

AN INVESTIGATION INTO THE
EPISTEMOLOGICAL TRAJECTORIES
OF PGCE STUDENT TEACHERS AS
PREDICATED BY THEIR ESPOUSED
PEDAGOGICAL BELIEFS

by

MATTHEW T. SMITH

A thesis submitted to
The University of Birmingham
in part fulfilment for the degree of
EdD Learning and Learning Contexts

School of Education
The University of Birmingham
August 2017

UNIVERSITY OF
BIRMINGHAM

University of Birmingham Research Archive

e-theses repository

This unpublished thesis/dissertation is copyright of the author and/or third parties. The intellectual property rights of the author or third parties in respect of this work are as defined by The Copyright Designs and Patents Act 1988 or as modified by any successor legislation.

Any use made of information contained in this thesis/dissertation must be in accordance with that legislation and must be properly acknowledged. Further distribution or reproduction in any format is prohibited without the permission of the copyright holder.

ABSTRACT

Postgraduate trainee teachers undergo profound shifts in their pedagogical understanding and practices through the year that they are taught at a UK Higher Education Institution. Using an ‘explanatory sequential design’ mixed methods approach in a paired pre–post data retrieval scheme, this longitudinal study investigated the espoused pedagogical beliefs of three cohorts of PGCE trainees at the onset, and toward the end, of their studies in a primary initial teacher education department in a major HEI in the UK, with corroborative results and discussion from further cohorts. Using an adaptation of the ‘practices’ scale of Swan (2006), trainees’ pedagogical beliefs were charted and described on a created continuum running from transmissionist to child-centred through answering 25 items, and shifts from pre-course to post-course were investigated on two fronts – individually and for each ‘practice’ under study. Two general principles are represented in the data: trainees seem to either make rather more radical shifts towards child-centeredness or more slight shifts towards a more teacher centred orientation. The average shift documents a significant trend towards a greater learner-centrism across all cohorts in the longitudinal study, which was further explained and substantiated by the qualitative comments from participants in the Community of Inquiry sessions that were run.

DEDICATION

I dedicate the Laestrygonian libation of librarianship that led to these lucubrations to my parents, for inculcating in me a love of learning, a passion for knowledge and my propensity to sesquipedalianism; and the thesis that is its outcome I dedicate to my wife Chloë for her support and love during my studies; and to Archie and Ella: I hope that you too will love learning for its own sake and always enjoy your voyages of discovery in education and beyond.

Matt Smith, August 2017.

ACKNOWLEDGEMENTS

I would like to thank my tutors, Dr Chris Szwed and Dr Nick Peim, for their support and encouragement through the process of my studies: for keeping me on the straight and narrow and for their advice and inspiration throughout.

I would also like to thank the University of Wolverhampton for funding my research, and acknowledge my debt to them for so doing, and to my colleagues and managers for their support and encouragement throughout my time on the EdD course.

TABLE OF CONTENTS

LIST OF FIGURES	page vii
LIST OF TABLES	page viii
LIST OF TERMS AND ACRONYMS	page ix
CHAPTER ONE: INTRODUCTION	page 1
1.1 Introduction: the focus and aim of the research	
1.2 Purpose of study	
1.3 Rationale for the study	
1.4 Research questions	
1.5 Structure of the study	
1.6 Locating the study	
1.7 Historical and current contexts of English teaching	
1.8 Current context of pedagogy	
CHAPTER TWO: REVIEW OF THE LITERATURE	page 20
2.1 Pedagogic culture	
2.2 Teaching teachers	
2.3 Personal epistemology	
CHAPTER THREE: RESEARCH DESIGN	page 57
3.1 Research Paradigm	
3.2 Research Setting	
3.3 Researcher Role – the insider/outsider paradox	
3.4 Methods and Methodology	
3.5 Data Collection Procedures	
3.5a Surveys	
3.5b Community of Inquiry sessions	
3.5c Other data collection procedures	
3.6 Data Analysis Procedures	
3.6a Data Analysis Procedures – Quantitative	
3.6b Data Analysis Procedures – Qualitative	

3.7	Ethical Issues and Negotiating Research Relationships	
3.8	Validity and Reliability	
3.9	Transferability	
CHAPTER FOUR: FINDINGS		page 98
4.1	Quantitative results	
4.2	Qualitative results	
CHAPTER FIVE: ANALYSIS AND DISCUSSION		page 122
5.1	Initial remarks	
5.2	Negative shifts towards teacher-centrism	
5.3	Positive shifts towards learner-centrism	
5.4	Responses to research questions	
CHAPTER SIX: CONCLUSIONS		page 151
6.1	Summary of main points	
6.2	Concluding statements	
6.3	Personal statement	
6.4	Limitations	
6.5	Recommendations	
REFERENCE LIST		page 161
GLOSSARY OF TERMS		page 171
APPENDICES		page 173

LIST OF ILLUSTRATIONS

Figure 1i: Timeline of my study	p5
Figure 1ii: Flexible pedagogies - new pedagogical ideas (HEA, 2013)	p19
Figure 2i: The Panopticon as originally conceived by Jeremy Bentham, 1843	p29
Figure 2ii: Synthesis of research on personal epistemology	p50
Figure 2iii: The relationship between a sophisticated personal epistemology and constructivist teaching practices	p55
Figure 3i: My research expressed as an Explanatory Sequential Design	p60
Figure 3ii: Double-loop learning (Argyris and Schön, 2009)	p72
Figure 3iii: The Community of Inquiry Model (Garrison & Vaughan, 2008)	p76
Figure 4ii: Charting shifts in espoused pedagogical beliefs: graph of all person shifts on the continuum	p100
Figure 4iv: Population distribution curves for all matched trainees' September and July data	p102
Figure 4v: September average scores – all cohorts	p103
Figure 4vi: July average scores – all cohorts	p104
Figure 4vii: Paired sample statistics, September/July data	p105
Figure 4viii: Paired data scatterplot with overlaid Pearson's R	p106
Figure 4ix: non-parametric median sign test results, September/July data	p107
Figure 4x: Person scores in September and July (all cohorts) – percentage scores at each logit step	p109
Figure 4xi: Percentage of trainees scoring at each logit step: all cohorts	p110
Figure 4xiii: All cohorts – item scores, September and July	p112
Figure 4xiv: Item shifts from September to July – all cohorts	p113
Figure 4xv: Changes in the item scores from September to July	p113
Figure 4xviii: Wilcoxon signed ranks test: all item shifts, September - July	pp116-117

