchant MER151434456
c.	*UCL Data Protection Registration Number	Date issued
c.	Supervisor/Personal Tutor	Dr Sara Bubb
d.	Department	Learning and Leadership

		PhD ☐	EdD ☒
e.	Course category (Tick one)		
		DEdPsy ☐	
f.	**If applicable,** state who the funder is and if funding has been confirmed.	N/A	
g.	Intended research start date	October 2018	
h.	Intended research end date	October 2019	
i.	Country fieldwork will be conducted in *If research to be conducted abroad, please check www.fco.gov.uk and submit a completed travel risk assessment form (see guidelines). If the FCO advice is against travel, this will be **required** before ethical approval can be granted: http://ioe-net.inst.ioe.ac.uk/about/profservices/international/Pages/defa ult.aspx*	UK	

j. Has this project been considered by another (external) Research Ethics Committee?		
Yes ☐	External Committee Name:	
No ☒ ⇨ *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)

☒ Interviews

☒ Focus groups

☒ Questionnaires

☐ Action research

☐ Observation

☐ Literature review

☐ Controlled trial/other intervention study

☐ Use of personal records

☐ Systematic review ⇨ *if only method used go to Section 5.*

☐ Secondary data analysis ⇨ *if secondary analysis used go to Section 6.*

☐ Advisory/consultation/collaborative groups

☐ 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.*

Research question: **What difference does becoming research-informed through a Master's Level module make to the learning and practice of Primary PGCE student teachers?**

The Bologna Agreement currently necessitates postgraduate study to be, in part at least, at Master's level. Consequently, teacher education at university involves student teachers in reading and writing about educational research. The question of whether this level of study has a useful role to play in a currently under-defined pedagogy of teacher education is not currently understood and it is hoped that this study will offer insight.

The module under consideration here engages student teachers in a process that intends them to become research-informed with a view to that having a positive impact in their practice in the classroom. It is assessed using Master's criteria that are applied to other Master's courses at the university.

This will be an evaluative (Stenhouse, 1988; Yin, 1993) single case study of a Primary PGCE Master's module at IoE.

It seeks to discover the value of this module in the eyes of student teachers undertaking it, lecturers that work on the PGCE, and of NQTs that undertook the module during the last academic year.

Data collection will use questionnaires, focus groups and semi-structured interviews, resonating with principles of knowledge being socially constructed, subject to reiteration and evolving evaluation in response to interaction.

The four groups of participants will be:

1. The full cohort of current student teachers on the course (approx. 250 (time commitment, 10 minutes x2).
2. Teacher educators that lecture on the PGCE and supervise student teachers in school (targeting 16) (time commitment 40 minutes).
3. NQTs that have completed the course and are in school teaching currently (targeting 5) (time commitment 40 minutes).
4. Student teachers on the PGCE course (targeting two groups of 8) (time commitment 45 minutes).

The full cohort of student teachers will be asked to participate in responding to two questionnaires, completing them when they are in university, gathered at keynote lectures. They will be sent an information sheet in advance on Moodle.

All teacher educators on the Primary PGCE will be informed about the research and volunteers for participation will be sought.

All NQTs that completed the Primary PGCE at UCL IoE in 2018 will be emailed (using addresses that they have agreed to being used) to ask for volunteers.

All student teachers currently on the Primary PGCE will be emailed (using UCL addresses) to ask for volunteers for the focus groups.

Should I have more volunteers than I need for the focus groups and semi-structured interviews, I will employ a randomised sampling technique.

Reporting on the outcomes will form the final part of the EdD thesis and may be shared at conferences and in journal articles.

Section 3 Research Participants (tick all that apply)

Tic ☐ Early years/pre-school	☒ Adults – specify below
☐ Ages 5–11	☐ Unknown – specify below
☐ Ages 12–16	☐ No participants
☐ Young people aged 17–18	Primary PGCE student teachers, teacher educators at UCL, IoE, NQTs who are recent graduates of Primary PGCE at UCL, IoE

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 <u>National Research Ethics Service</u> (NRES) or <u>Social Care Research Ethics Committee</u> (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 ☐ *	No ☒
b.	Will you be visiting websites associated with extreme or terrorist organisations?	Yes ☐ *	No ☒
c.	Will you be storing or transmitting any materials that could be interpreted as promoting or endorsing terrorist acts?	Yes ☐ *	No ☒

* 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 ☐ *	No ☐
b.	Will you be analysing any secondary data?	Yes ☐ *	No ☐

* 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 ☐ No ☐
		If no, do you have the owner's permission/license? Yes ☐ No* ☐

d.	Are the data anonymised?	Yes ☐ No ☐
		Do you plan to anonymise the data? Yes ☐ No* ☐
		Do you plan to use individual level data? Yes* ☐ No ☐
		Will you be linking data to individuals? Yes* ☐ No ☐

e.	Are the data sensitive (DPA 1998 definition)?	Yes* ☐	No ☐
f.	Will you be conducting analysis within the remit it was originally collected for?	Yes ☐	No* ☐
g.	**If no,** was consent gained from participants for subsequent/future analysis?	Yes ☐	No* ☐
h.	**If no,** was data collected prior to ethics approval process?	Yes ☐	No* ☐

* 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 you include all hard and electronic data when completing this section.