LIST OF TABLES

Table 4i: Number of completed questionnaires in each iteration	p99
Table 4iii: All received responses and average score.	p101
Table 4xii: All questions and the September and July average responses	pp111-112
Table 4xvi: Item shifts in average rank orders: September to July	pp114-115
Table 4xvii: Differences in response from September to July	p116
Figure 4xix: Extent to which being on a PGCE course has altered the pedagogical beliefs of trainees about how they should teach English	p120
Figure 5i: All questions in order, with Sept and July responses	p124
Figure 5ii: All Qs in order of differences Sept-July, all cohorts	p125
Figure 5ii(a): Items running counter to the general shift towards learner-centrism	p126
Figure 5iii – qualitative comments by participants who made a negative shift quantitatively	pp131-132
Figure 5ii(b): Items that made a large positive shift (≥ 0.25) towards learner-centrism	p133
Figure 5ii(c): Items that made a medium positive shift (< 0.25 and ≥ 0.10) towards learner-centrism	p133
Figure 5ii(d): Items that made a small positive shift (≤ 0.09) towards learner-centrism	p133
Figure 5iv: All Qs in final (July) rank order, most learner-centric first	pp136-137

LIST OF TERMS AND ACRONYMS

Student teachers or **trainees** – the terms are used interchangeably throughout to mean students on a Postgraduate Certificate of Education course at my Institution, a qualification leading to professional recognition as a teacher through having met the proscribed Teacher Standards.

Learner-centric – pedagogical approaches which can be described as facilitative, exploratory, constructivist, problem-solving and reflective, with children as active participants *in* learning.

Teacher-centric – pedagogical approaches which can be described as transmissionist, didactic and teacher-led, with children as more passive ‘receivers’ *of* learning.

Item score – the average point score of all responses to a question on the survey

Person score – the individual average score of each participant to the survey questions

COI – Community of Inquiry

DFE – Department for Education

ESRC – Economic and Social Research Council

HEA – Higher Education Academy

HEI – Higher Education Institution

ITE – Initial Teacher Education

NCSL – National College for School Leadership

PGCE – Postgraduate Certificate in Education

SATs – Standardised Attainment Tests

RELEVANT PEER-REVIEWED PUBLICATIONS FROM THIS WORK

Smith, M. (2016). Examining the Relationship between a Sophisticated Personal Epistemology and Desired Pedagogical Practices in Trainee Teachers. *Journal of Education & Social Policy* **3**:3, 48-59.

Smith, M. (2016). An Investigation into the Pedagogical Trajectories of PGCE Trainees Using Espoused 'Beliefs'. *Journal of Education & Social Policy* **3**:5, 16-29.

Smith, M. (2017). Using andragogy to teach pedagogy: expecting heutagogy – using against-the-grain teaching practices for desired outcomes. *Research in Teacher Education* **7**:1, 13-18.

PEER-REVIEWED CONFERENCE PRESENTATIONS

Smith, M. (2014). *Becoming a Teacher: Enforced Enculturation or Active Participation?* Paper presented to Research Conference, University of Wolverhampton, 4 Jul 2014.

Smith, M. (2014). *Investigating the epistemological trajectories of PGCE student teachers as predicated by their espoused pedagogical beliefs.* Paper presented to Doctoral Research Conference, University of Birmingham, 29 Nov 2014.

PEER-REVIEWED POSTER PRESENTATIONS

Smith, M. (2015). *The relationship between the development of a sophisticated personal epistemology and desired outcomes in the pedagogical beliefs and practices of trainee teachers.* Poster presented at Research Poster Conference, University of Birmingham, 16 Jun 2015.

INVITED BOOK REVIEW

Smith, M. (2013). Personal epistemology and teacher education. *Educational Research and Evaluation*, **19**:1, 92-94.

AN INVESTIGATION INTO THE
EPISTEMOLOGICAL TRAJECTORIES OF PGCE
STUDENT TEACHERS AS PREDICATED BY
THEIR ESPOUSED PEDAGOGICAL BELIEFS

CHAPTER ONE: INTRODUCTION

1.1 INTRODUCTION: THE FOCUS AND AIM OF THE RESEARCH

The aim of this research was to investigate the pedagogical beliefs of pre- and post-course postgraduate students to see whether, and to what degree, their attitudes and understandings of teaching and learning changed across the course of the year. I have charted shifts in these beliefs (Clarke and Hollingsworth, 2002) to try and understand the key levers for change through: quantitative analysis of data from the longitudinal study of four cohorts of trainees; and qualitative analysis of conversations and thoughts about these statistical results gathered through written commentaries and Community of Inquiry discussion sessions (Garrison et al., 2000) with students.

1.2 PURPOSE OF STUDY

The current instrumentalist slant of the National Curriculum lends itself to a very didactic, transmissionist approach in teaching (Dadds, 2014). As a lecturer in Primary Initial Teacher Education (ITE), and previously a Primary Teacher, the pedagogies used in classrooms to engage, inspire and teach children are immensely important to me. My own positioning is further discussed in Chapter 2, but I identify myself as a very learner-centric practitioner with relativist phenomenological and ontological tendencies, and I actively intend that the trainees I teach should come to be experiential, learner-centric practitioners who facilitate learning rather than teach. This study had an explicit aim in investigating whether or not their time with us under our instruction and their time in schools results in students believing in these same principles of teaching and learning.

1.3 RATIONALE FOR THE STUDY

As Cluster Leader for English within the Primary Initial Teacher Education department at a large Higher Education Institution (HEI) in the Midlands, UK, and thus charged with helping define how a generation of primary teachers in a region go

about their essential business of teaching English to children on a daily basis, this research appealed immensely to me once a colleague had introduced me to the studies in this area that were then ongoing in mathematics. He was following Swan's (2006) methodological approach to his questions (e.g. by asking about beliefs and assigning positions on a continuum based on these – see pp4, 96, 98) and encouraged me to adopt a similar method but with a focus on primary English trainees. I was keen to find a practical and valuable focus for my research at this time and this seemed an ideal opportunity to progress these studies. I undertook an initial pilot to see whether this would work, and began my doctoral studies the same year. The two have dovetailed neatly.

This research marks a number of entries into the field. Whilst much work has been done in this area for Secondary mathematics in particular (see e.g. Swan 2005, 2006, 2007; Clarke 2007; Polly et al. 2014) and for IT-based subjects (e.g. Lim & Chai 2008; Liu 2011), there is no extant literature about espoused pedagogical beliefs and their influence on pedagogic practice on the preservice or trainee stage of teaching for Primary teachers, and more particularly with a focus on the teaching of Primary English. I believe, therefore, that this thesis adds genuinely new knowledge to the field.

1.4 RESEARCH QUESTIONS

Although my key questions did not change through the course of my study, my ongoing observations of responses to the surveys year-on-year and my thinking upon the data, which has changed to fit emergent discoveries and patterns, led to me discovering additional areas of interest to consider further. The three key questions I originally began to research, and present findings for and analysis of were:

1. How do PGCE trainees arrive thinking English should be taught in Primary schools, how do they think English should be taught after they have completed the course, and what, if any, differences are there in these beliefs?
2. What are the influences that cause trainees to 'shift' along the created teacher-centric \leftrightarrow learner-centric continuum?
3. Which specific elements of pedagogy experience significant shifts in belief?

Additional questions discovered through the course of my studies that I also felt worth teasing out, and which I present throughout this thesis, were:

4. Does a trainee's understanding of their own epistemological standpoint have a bearing on the teaching?
5. Are trainees acculturated into following the precepts of the Institution, or do they actively seek deeper participation in the practices of teachers?

I give a greater discussion of how I structured and designed the research in order to answer these questions below, and later.

1.5 STRUCTURE OF THE STUDY

In order to answer the research questions I set myself, I have used a mixed methodology approach in an explanatory sequential design, with two distinct elements. Firstly, I have longitudinally collated pre- and post-course responses in numerical form and quantitatively investigated these, which has thrown up two key aspects to study: the "person scores" and the "item scores", which tell us in turn of individual responses and changes, and of areas of change. Secondly, I have held Community of Discussion (CoI) discussion groups in person and online, as well as offered trainees the opportunity for free text answers on surveys, in order to get the trainees' own interpretations of, and perspectives on, their shifting beliefs, and have assessed the data from these qualitatively in order to explain, support and further investigate the points raised from the quantitative analysis. I discuss the research design, the methodology and the tenets of multiple operationalisation that I have followed, as well as the methods of analysis, in greater depth throughout Chapter 3, and give the results in Chapter 4.

The beliefs I have researched are communicated through responses to questionnaires given on the day the trainees first arrive at University and again on the day of their final lecture at the end of the course. The questionnaires consist of 25 statements on teaching practices in literacy in which the participants had to express a 'belief' (scored 1 to 5). Analysis of each trainee's cumulative responses places them

on a continuum similar to that constructed by Pampaka et al. (2008), following the 'practices scale' of Swan (2006). This continuum runs from teacher-centred to child-centred, based on the central concept of the "very common distinction" (Pampaka et al., 2008 p3) between didactic teaching models (which they call "teacher-centric") which can be seen as transmissionist, or instructionist (Harel and Papert, 1991; cf. Schuh, 2004), and the "learning-centric" model where the focus is on students creating their own learning rather than being directly taught. The primary research interest has been to chart the espoused beliefs of the trainees over the course of the year and to investigate whether the trainees leave with the same, similar or altered beliefs from those they arrived with – which will, in turn, indicate their pedagogical practices in the authentic realities of classroom situations (via the questionnaires), and what – if any – have been the causes of any shifts in these beliefs, leading to altered pedagogical practices (the Community of Inquiry sessions).

1.5 LOCATING THE STUDY

Figure 1i (over) describes the length of my study and the key elements of it during each time period, from my pilot to my completed thesis submission. From the start of my time as a teacher educator I have watched trainees grapple with the difficulty of matching the pedagogical approaches we suggest with the technician diktats of the National Curricula (a new one was introduced in September 2014, so my study actually covers two different regimes) and the need of schools for their pupils to demonstrate at least a standard 'level' of attainment against their criteria. I believe that teaching in a facilitative, learner-centric way will lead to the best results for all children, but could see students wilting under the onslaught of requirements, standards and exigencies of schools. This led me to develop my initial questions, which led on to my pilot study. The results from this were indicative that this would be worthwhile pursuing more thoroughly, so from 2011-15 I ran my quantitative surveys and, during 2015, I completed the data analysis, using SPSS and with statistical support from the supervisory teams at both the University of Birmingham and the University of Wolverhampton. For the final year of this (2014-15) I collected written comments from participants to help expand on their answers, and between September 2015 and January 2017 I held my collaborative and discursive

Community of Inquiry sessions, whereby groups of students who had *not* taken part in the surveys worked together to analyse the patterns I had identified in the data and to explain these from their own multiple perspectives. This is the final stage of the explanatory sequential design method.