a.	**Data subjects –** Who will the data be collected from? Primary PGCE student teachers, teacher educators at UCL IoE, NQTs that are recent graduates of Primary PGCE at UCL IoE

b.	**What data will be collected?** Please provide details of the type of personal data to be collected Names, previous degree history, previous employment history
c.	**Disclosure** – Who will the results of your project be disclosed to? Staff at UCL IoE, doctoral supervisors, readers of possible journal submissions, conference audiences
d.	**Data storage** – Please provide details on how and where the data will be stored i.e. UCL network, encrypted USB stick*, encrypted laptop* etc. UCL network

e.	**Data Safe Haven (Identifiable Data Handling Solution)** – Will the personal identifiable data collected and processed as part of this research be stored in the UCL Data Safe Haven (mainly used by SLMS divisions, institutes and departments)? Yes https://www.ucl.ac.uk/isd/services/file-storage-sharing/data-safe-haven-dsh	Yes ⊠ No ☐

f.	How long will the data and records be kept for and in what format? Five years in electronic form 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 Will data be archived for use by other researchers? (If yes, please provide details.) No

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.*

– Methods	– Risks to participants and/or researchers
– Sampling	
– Recruitment	– Confidentiality/anonymity
– Gatekeepers	– Disclosures/limits to confidentiality
– Informed consent	– Data storage and security both during and after the research (including transfer, sharing, encryption, protection)
– Potentially vulnerable participants	
– Safeguarding/child protection	
– Sensitive topics	
– International research	– Reporting
	– Dissemination and use of findings

Ethical issues:

- In the focus groups, participants might be concerned about sharing negative views on the module, particularly in view of my role as a lecturer on it. All participants might feel that they are under obligation to participate. Student participants might feel that their participation might have a positive or negative impact on their assessment outcome on the module. The nature of focus groups means that I cannot guarantee that their contributions will not be shared beyond the confines of the study. Where a note-taker is asked to be present in focus groups, this will be made clear to the participants in advance with their name and purpose described on the information sheet.

All participants will be asked to give voluntary informed consent to be involved. Information sheets will be provided with full details as to the scope and purpose of the study; what they will be asked to do and to whom the information will be shared including possible publication and dissemination at conferences. It will be clear that no positive or negative outcome will result from participation in terms of their progress on the course. I will also ask for permission to share the data with my supervisors, one of whom is the PGCE course leader. Data will be stored in accordance with UCL guidance, on a UCL drive and will be destroyed after five years. Where a note-taker is asked to be present in focus groups, this will be made clear to the participants in advance with their name and purpose described on the information sheet. Notes will be transcribed in Word, uploaded on to the UCL drive and destroyed as paper originals in accordance with confidential waste.

- The participants in the focus group might not feel that they have opportunity to express their views, might feel marginalised by others and data collection might become uncomfortable.

I have conducted focus groups in research previously and have had the opportunity to practise the skills that might best enable participation by all. I will ensure that they are clear about the time commitment before they consent and I will be mindful of adhering to what has been agreed.

- The participants might be concerned about the time commitment of participation.

I will ensure that they are clear about the time commitment before they consent and I will be mindful of adhering to what has been agreed.

- Participants may be concerned about their views being shared with other professionals at conferences and in journals.

The possible dissemination of the work will form part of the information sheet.

- The leaders of the course and university may be concerned about negative outcomes of the research.

In view of potential negative outcomes that might materialise, prior to implementation, I will share my full research proposal with the leaders of the Primary PGCE in question. One of them is also my second doctoral supervisor and is thus currently well informed and has already had the opportunity to discuss and ensure that any ethical concerns have been mitigated

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 *(List attachments below)*	Yes ☐ No ☒

Will be attached once data number has been granted and upgrade viva has happened

	If applicable/appropriate:	
b.	Approval letter from external Research Ethics Committee	Yes ☐
c.	The proposal ('case for support') for the project	Yes ☐
d.	Full risk assessment	Yes ☐

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	Georgina Merchant
Date	5/9/2018

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 IoE.

Ensure that you apply for the DBS check in plenty of time as it will take around four weeks, though can take longer depending on the circumstances.

Further references

The www.ethicsguidebook.ac.uk website is very useful for assisting you to think through the ethical issues arising from your project.

Robson, Colin (2011). *Real world research: a resource for social scientists and practitioner researchers* (3rd edition). Oxford: Blackwell.
This text has a helpful section on ethical considerations.

Alderson, P. and Morrow, V. (2011) *The Ethics of Research with Children and Young People: A Practical Handbook.* London: Sage.
This text has useful suggestions if you are conducting research with children and young people.

Wiles, R. (2013) What are Qualitative Research Ethics? Bloomsbury.
A useful and short text covering areas including informed consent, approaches to research ethics including examples of ethical dilemmas.

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 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	Georgina Merchant
Student department	DLL
Course	ED D
Project title	Master's study in Primary PGCE: its part in ITE Pedagogy

Reviewer 1

Supervisor/first reviewer name	Sara Bubb
Do you foresee any ethical difficulties with this research?	No, all issues have been addressed
Supervisor/first reviewer signature	███████████████
Date	30/11/18

Reviewer 2	
Second reviewer name	Caroline Hilton
Do you foresee any ethical difficulties with this research?	No
Supervisor/second reviewer signature	████████████████████████
Date	30/11/19

Decision on behalf of reviews

Decision	Approved	☐
	Approved subject to the following additional measures	☐
	Not approved for the reasons given below	☐
	Referred to REC for review	☐
Points to be noted by other reviewers and in report to REC		
Comments from reviewers for the applicant		

Once it is approved by both reviewers, students should submit their ethics application form to the Centre for Doctoral Education team: IOE.CDE@ucl.ac.uk.