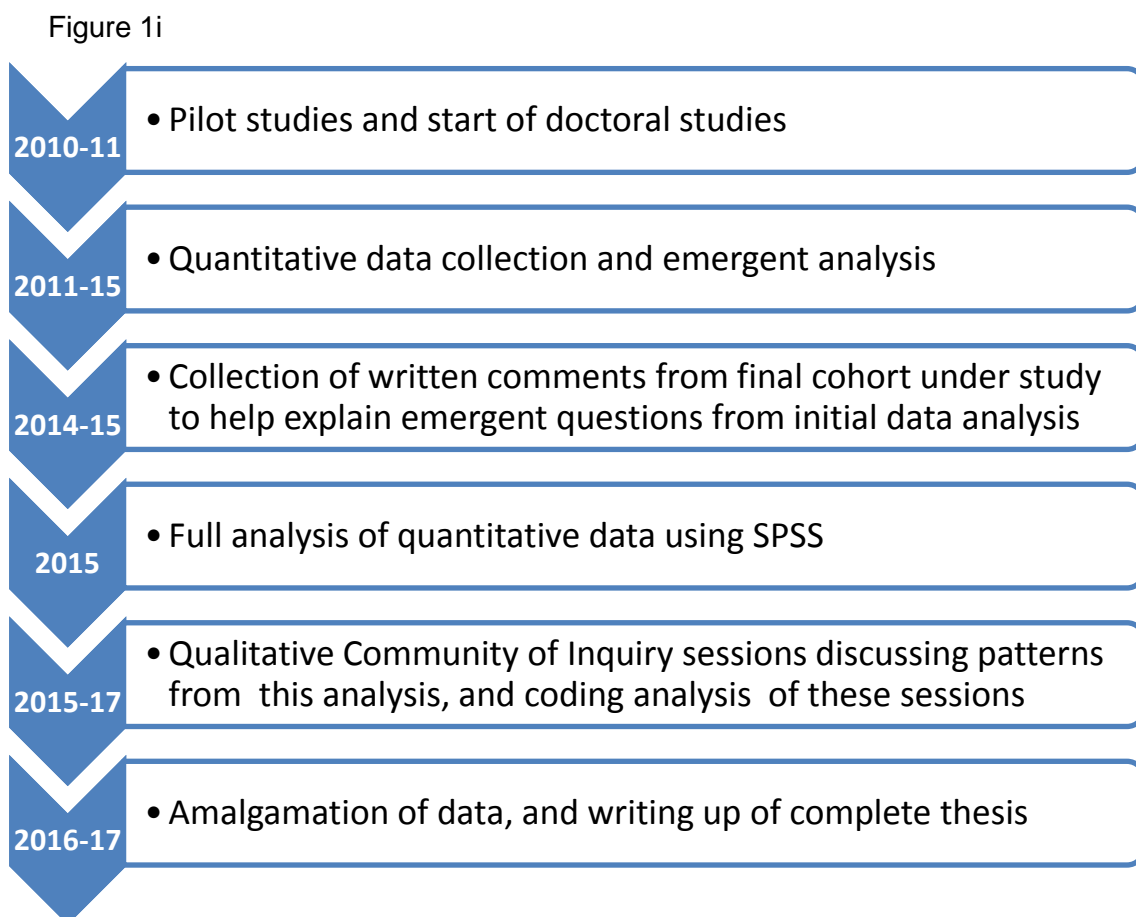


Figure 1i: Timeline of my doctoral studies.

1.6 HISTORICAL AND CURRENT CONTEXTS

“Any discourse must be of its era, must in some way conform to the characteristic genres and modes of address of a given practice” Peim (2005 p628). This thesis, and the questions it seeks answers to, is written at a time of disunity between the discourses of the educational policies of the major political parties and those of educationalists in general. There is a dichotomy between the knowledge-based Primary National Curriculum (DfE, 2013) and the governmental rhetoric of the time (see e.g. the then-Secretary of State for Education Nicky Morgan, 2015) on the one

hand, and the skills-, competence- and activity-based teaching models that educational theorists and professionals tend to favour (see, e.g. Alexander, 2015; NCSL, 2012; and HEA, 2013) on the other.

A full discussion of this is beyond the bounds of this thesis; suffice it to say that I fall into the skills-based camp: indeed, I have the following aphorism ascribed to Hoffer (exact reference unknown) on the door to my office: “In times of change learners inherit the earth, while the learned find themselves beautifully equipped to deal with a world that no longer exists.” I would rather students keen to learn and able to turn their skills to each new challenge than those with learned knowledge whose ability to know – and therefore cope with – the world will cease when it inevitably changes. I find myself utterly at odds with the current governmental desire to ensure all children know what transitive and intransitive verbs are, how to identify the subjunctive mood, spot determiners and modifiers and knowingly use fronted adverbials (all questions from the English Standardised Attainment Tests (hereafter SATs) in Spelling, Punctuation and Grammar paper 2016 [DfE, 2016]), especially when it comes with a commensurate loss of writing for pleasure, of exploration and free use of language. I teach post-graduates who all have degrees, some in English, for whom this is all new. They are articulate writers who have their first degrees, yet have never needed this metalanguage.

“Perhaps one of the most remarkable features of literacy in English has been the absence of an understanding of reading above and beyond a notional view of technical competence” lamented Peim in 2009 (in Hill & Robertson, 2009 p92). I argue here that this has been extended to the whole of English at the Primary stage by the current government regime. It is English reduced to the quantifiable, tick-box-level. It may be easier to measure success (an extremely narrow version of, at least) than the subjective short and long writing exercises that comprised the SATs during the 2000s, but I find it far less satisfying. Knowing each element of grammar that comprises a sentence does not necessarily lead to writing good sentences; indeed I would argue the opposite way. How have we arrived here? I offer below, a (very) brief history of the teaching of English from the arbitrary but numerically obvious starting point of 1900, ending with a discussion of the current situation.

Key texts dealing with the subject of English in the 20th Century (Shayler, 1970; Dixon, 1993; Poulson, 1998) note a progressive trend towards a more enlightened and 'better' approach to teaching it (successively designing out one fallacy after another, in Shayler's words) that does not necessarily tell the whole story (Burgess, 2010), of which more anon. Prior to the twentieth century, the signs of being 'educated' still included being able to read Latin and Greek, with English relegated (where it was acknowledged at all) to parsing, clause analysis, repetition by rote and the like, with the subject hovering "uneasily between history on the one side and grammar and rhetoric on the other, with classics hovering balefully in the background" (Shayler, 1970 p3).

Ball (1993, in Poulson, *op. cit.*) notes that the English Association, created in 1906, played a crucial role in defining the content of English as a subject in its own right and in framing the pedagogical discourses that sought to lay out the best approaches to teaching it. The Board of Education (itself heavily influenced by the still-new Association) wrote in 1910 that grammar was best taught in relation to literature and developing skills of written composition, rather than in and of itself – hardly earth-shattering now, but revelatory then, going as it did against the established grammatical and philological methods that were used to study the classics. At this time – and for the first time – developing understandings of ontology and the nature of learning itself began to find a voice in educational discourse: Mathieson (1975, in Poulson, *op. cit.*) notes how writers such as Rousseau and Froebel (on the connection between individual development and self-expression), and Dewey (on how children are motivated and the importance of direct experience) influenced both the Board of Education and the Schools' Inspectorate in the early twentieth century, again challenging the hegemony of the established orthodoxy.