Appendix 6: Consent forms and Information sheets

Participant Information Sheet for Student Focus Groups

UCL Research Ethics Committee Approval ID Number: Z6364106/2018/10/99 social research granted 30/10/18

YOU WILL BE GIVEN A COPY OF THIS INFORMATION SHEET

Title of study: The Master's in a Primary PGCE: Its place in ITE Pedagogy

Department of Leadership and Learning.

Georgina Merchant g.merchant@ucl.ac.uk Room 556 UCL, IoE

You are being invited to take part in a research project that is the final part of my EdD.

Before you decide, 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 me if anything is not clear or if you would like more information. Participation is entirely voluntary.

1.   What is the project's purpose?

I want to find out if the Learning and Teaching module, one of the Master's modules on the Primary PGCE, offers student teachers knowledge, skills and understanding that will be of value to them.

2.   Why have I been chosen?

You have been randomly selected from the whole graduating 2018 Primary PGCE student teacher cohort.

3.   Do I have to take part?

It is up to you to decide whether or not to take part. If you decide to, you will be given this information sheet to keep and be asked to sign a consent form. You can withdraw at any time without giving a reason. If you decide to withdraw, you will be asked what you wish to happen to the data you have provided up to that point.

4.   What will happen if I take part?

You will be asked to participate in a single semi-structured interview asking for your thoughts regarding the Learning and Teaching module. This will last no longer than 20 minutes.

5.   Will I be recorded and how will the recorded media be used?

The discussion will be recorded and used only for the purposes of this research. No other use will be made of it and it will be securely stored anonymously in line with GDPR and UCL regulations. Only my Primary Doctoral Supervisor, Dr Sara Bubb, will know your identities and all reference to you will be pseudonymised.

6.   What are the possible disadvantages and risks of taking part?

You may be concerned about possibly sharing what you perceive to be negative viewpoints regarding the module. This research will value ALL perspectives both positive and negative. This is of prime importance in informing our effective practice as teacher educators and for future cohorts of student teachers.

7.   What are the possible benefits of taking part?

Whilst there are no immediate benefits for those people participating in the project, it is hoped that this work will have a positive impact on our work supporting Primary PGCE student teachers to be effective teachers.

8.   What if something goes wrong?

If you are unhappy with any aspect of the interview, please contact my principal supervisor, Dr Sara Bubb, s.bubb@ucl.ac.uk, in the first instance. Should this be insufficient in addressing your problem, you should subsequently contact the Chair of the UCL Research Ethics Committee – ethics@ucl.ac.uk

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

A professional transcribing service will be used. Beyond this, the information that I collect about you during the course of the research will be kept confidential to myself and my doctoral supervisors. You will not be able to be identified in any ensuing reports or publications.

10.   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.

11.   What will happen to the results of the research project?

The results of the study will be used in my EdD thesis and may be subsequently used in presentations at conferences and journal articles. You will not be identified in any publication or presentation.

12.   Data Protection Privacy Notice

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personal data and can be contacted at data-protection@ucl.ac.uk. UCL's Data Protection Officer can also be contacted at data-protection@ucl.ac.uk.

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www.ucl.ac.uk/legal-services/privacy/participants-health-and-care-research-privacy-notice

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• The right to access your personal information

• The right to rectification of your personal information

• The right to erasure of your personal data

• The right to restrict or object to the processing of your personal data

• The right to object to the use of your data for direct marketing purposes

• The right to data portability

• Where the justification for processing is based on your consent, the right to withdraw such consent at any time

• The right to complain to the Information Commissioner's Office (ICO) about the use of your personal data.

If you are concerned about how your personal data is being processed, or if you would like to contact us about your rights, please contact UCL in the first instance at data-protection@ucl.ac.uk.

If you remain unsatisfied, you may wish to contact the ICO. Contact details, and further 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/

Contact for further information

Georgina Merchant g.merchant@ucl.ac.uk 07758 872654

Thank you for reading this information sheet and for considering taking part in this research study.

Participant Information Sheet for Lecturer Focus Group

UCL Research Ethics Committee Approval ID Number: Z6364106/2018/10/99 social research granted 30/10/18

YOU WILL BE GIVEN A COPY OF THIS INFORMATION SHEET

Title of Study: The Master's in a Primary PGCE: Its place in ITE Pedagogy

Department of Leadership and Learning.

Georgina Merchant g.merchant@ucl.ac.uk Room 556 UCL, IOE

You are being invited to take part in a research project that is the final part of my EdD.

Before you decide, 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 me if anything is not clear or if you would like more information. Participation is entirely voluntary.

1.   What is the project's purpose?

I want to find out if the Learning and Teaching module, one of the Master's modules on the Primary PGCE, offers student teachers knowledge, skills and understanding that will be of value to them.

2.   Why have I been chosen?

Your views are important as teacher educators on the Primary PGCE.

3.   Do I have to take part?

It is up to you to decide whether or not to take part. If you decide to, you will be given this information sheet to keep and be asked to sign a consent form. You can withdraw at any time without giving a reason. If you decide to withdraw, you will be asked what you wish to happen to the data you have provided up that point.

4.   What will happen if I take part?

You will be asked to participate in a single discussion in a group comprising three lecturers with varied roles on the programme. I will be asking for your thoughts regarding the Learning and Teaching module. This will last no longer than 30 minutes.

5.   Will I be recorded and how will the recorded media be used?

The discussion will be recorded and used only for the purposes of this research. No other use will be made of it and it will be securely stored anonymously in line with GDPR and UCL regulations. Only my Primary Doctoral Supervisor, Dr Sara Bubb, will know your identities and all reference to you will be pseudonymised.

6.   What are the possible disadvantages and risks of taking part?

You may be concerned about possibly sharing what you perceive to be negative viewpoints regarding the module. This research will value ALL perspectives both positive and negative. This is of prime importance in informing our effective practice as teacher educators and for future cohorts of student teachers.

7.   What are the possible benefits of taking part?

Whilst there are no immediate benefits for those people participating in the project, it is hoped that this work will have a positive impact on our work supporting Primary PGCE student teachers to be effective teachers.

8.   What if something goes wrong?

If you are unhappy with any aspect of the interview, please contact my principal supervisor, Dr Sara Bubb, s.bubb@ucl.ac.uk, in the first instance. Should this be insufficient in addressing your problem, you should subsequently contact the Chair of the UCL Research Ethics Committee – ethics@ucl.ac.uk

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

A professional transcribing service will be used. Beyond this, the information that I collect about you during the course of the research will be kept confidential to myself and my doctoral supervisors. You will not be able to be identified in any ensuing reports or publications.

10.   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.

11.   What will happen to the results of the research project?

The results of the study will be used in my EdD thesis and may be subsequently used in presentations at conferences and journal articles. You will not be identified in any publication or presentation.

12.   Data Protection Privacy Notice

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•   The right to rectification of your personal information

•   The right to erasure of your personal data

•   The right to restrict or object to the processing of your personal data

•   The right to object to the use of your data for direct marketing purposes

•   The right to data portability

•   Where the justification for processing is based on your consent, the right to withdraw such consent at any time

•   The right to complain to the Information Commissioner's Office (ICO) about the use of your personal data.

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If you remain unsatisfied, you may wish to contact the ICO. Contact details, and further 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/

Contact for further information

Georgina Merchant g.merchant@ucl.ac.uk 07758 872654

Thank you for reading this information sheet and for considering taking part in this research study.

Participant Information Sheet for NQT interview

UCL Research Ethics Committee Approval ID Number: Z6364106/2018/10/99 social research granted 30/10/18

YOU WILL BE GIVEN A COPY OF THIS INFORMATION SHEET

Title of Study: The Master's in a Primary PGCE: Its place in ITE Pedagogy

Department of Leadership and Learning.

Georgina Merchant g.merchant@ucl.ac.uk Room 556 UCL, IOE

You are being invited to take part in a research project that is the final part of my EdD.

Before you decide, 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 me if anything is not clear or if you would like more information. Participation is entirely voluntary.

1.   What is the project's purpose?

I want to find out if the Learning and Teaching module, one of the Master's modules on the Primary PGCE, offers student teachers knowledge, skills and understanding that will be of value to them.

2.   Why have I been chosen?

You have been randomly selected from the whole graduating 2018 Primary PGCE student cohort.

3.   Do I have to take part?

It is up to you to decide whether or not to take part. If you decide to, you will be given this information sheet to keep and be asked to sign a consent form. You can withdraw at any time without giving a reason. If you decide to withdraw, you will be asked what you wish to happen to the data you have provided up that point.

4.   What will happen if I take part?

You will be asked to participate in a single semi-structured interview asking for your thoughts regarding the Learning and Teaching module. This will last no longer than 20 minutes.

5.   Will I be recorded and how will the recorded media be used?

The discussion will be recorded and used only for the purposes of this research. No other use will be made of it and it will be securely stored anonymously in line with

GDPR and UCL regulations. Only my Primary Doctoral Supervisor, Dr Sara Bubb, will know your identities and all reference to you will be pseudonymised.

6. What are the possible disadvantages and risks of taking part?

You may be concerned about possibly sharing what you perceive to be negative viewpoints regarding the module. This research will value ALL perspectives both positive and negative. This is of prime importance in informing our effective practice as teacher educators and for future cohorts of student teachers.

7. What are the possible benefits of taking part?

Whilst there are no immediate benefits for those people participating in the project, it is hoped that this work will have a positive impact on our work supporting Primary PGCE student teachers to be effective teachers.

8. What if something goes wrong?

If you are unhappy with any aspect of the interview, please contact my principal supervisor, Dr Sara Bubb, s.bubb@ucl.ac.uk, in the first instance. Should this be insufficient in addressing your problem, you should subsequently contact the Chair of the UCL Research Ethics Committee – ethics@ucl.ac.uk

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

A professional transcribing service will be used. Beyond this, the information that I collect about you during the course of the research will be kept confidential to myself and my doctoral supervisors. You will not be able to be identified in any ensuing reports or publications.

10. 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.