The next great step – often cited as the first significant document that helped define the subject as we might recognise it – is the Newbolt Report of 1921, "*The Teaching of English in England*". This is a major step towards the use of English as a tool to enculturate the population at large or, using its own phraseology, the recognition that language as well as literature could be a civilising influence on the masses, and how

“the English teacher will extend find his (sic) civilising influence outside the hours of instruction and into the home of those he teaches....whatever the cost, we are convinced that education authorities will here be laying out capital which will yield a very high rate of interest in the form of social enlightenment” (*op. cit.* p148). Following and expanding on the belief of Arnold (1869) that culture – and specifically literature – could be the key to civilising the new middle classes of an increasingly industrialised England (“cultivating fineness of thought and feeling”), George Sampson – a key member of the Newbolt committee – later defined English as a major force for national, class and social cohesion (1952). Just as Arnold imagined literature as capable of superseding religion, and Newbolt hoped to use it to allow the nation to cohere after the First World War, Sampson wrote of literature as more than just a heritage but a spiritual force to bring the nation together after the Second World War.

Even before this, however, the teaching of English in the Newbolt Report was envisaged as a driver towards social cohesion and national unity through an enculturation into a shared linguistic heritage and common literature. Whilst this concept of English can be castigated as enframing or held aloft as empowering, Newbolt established English as the central component of the school curriculum, with a moral and cultural authority to be there that was to be rarely challenged until the 1980s. Alongside this, crept elements of gradually enlightening thinking: for example the Hadow Report of 1926, which understood literature as having a wider role in developing creativity and self-expression, and Nunn’s *Education: Its Data and First Principles* (1920) which made an impassioned case for encouraging every child’s individuality, creativity and potential: all of which fitted with the sociological zeitgeist of the ‘20s. State education of the masses was, from Newbolt forward, represented as rightly standing firm as a bastion against the evils of social unrest, revolution and anarchy, staunchly defending the cultural and even spiritual health of the nation. Teaching English became a vital mission of government, entrusted with keeping alive the sacred flame of culture, which position it has maintained through the shifting political and educational landscapes of the 1944 Education Act, Circular 10/65 and the 1988 Education Reform Act, each of which contorted the other aspects of education, whilst English remained at the centre of the curriculum.

The next major figure in our brief trawl through the history of English is that of Leavis, whose influence continued for forty years into the 1970s. For Leavis, the study of “the Great Tradition” of English literature and its role in personal development – ethical, moral and aesthetic – was the greatest defence against what Poulson describes as the ‘encroachment’ of mass forms of entertainment (p29) – the last bastion of civilised culture. Leavis is so important because he cemented the place of literature and the dissemination of a cultural tradition at the heart of the study of English at a time when other voices were calling for creativity, self-identity and language to come to the fore. These had – and have – their place within English, but it was Leavis who asserted literary criticism as the most pressing ‘discipline of thought’ (1942) to resist and contend with competing influences that threatened the orthodox view of what was culturally significant and cohesive. This additional authority granted to English made it yet more unassailable as the centrepiece of the curriculum, and reinforced its right to preach and pursue what it saw as its liberal practices.

Through these upheavals and byzantine pathways, both Dixon and, particularly, Shayler still describe English as a benign and empowering subject as working its way slowly from a method of inspiring a wished-for enculturation for the masses (Newbolt), through defining itself as concerned with a spirited defence of literature against the gathering corruption of mass entertainment (Leavis), to a progressively more liberal subject of openness and tolerance. All this was about to change with the 1988 Education Reform Act and the constricting National Curriculum. However, as Peim (in Hill & Robertson, 2009) notes, there is another reading of the progression of English, which is very much at odds with the increasingly liberal, benevolent and self-improving model laid out here.

Although in 1975 the Bullock Report (“*A Language for Life*”) into what English was, what should be on the curriculum, and how it should be taught, was imbued with an optimism and humanism, it opened fresh debate and was soon relegated into the background by a swelling tide of new ideas through the 1970s on the sociology of education (those listed by Peim here include: Bernstein, 1971; Bourdieu & Passeron, 1977; Bowles & Gintis, 1976; Willis, 1979; Young, 1971), which in turn led to a soul-

searching interrogation through the 1980s from a host of new ideas and -ologies. Cultural studies, post-structuralism, sociolinguistics, media studies, psychoanalysis, feminist cultural critique – all weighed in on English, and from this cross-examination English emerged chastened, revealed as an unenlightened and thoroughly politicised – colonial, almost – engine for social engineering, rather than maintaining its idealised position as the most liberal subject in the curriculum, the fount of self-expression and the enabler of pupils finding their voice.

Indeed, rather than liberating and empowering, English was outed and shamed as culturally biased in favour of an elitist tradition and, similarly, rather than allowing every pupil to find and articulate their own authentic voice whatever their heritages and identities, English was now described as linguistically favouring a single, dominant group. The ideas that had driven it for so long – national unity and cultural transmission – were themselves diagnosed as malignant and repugnant, fettering and enslaving. English could never be the same. There were advocates of extreme forms of treatment, including the dismantling of the subject and its reframing entirely. This never happened, as it was at this point that the government enacted the 1988 Education Reform Act, which led to the National Curriculum.

For the purposes of this brief overview, it will suffice to note that this sweeping Act that changed much of the educational landscape and introduced the ideas of marketisation and parental choice embedded English as one of its original three Core subjects, and removed much of the choice of teachers as to what and how to teach. The National Curriculum which followed the Act prescribed what should be learnt in every year of school, and set 'attainment targets' – “the knowledge, skills and understanding which children would be expected to have by the end of each key stage; the 'programmes of study' to be taught at each key stage; and the arrangements for assessing pupils at the end of each key stage (Section 2[2])” (Gillard, 2011). English was split into three sections: Speaking & Listening, Reading and Writing, each further divided into four strands, and tested at key gateways from Infant to Junior, Junior to Secondary, at 14 and at 16 through the SATs tests and the GCSEs. This new curriculum was written by a government quango: teachers had no voice at any point during its design or construction. It was almost entirely content-

based, leading us back to my opening remarks about knowledge and skills. There were many detractors, then and subsequently, key amongst them “that it prevented teachers and schools from being curriculum innovators and demoted them to curriculum 'deliverers'” (Gillard, 2011, online).