11. What will happen to the results of the research project?

The results of the study will be used in my EdD thesis and may be subsequently used in presentations at conferences and journal articles. You will not be identified in any publication or presentation.

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• The right to object to the use of your data for direct marketing purposes

• The right to data portability

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Contact for further information

Georgina Merchant g.merchant@ucl.ac.uk 07758 872654

Thank you for reading this information sheet and for considering taking part in this research study.

Participant Information Sheet for Student Teacher Survey

UCL Research Ethics Committee Approval ID Number: Z6364106/2018/10/99 social research granted 30/10/18

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Title of Study: The Master's in a Primary PGCE: Its place in ITE Pedagogy

Department of Leadership and Learning.

Georgina Merchant g.merchant@ucl.ac.uk Room 556 UCL, IoE

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Before you decide, 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 me if anything is not clear or if you would like more information. Participation is entirely voluntary.

1.   What is the project's purpose?

I want to find out if the Learning and Teaching module, one of the Master's modules on the Primary PGCE, offers student teachers knowledge, skills and understanding that will be of value to them.

2.   Why have I been chosen?

All student teachers enrolled on the PGCE are asked to participate.

3.   Do I have to take part?

It is up to you to decide whether or not to take part. If you decide to, you will be given this information sheet to keep and be asked to sign a consent form. You can withdraw at any time without giving a reason. If you decide to withdraw, you will be asked what you wish to happen to the data you have provided up that point.

4.   What will happen if I take part?

You will be asked to respond to a Survey Monkey survey. This will last no longer than 15 minutes.

5.   Will I be recorded and how will the recorded media be used?

The discussion will be recorded and used only for the purposes of this research. No other use will be made of it and it will be securely stored anonymously in line with GDPR and UCL regulations. Only my Primary Doctoral Supervisor, Dr Sara Bubb, will know your identities and all reference to you will be pseudonymised.

6.   What are the possible disadvantages and risks of taking part?

You may be concerned about possibly sharing what you perceive to be negative viewpoints regarding the module. This research will value ALL perspectives both positive and negative. This is of prime importance in informing our effective practice as teacher educators and for future cohorts of student teachers.

7.   What are the possible benefits of taking part?

Whilst there are no immediate benefits for those people participating in the project, it is hoped that this work will have a positive impact on our work supporting Primary PGCE student teachers to be effective teachers.

8.   What if something goes wrong?

If you are unhappy with any aspect of the interview, please contact my principal supervisor, Dr Sara Bubb, s.bubb@ucl.ac.uk, in the first instance. Should this be insufficient in addressing your problem, you should subsequently contact the Chair of the UCL Research Ethics Committee – ethics@ucl.ac.uk

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10.   Limits to confidentiality

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11.   What will happen to the results of the research project?

The results of the study will be used in my EdD thesis and may be subsequently used in presentations at conferences and journal articles. You will not be identified in any publication or presentation.

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•   The right to data portability

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Contact for further information

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Thank you for reading this information sheet and for considering taking part in this research study.

The Master's in a Primary PGCE: Its place in ITE Pedagogy

Consent for Semi-structured Interview Participation

(tick as appropriate)

I confirm that I have read and understood this information sheet, and have had the opportunity to consider the information, ask questions, and have had these questions adequately answered. ☐

I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason. ☐

I know that I can refuse to answer any or all of the questions and that I can withdraw from the interview at any point. ☐

I agree for the interview to be recorded, and that recordings will be kept secure and destroyed at the end of the project. I know that all data will be kept under the terms of the General Data Protection Regulation (GDPR). ☐

I agree that small direct quotes may be used in reports (these will be anonymised). ☐

I understand that in exceptional circumstances anonymity and confidentiality would have to be broken, for example, if it was felt that practice was putting children at risk, or there were concerns regarding professional misconduct. In these circumstances, advice would be sought from a senior manager from another local authority who will advise us as to the appropriate course of action and as to whether we need to inform the authority of what you have told us. ☐

Name: ……………………………………………………………………………………………………….

Signature: ……………………………………………………………. Date: ………………………………………..

Name of researcher: Georgina Merchant

Signature: ……………………………………………..………………. Date: ………………………………………..

The Master's in a Primary PGCE: Its place in ITE Pedagogy

Consent Form for Focus Groups

(tick as appropriate)

I confirm that I have read and understood this information sheet, and have had the opportunity to consider the information, ask questions, and have had these questions adequately answered.   ☐

I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason.   ☐

I know that I can refuse to answer any or all of the questions and that I can withdraw from the interview at any point.   ☐

I agree for the interview to be recorded, and that recordings will be kept secure, without my name on and destroyed at the end of the project. I know that all data will be kept under the terms of the General Data Protection Regulation (GDPR).   ☐

I agree that small direct quotes may be used in reports (these will be anonymised).   ☐

I understand that in exceptional circumstances anonymity and confidentiality would have to be broken, for example, if it was felt that practice was putting children at risk, or there were concerns regarding professional misconduct. In these circumstances, advice would be sought from a senior manager from another local authority who will advise us as to the appropriate course of action and as to whether we need to inform the authority of what you have told us.   ☐

Name:……….

Signature: ……………………………………………………. Date: …………………………………..

Name of researcher: Georgina Merchant

Signature: ……………………………………..………………. Date: …………………………………..

Appendix 7: Extract from initial analysis of semi-structured interviews

Each transcript of a semi-structured interview with an NQT was colour-coded for entry on to NVivo, reflecting deductive themes and identifying potential inductive themes.

Overarching deductive theme – **Theory and Practice Dichotomy**	**Potential node** deductive/*potential inductive*
It is looking at what research has already been done there. What actually worked? What can we then implement in that way? Does it work or not?	research-informed *reflection?*
Would have a reflective approach to the sense that I would try something out, OK, has that worked? How can I do it differently? I think that's definitely one of the focuses of learning and teaching was to reflect and be evidence-informed if you like.	research-informed *reflection*
I think it's important for teachers to understand what thinking has gone in to teaching and what research has gone in to teaching and what has been found effective, so that we can start with what's effective.	research-informed (or is it research-based??) *reflection* criticality
Being up to date with research and continued learning in to your practice and developing your practice based on research, and lucky for me, that I've just left, some of that is fresh in my mind, but that would be a priority to continue to read about research and look in to it and see how I can be adapting that in to my teaching.	research-informed autonomy *professional development*
I think that means fundamentally about both reading and understanding research on synopsis of research and trying to apply them into practice, but not being slavish to what that research says. I think fundamentally that's because most of the research that you read has a specific context and when it says some specific thing is better, it's usually a little bit better and you need to get that little bit better without	research-informed autonomy *practice impact*

losing whatever is already good about what you're already doing. So, it's about using that research to get your class that little bit better without losing what they're already doing well.	
Think it helped me also think critically about the information I was reading, partly because you have to, but also… studying history just before, I was already quite critical about things, but that helped me be critical about education and schooling in the same way. So, I think it helped me form my own ideas and my own stance on it.	criticality autonomy
I think so. I guess the thing that it does is that it helps you put everything in context and also have educated conversations about why we do the things that we do.	*contextualisation* *professional dialogue*
You're better able to have that reflective conversation with yourself about what is going on.	*reflection*
Whenever I'm posing questions in class, thinking back to that thinking how to respond to a question, what types of question to ask them and being quite reflective whether that particular line of questioning has worked or it's something different.	*reflection on practice*
It's about being reflective, about keeping myself up to date with research.	research-informed *reflection*

Appendix 8: Extract from lecturer focus group with initial coding

Yes, and I suppose the learning and teaching essay is part of that, isn't it?

L5:   I was just going to say actually, that is I think even though the students find that the really hard part of the process. I think that's really, it's a painful process but it's incredibly powerful. Because it forces, you know sometimes ==there's a bit of mismatch== between what we do here or I'm going back to, the thing I'm always banging on about, about the ==wedge that we inadvertently drive, or that is there, let's say==. Between what we do here and what happens in school. But ==the essay even though it's pretty, the students find it very tough.== Is actually very powerful in, it ==forces the students to think very clearly== about the theoretical underpinning. The research that we discuss and have lots of room ==to reflect on==, it forces them to put it in the classroom and really as I always say. When I used to teach, and I always used to say everything we do here is about what is the impact on learning in the class. That is the end game that is why we are sitting in this hot room on an April afternoon because it is about ==how can we improve the learning and what's going on in our classroom. And I think the process of the essay really brings that focuses that.==

==Dichotomy==

==Writing the essay==

==Reflection==

==Research-informed==

Appendix 9: Extract from student teacher focus group with example of how it was coded

P4:   So, I did the same as XXX, the one on ability grouping and I wouldn't say it necessarily changed my opinion as such, because I already had the same ideas going into it. But what I would say is, because I'm not necessarily someone who enjoys writing really long essays, but I found researching that topic, because I can see it directly correlating to what I do, I found it so interesting. So, I probably read more for that essay than I did probably for my dissertation that was 13,000 words, because I did find the topic really interesting. I would say, getting an argument down like that in 5000 words, really helped me feel confident about what I believed and really articulated that, and also, because I got other people to look at it and stuff, just having discussions with other people. It meant that now, if I see something like that, that I already had a feeling as to why I didn't think it was right, but now I've got that evidence and I've really researched it to be like, this is what I thought was wrong and this is what I think is the right way to do things. Every teacher is going to want to do it their own way.

… researching that topic, because I can see it directly correlating to what I do **(synthesis, writing process, research-informed)**

… I wouldn't say it necessarily changed my opinion as such, because I already had the same ideas going into it **(reflection, beliefs)**

… I would say, getting an argument down like that in 5000 words, really helped me feel confident about what I believed and really articulated that **(writing process, autonomy)**

… because I got other people to look at it and stuff, just having discussions with other people **(professional dialogue)**

… I already had a feeling as to why I didn't think it was right, but now I've got that evidence and I've really researched it to be like, this is what I thought was wrong and this is what I think is the right way to do things **(reflection, autonomy, beliefs)**

Every teacher is going to want to do it their own way **(autonomy, research-informed)**

NODE (Theme)	DATA
Synthesis	… researching that topic, because I can see it directly correlating to what I do
Writing process	… researching that topic, because I can see it directly correlating to what I do

Reflection	… I wouldn't say it necessarily changed my opinion as such, because I already had the same ideas going into it I already had a feeling as to why I didn't think it was right, but now I've got that evidence and I've really researched it to be like, this is what I thought was wrong and this is what I think is the right way to do things
Professional dialogue	… because I got other people to look at it and stuff, just having discussions with other people
Autonomy	I already had a feeling as to why I didn't think it was right, but now I've got that evidence and I've really researched it to be like, this is what I thought was wrong and this is what I think is the right way to do things
Beliefs	… I wouldn't say it necessarily changed my opinion as such, because I already had the same ideas going in to it I already had a feeling as to why I didn't think it was right, but now I've got that evidence and I've really researched it to be like, this is what I thought was wrong and this is what I think is the right way to do things
Research-informed	… researching that topic, because I can see it directly correlating to what I do Every teacher is going to want to do it their own way.