Emerging and evolving in parallel with these changes was the ‘personal growth’ model of English, which “emphasis(ed) the relationship between language and learning in the individual child and the role of literature in developing imaginative and aesthetic lives” (Cox, 1991 pp21-22), allowing children to experience and respond to literature and the wider world – cf. Heidegger’s “lived experience” (in Pike, 2003 p9) as the way to the truest and fullest knowledge. This Growth model came to prominence in the early 1980s in response to “widespread interest in the profession in oral language development, calls for greater relevance to students’ lives and interests and popular uptake by teachers of progressivist pedagogies like ‘language experience’ and ‘whole language’” (Macken-Horarik, 2014). The aim of this personal growth pedagogy was “the nurture and expression of individual feelings... rather than the intellectual endeavour of Leavis’s cultural heritage model” (Upton, 2005 p27).

As may well be imagined, outraged right-wing think-tanks and pressure groups were vocal in their opposition to this growth model and wished for a return to what they saw as Leavisite ideals, and campaigned for “the simplification and ‘Anglicisation’ of the national testing system, so as to emphasise basic skills and the English cultural heritage” (Jones, 2003 p141). These traditionalist ideas were Leavisite in name rather than reality, as Leavis at least had “a subtle account of literature and the value of elites” (N. Peim, 2016, personal communication), whereas these reflexive demands were cruder and less well-informed. Gaining control of the both the curriculum and assessment councils, this New Right drew howls from the teaching profession, especially from teachers of English, and there was a dramatic stand-off in 1993-4 when the NUT and NASUWT teaching unions boycotted the SATs tests.

The government redesigned the national curriculum, “reducing the amount of detail and removing “the stronger signs of the traditionalist and ethnocentric enthusiasms of the New Right” (Gillard, *op. cit.*, online). This revision in 1995 “marked the end of the

New Right's curricular influence, at the same time as it helped embed the curriculum, and its associated testing system, at the consensual centre of English schooling” (Jones, 2003 p141).

The National Literacy Strategy was introduced in 1998 as a way of enforcing pedagogies upon schools and teachers, as it “pressur(ed) schools to use favoured approaches through government direction, local authority pressure and Ofsted inspection” (Cambridge Primary Review [CPR], 2009 p10), and brought the sterility and prescription of the Literacy Hour into many classrooms throughout the UK, meaning more and more time was designated for reading and writing, as well as ‘numeracy’, especially, as the CPR notes darkly, those elements that were tested in the SATs. Although many teachers found the courage to eventually throw off these shackles, they were never supported to do so.

As noted in the Introduction to the CPR report (2009), standing in diametric contrast to the pre-1988 age, when there was minimal government intervention in classroom life, “policies are now imposed on teachers at a rate which has made their assimilation and implementation nearly impossible. By one count, between 1996 and 2004 government and national agencies issued 459 documents just on the teaching of literacy. That’s more than one every week for eight years” (CPR, 2009 p11).

The National Curriculum was in need of an overhaul. A strikingly honest government document noted the over-prescription of content (House of Commons Children, Schools and Families Committee, *National Curriculum*, 11 March 2009, HC 344-I 2008-09, para 51) and the need for a substantial slimming down: “We would like to see the National Curriculum underpinned by the principle that it should seek to prescribe as little as possible and by the principle of subsidiarity, with decisions made at the lowest appropriate level” (*op. cit.*, para 53). It also decried the overt politicisation of the National Curriculum (*op. cit.*, para 54). The Labour government of the time instigated the *Children’s Plan* in 2007, described as a “root and branch’ review of the primary curriculum, with changes planned to be implemented from September 2011” (*op. cit.*, para 24). Other powerful groups such as the CPR amassed a substantive and enormous evidence base from teachers and

educationalists and stood ready with – in the case of the CPR – 78 conclusions and 75 recommendations for policy and practice.

None of this was destined to be. Instead of a National Curriculum designed by educationalists for education, in 2010 the Conservative-led coalition government was voted in and pulped the new primary curriculum that had been readied for delivery to all schools. In its place – eventually, and following a year where teachers had one curriculum removed and nothing to replace it – came an updated National Curriculum that leant even more heavily on knowledge rather than skills: a defining moment of political interference in education that ignored the conclusions, and followed few if any of the recommendations, of the CPR and other groups.

As noted in Alexander (2016), when the House of Commons Education Committee Inquiry into The Quality and Purpose of Education in England was launched, the Chair of the Education Committee had explicitly stated:

In this inquiry we want to ask the question, what is education for? ... Is it, for example, to prepare our young people for the world of work? Is it to ready our children for adulthood and provide them with the skills to lead fulfilling lives? Is it to provide them all with broad academic knowledge, based on a shared culture and values?

Whilst most educationalists would argue against the idea that these need to be arranged in opposition; rather they should be seen as mutually *inclusive*, Alexander noted that the overarching attitude displayed through the given curriculum is the first option: that the role of primary education is to fit children to be ready for society: to work within the framing parameters of our culture (I expand on this throughout Chapter 2). He continues to state that this attitude has resulted in a curriculum that “rightly prioritises literacy and numeracy, but is ambivalent about science while treating the arts and humanities as desirable but inessential; that elevates the basic skills of reading, writing and calculating over those of orally communicating, relating successfully to others, solving problems and striving for the common good” (Alexander, 2016 p2); one that overstates the importance of, and rewards performance in, a limited range of knowledge and abilities rather than holistically nurturing their wider development as “rounded individuals” (p2).

Many educationalists – I for one – would follow Alexander in rejecting this “needlessly narrow, polarised and parochial view of education’s purposes”, (p2) and express concern about the impact on children whose schools’ motivation is fear of the repeating cycles of testing and inspection rather than in doing their best by the children and allowing them to grow, explore and learn, browsing from a fuller banquet of opportunities than the narrow pickings offered in the current curriculum. Alexander cites evidence from the Cambridge Primary Review and Ofsted that shows that there that is “a clear and proven association between breadth of purpose, the quality of the wider curriculum and standards in ‘the basics.’ This evidence has been common knowledge since the 1970s” (p3). He ends by chiding the Education Committee, as it had become by 2016, hoping that they will remind the current government of this.

1.7 CURRENT CONTEXT OF PEDAGOGY

This leads me to the point where I can elucidate what I see as good teaching, both at the Primary level (which is what I teach *in*) and at the postgraduate level I teach *at*, at least for the purposes of this thesis, although there is a much greater discussion of this in Chapter 2.

Alexander (2016) notes that the understanding of children’s cognitive development and learning has changed greatly in the past decade. Many of the ideas that had been introduced and discussed on Initial Teacher Education (ITE) courses since at least the 1990s are being fundamentally challenged by some key new insights, research and theories (e.g. Goswami, 2008, 2014, 2015; Harlen, 2014; Johnson & de Haan, 2011; Slater and Quinn, 2012; Wellman and Gelman, 1998). Concepts as hallowed as Piaget’s (CACE 1967 p50) idea that children’s development advances in fixed stages are being challenged and overturned (for a fuller discussion, see Goswami, 2015, section 2a). The right-brain/left-brain functions discourse (Sperry, 1975) is discounted, as is the “learning styles” (Fleming, 1987; Kolb, 1976) theory: Goswami states explicitly (2015 p25) that they “are *not* supported by the brain science of learning”.

Not all that was once hallowed has been swept away, however: the Vygotskian notion of the 'zone of proximal development' (1978) where children learn better under the guidance of a more knowledgeable other is supported through this new research. Vygotsky's recognition that learning can change the developmental level of children has clear classroom implications for teachers: if they can determine an individual child's ZPD and cater for that level of learning, this will maximise the benefits of the teaching. Similarly, whilst learning styles are discredited, Gardner's multiple intelligences theory (1993, 2003) is described by Goswami as "important in encouraging flexibility in teaching, for example approaching educational topics in different ways and using analogies from a variety of domains. Learning is strengthened by expressing key concepts in a variety of forms" (2015 p24).

Alexander (2016) summarises the key findings of recent research into learning briefly. I present here my own list of the major points he raises.

1. Babies and young children learn, think and reason in much the same ways as adults but lack the maturity to make sense of their experiences.
2. Learning "depends on the development of multi-sensory networks of neurons distributed across the whole brain" (p13). One experience is mapped across – and correlated with – many others, creating links in the brain.
3. Children learn from every experience they undergo and their brains make sense of them through this distribution across these networks. The more often a pathway is used – the more often an experience is recognised – the 'stronger' it gets, and the better the child is able to comprehend and remember.
4. "The biological, social, emotional and intellectual aspects of learning are inextricably interwoven" (p13) – how something is experienced, understood, remembered; how the child was feeling at the time; their relationship with who they learnt from – all of this is bound up in the brain.
5. All learning, even the simplest, is social: it relies on effective linguistic and social interaction with peers, parents and teachers as mediators of experience.
6. Just as adults do, children interpret the world and their experiences within it according to their own explanations as to why things happen, which are built

upon prior experiences and their linked emotions: they try to make sense of things in the light of what they have previously undergone.

Goswami notes in her conclusions (2015) that learning, especially in young children, is socially mediated. Teachers therefore need to enhance children's learning with collaboration, challenge and purposeful talk. Alexander (2012) discusses oracy with a powerful call for teachers to understand that "talk is essential to children's thinking and learning, and to their productive engagement in classroom life" (p2) and that the ways in which teachers talk to children, "ideally amplifying and elaborating their comments, can enhance learning, memory, understanding and motivation" (2016 p13). Classroom-based learning will also be enhanced if children are given a diet of diverse experiences and specifically guided to develop reflective and self-regulatory practices through teacher modelling, conversation and guidance around social situations such as active experiences, play, language and taught input. This diversity of experiences helps strengthen the multi-sensory neural networks, allowing more powerful pathways leading to wider and deeper correlative relationships between concepts and experiences, which helps children modify their understanding of the world (overcoming their Piagetian disequilibrium [Piaget, 1961]) and become better at reflecting on their observations. As Goswami puts it, children's "thinking, reasoning and understanding can be enhanced by imaginative or pretend play contexts" but she goes on to note that this needs to be carefully mapped and scaffolded (cf. Bruner, 1975; Wood et al., 1976) by the teacher to ensure these are effective. Alexander's final point is that creative activities "raise the quality and capacity of children's thinking, perseverance and problem-solving abilities, as well as fuelling their imaginations" (2016 p13). Planning for incremental experience, in which children iteratively build upon what they have done before, is vital for children to learn and effectively construct their knowledge. As I remark to each class and cohort I teach, teachers are not there to teach; rather they are there to facilitate learning.

Amongst other theories of education that I would put forward as both important and yet undervalued by the instrumentalist approach adopted by the current and previous governmental approaches are the radical ideas that there may be no correct answer to a question (Kincheloe, 2008), the critical pedagogy of Freire (1993), the "moment-by-moment" decision-making that teachers need to partake in (Nystrand, 1997; Hall,

1998, in Walsh, 2006); “deep learning” (Biggs, 2003); and the “meaningful activity” and active learning of, for example, Chickering & Gamson (1987).

Sawyer (2005; 2007; 2008) speaks of “group genius” where creativity is described as arising from collaboration, what he calls ‘distributed creativity’, rather being found in individual flashes of insight or in ‘special’ individuals. He notes the importance of improvisation and calls on teachers to allow for collaborative conversations in the classroom, in which teachers and students build knowledge together. He describes the ideal role of teacher as being there to scaffold and facilitate knowledge building, and to allow for what he calls ‘active learning’ (cf. Chickering and Gamson, 1987), characterised by the use of facts and procedures to solve complex, real-world problems, collaborative teamwork, and improvisation within a teacher-informed and -enforced structure, and in which students explore through inquiry and discussion, work to find solutions and create “tangible products that address the problem” in order to become “innovative learners” (Sawyer, 2012, online.)

Another theory that supports the tenets of group genius is that of situated cognition (Brown, Collins & Duguid, 1989, cf. Aydede & Robbins, 2009) which emphasises that learning never happens in isolation; rather the cultural and social contexts and the activity itself are all linked to the knowledge gained: “learning is social and not isolated, as people learn while interacting with each other through shared activities and through language, as they discuss, share knowledge, and problem-solve during these tasks” (Brown et al., online). This clearly follows in the tradition of the social theories of Vygotsky and Bandura and the situated learning theory of, amongst others, Lave and Wenger. I discuss these in greater depth in Chapter 2.

I see these ideas as the fundamental concepts that primary teachers should be aiming to embed in their practice: to “teach” less and to facilitate learning, to enable social construction of learning through well-planned iterative and creative activities that allow children to collaboratively, and with guidance, negotiate understandings of their experiences and reflect on these effectively.