Appendix 10: Moodle invitation to student teachers

Primary_Submission_2018 » Forums » Messages from the PGCE Team » Survey today - link in this announcement

Survey today- link in this announcement

by Georgina Merchant - Friday, 14 December 2018, 7:43 AM

Georgina Merchant Survey Link.pdf

Dear Students, I let you know earlier in the week that today you would be given time to complete a brief survey as part of a research study I am doing.

I am sending the link and would suggest that you do it on your phone or tablet for easiest access.

I am very grateful.

Have a happy holiday.

https://www.surveymonkey.co.uk/r/HPYYLFG

Appendix 11: The survey statements

The survey was implemented through Survey Monkey. It used a five-point Likert scale: strongly agree, agree, neither agree nor disagree, disagree, strongly disagree.

Each response offered opportunity for additional comment.

To what extent do you agree with these statements?

1. Having a Master's level academic qualification is important for the status of teachers.

2. Being able to understand educational research has positive impact on teachers' efficacy.

3. It is important for teachers to be able to critically analyse research.

4. Research-informed practice increases teachers' job satisfaction.

5. I find it hard to put research into practice.

6. A better understanding of research has made me think differently about my own education and teachers.

7. I would rather not have Master's modules as part of my PGCE.

8. Writing the Learning and Teaching essay will improve my teaching.

9. I would like just to be told how to teach, I don't need to know why.

10. Understanding research has made me dissatisfied with teaching that I have observed in schools.

11. I would like to do further academic study.

Partial view of Survey Monkey as it appeared on tablet/mobile phone for student teachers

PGCE students' view

1. To what extent do you agree with these statements?

	Strongly agree	Agree	Neither a... disa...
Having a master's level academic qualification is important for the status of teachers.	○	○	○
Please comment			
Being able to understand educational research has positive impact on teachers' efficacy.	○	○	○
Please comment			
It is important for teachers to be able to			

Reflections on the EdD

I embarked on an EdD five years ago, excited by the prospect of new learning and thinking. The first module, Foundations of Professionalism, provoked reflection and offered potential for me to really question my teacher educator role and its nature.

I became a teacher in Scotland and considered myself to be a 'professional' from the outset of my career. However, I had not really given much consideration to what this meant. In Scotland, we automatically were required to become a fee-paying member of an associated professional body – the General Teaching Council. As a 'probationary' teacher, it was a requirement to meet particular standards and the assessment of these was taken seriously and applied rigorously by my employing school. Additionally, Scottish state school teachers were required without exception to have an honours degree and formal teaching qualification.

In this context, I felt my status and the regard in which teachers generally were held was perceived to be better than that enjoyed by our colleagues in England. Reading and reflecting on the Foundations of Professionalism module led me to wonder whether this might in part be due to the fact that our qualifications (an all-graduate workforce) and membership of a professional body might have meant that our teaching role in Scotland matched more closely the characteristics suggested by John (2008) in Johnson and Maclean (Eds) than by primary teachers in England.

My first submission for the EdD engaged me in considering how the notion of professionalism may have an impact upon the future of teacher education, the status of teachers in England and the consequences that that might have for attracting and retaining those who might provide optimum opportunity for our children in schools. I questioned whether there is robust evidence that those who have better qualifications in the way of degrees and teacher education can be shown to have the greatest impact on pupil attainment.

The reading and learning that was integral to completing this first piece of work was a process that allowed me to develop increasing understanding of the landscape of teacher education and to recognise new complexity in my role as a lecturer at university. I began to consider the place of theory, research-informed practice and associated ongoing reflection in teacher education. I wondered whether university might be seen as essential in realising effective teacher education and whether those who chose it as a route for their initial teacher education (ITE) were able to draw out what made it distinctive for them. This became the basis for my subsequent Methods of Enquiry (MOE) One and Two submissions.

Initial face-to-face sessions for MOE One engaged me in many instances of feeling challenged and uncertain about my understanding of research, daunted as I was by the raft of unfamiliar terms and ideas that were explored. In accordance, perhaps with the Sapir Whorf hypothesis (Sapir & Mandelbaum 1985; Carroll et al, 2012) regarding the link between thinking and language, I found that familiarity with new vocabulary in fact furnished me with some new ways of conceptualising views of the world. I began to see myself as 'anti-positivist' in broad terms. Increasing confidence,

and consequently fewer surreptitious glances at the helpful glossary in Robson's Real World Research (2015), enabled me to plan a research proposal that I might action for the Institute Focused Study (IFS) in my second year. I was surprised by the complexity of considerations from theoretical framework to defining a case, considering a sample and how those factors would have an impact upon the reliability and generalisability of what was found with courses such as Case Study Research, as well as NVivo assisting in my research knowledge and understanding.

I found MOE Two and the process of actually undertaking research very challenging. The many factors impinging on the ethics, possible bias, selection of time, date and sample being so clearly important were difficult to manage. I was astonished by the amount of planning required for such a small piece of work. The opportunity within the EdD for peer-to-peer discussion, reflection and collaboration was invaluable in offering new insight and possibilities for consideration.

Post-data-gathering analysis was greatly assisted by paying for transcription as with my poor word-processing skills I do not think that my time would have been well spent undertaking this task. I had thought that it might offer me better familiarisation with the data but in fact I found I was unable to concentrate on anything but actually typing.

The process of reflecting upon the methodology and whether I had really chosen the best means of finding answers to my research question was helpful in asking me to consider what learning I might take forward to subsequent pieces of research. I realised that employing a mixed method approach might have enabled me to gather richer data. I began to consider whether what had been evidenced in MOE Two – student teacher enthusiasm for studying for a Master's – might hold weight further on once they were established in classes of their own. Where would the challenges and cognitive dissonance offered by those Master's modules that they cited as being so positive be, in the face of the realities of the chalkface? How would theory and reflection upon practice be viewed six months, a year, two years down the line?

I was careful to try and take action upon feedback from my submissions and found that looking at the criteria for each was helpful in quickly identifying where the focus for drafting should be. It was challenging to be cast into the role of a student and I needed to remind myself of the benefits of feedback rather than an indication of whether it would pass or fail. Feedback on MOE Two was challenging as my reading of it made me question the merits of my initial research question and I felt frustrated by the fact that it could not at this late juncture be altered. Further reflection afforded me the understanding that it was part of the learning process to analyse this as part of my work.

The Institute Focused Study (IFS) presented new challenges. I had gained some confidence over focus groups during MOE Two and was keen to draw on this. Having reflected on my role in ITE, I was interested to ascertain the perceptions of what would be considered by student teachers as essential skills and expertise for teacher educators.

I attended a research training course on theoretical and conceptual frameworks and was thinking about the nature of interaction in relation to the potential of focus groups. I considered their social constructivist underpinnings and additionally the notion of 'boundary encounters' (Lave & Wenger, 1994) in communities of practice. Consequently, I conceived of using the collaborative outcome of a group of student teachers designing a 'job spec' for a potential lecturer on the PGCE. This was presented at two focus groups to lecturers for consideration. In this way, a bridge between individuals in different 'communities' was provided and my interpretation of findings acted further in brokering the groups.

Analysis of data informed some of my subsequent thinking for the final thesis. Despite the need to be qualified at Master's level being questioned by both student teachers and lecturers, the need to be research-informed and engaged was perceived as being important. This added to my thinking that had been ignited by MOE Two where one of the PGCE features valued by the student teachers was the Master's opportunity provided. I then decided that it would be interesting to uncover the perceived benefits of this level of qualification. As a lecturer on one of these Master's modules, I decided to try to interrogate its value in ITE.

I had become interested in the nature of knowledge, mostly through stimulating collegial discussion in my shared office. My personal life gave rise to considering objects and events in my life anew and differently. Seeking some understanding of this, I came upon enactivism (Davis, 1995; Bateson, 1980; Maturana & Varela, 1992; Rossi, 2011; Rossi et al, 2013) that served me in beginning my description of the theoretical framework that resonated with the learning that I came to regard student teachers to need as part of their ITE. It also seemed to answer better for me the potential for focus groups to change their ideas and 'knowledge' in response to collaborative dialogue.

Deciding to move methodology beyond focus groups, I was guided by my doctoral supervisor towards mixed methods and to employ surveys as well as focus groups. It was proposed that this could offer a wider and richer data set. It would also necessitate the learning of new skills: NVivo, mixed methods, case study, qualitative analysis, quantitative analysis.

I was lucky to have the guidance of colleagues in analysing and presenting the survey results. Assistance from experienced quantitative researcher colleagues guided my application and interpretation of descriptive statistics. Improving my knowledge, understanding and skills regarding quantitative research is certainly an area that I wish to pursue and propose to find opportunity to shadow quantitative research in the next academic year. I found fellow doctoral students and a day-long workshop interrogating our respective 'themes' invaluable.

An additional challenge that I faced was my actual writing. I have been guided significantly by my doctoral supervisor and enjoyed the benefits of academic writing tutorials, in drafting and redrafting my thesis. My presentation skills have been significantly improved by a 'formatting your thesis' workshop that I wish I had

attended at the start of the EdD. This should serve me well in moving towards publication and contribution to the university's research output.

Professionally, I have gained a great deal through the EdD. My confidence and ability to work with Master's student teachers has been greatly improved by my increasing knowledge and understanding of research and its potential. I hope to publish from the thesis and to share what I have learned in seeking improvements to what our PGCE offers to student teachers as well as offering a new conception regarding the process of student teacher learning to the wider academic community in ITE, conceptualised by the model I devised in response to some of the findings.

I therefore hope that the EdD thesis is the beginning of new opportunities for learning, research and has impact on ITE both in England and beyond.

Overall, then, from someone who has always felt themselves to be academically mediocre, I have discovered the ability to think and learn in ways that I had thought were beyond me.

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