Drawing on a substantial research base, the National College for School Leadership (NCSL) makes nine “strong claims” about the characteristics of highly successful

pedagogies, which I give in full here to further support and expand the opinion expressed in the previous paragraph:

Effective pedagogies:

1. give serious consideration to pupil voice;
2. depend on behaviour (what teachers do), knowledge and understanding (what teachers know) and beliefs (why teachers act as they do);
3. involve clear thinking about longer term learning outcomes as well as short-term goals;
4. build on pupils' prior learning and experience;
5. involve scaffolding pupil learning;
6. involve a range of techniques, including whole-class and structured group work, guided learning and individual activity;
7. focus on developing higher order thinking and metacognition, and make good use of dialogue and questioning in order to do so;
8. embed assessment for learning; and
9. are inclusive and take the diverse needs of a range of learners, as well as matters of student equity, into account.

(NCSL, 2012 p3.)

The conclusion reached by the NCSL is that “outstanding pedagogy is far from straightforward” (*op. cit.* p12). Rather, in the complex and ever-changing realities of classrooms, successful pedagogies need to be sophisticated, reactive and adaptable. They describe the most successful pedagogies as developing when teachers use their understanding of their children in order to plan effectively and then teach based on that, using a wide knowledge base of these effective pedagogies to do so, “supplemented by a personal passion for what is to be taught and for the aspirations of learners” (p13).

Moving into my own field of HE, the Higher Education Academy (HEA) recently completed its own look at innovative practice and flexible pedagogies within HE. This review process identified the following pedagogical ideas as those fit for the future of an increasingly ‘flexible’ Higher Education field, and which offer new pathways for graduate attributes or capabilities (figure 1ii, over). Again these are drawn from a large research base, and I give a summary below.

Figure 1ii

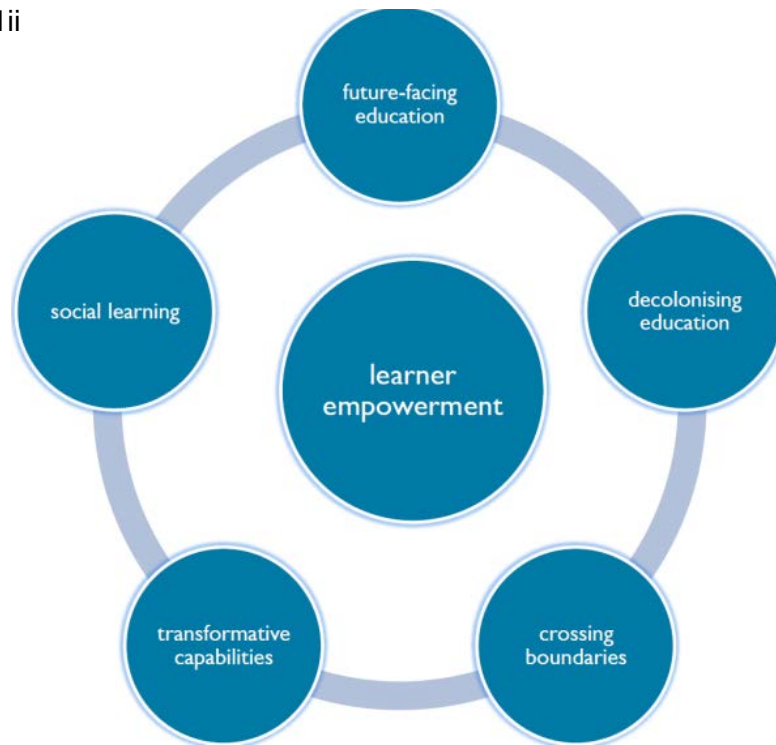


Figure 1ii: Flexible pedagogies - new pedagogical ideas (HEA, 2013 p14).

1. learner empowerment: involving students in learning development and 'co-creation' and challenging the traditional power frames that can retard learning relationships;
2. future-facing education: refocusing learning towards engagement and change processes rather than traditional modes of knowledge retention;
3. decolonising education: extending inter-cultural understanding in the HE system rather than unthinkingly using the dominant, Western worldview;
4. transformative capabilities: using transformative approaches to learning to create an educational focus towards agency and competence, not just knowledge;
5. crossing boundaries: generating inter-disciplinary, interprofessional and cross-sectoral learning in order to maximise collaboration;
6. social learning: developing cultures and environments for learning outside the formal curriculum, using collaborative activities and 'flexible pedagogies'.

(HEA, 2013 p5.)

It can thus be seen that education professionals and theorists, supported by recent research, have a different set of pedagogical and curriculum beliefs and ideals from the knowledge-based curriculum and didactic teaching approach that is embedded in the still-relatively-new National Curriculum. As will be evident from this opening chapter, my own beliefs fall on the learner-centric, facilitative and collaborative side. The question I am seeking answers to is to what degree this is shared by PGCE trainees, and what changes in these beliefs across the year they spend on our course.

CHAPTER TWO: REVIEW OF THE LITERATURE

This is not a comprehensive list of all the literature I will use to support myself through the entire thesis. In each chapter I will refer to further literature to substantiate my points in, for example, my methods and methodology, ethics, and data analysis sections, and will draw upon a wide range of texts to do so at the appropriate times, rather than deal with them all here. In this section, however, I look critically and analytically at some of the key tensions in the debates I am researching around and draws together some fundamental literature in order to do so.

2.1 PEDAGOGIC CULTURE

I contend that the culture within which I work espouses learner-centrist, socially-constructive teaching practices as an expressed goal. As a lecturer in Primary Initial Teacher Education at a Higher Education Institution (HEI), my aim is for my trainees to leave with a clear understanding of the power of learning rather than teaching, and the pedagogical strategies to facilitate the learning of children rather than strategies to 'merely' teach them. I justify this when laying out my own position and stance, below. A simplistic reading of my context is that we andragogically teach our trainees to teach pedagogically, but are actually aiming for them to become heutagogic (Hase and Kenyon, 2001: I will expand on this later) – i.e. to lead themselves to knowledge.

It is widely accepted that “what student teachers learn during their initial training is as much influenced by *who* (our italics) is responsible for teaching them as it is by the content of the curriculum” (Furlong et al., 2000 p36 in Mcnamara et al., 2017 p32). Laurillard (1993) describes learning as an iterative process, involving “discursive, adaptive, interactive, and reflexive qualities”, with the relationship between teacher and student as paramount, since “academic knowledge consists in descriptions of the world, and therefore comes to be known through a discursive interaction between teacher and student” (*op. cit.* p81). I posit that, through immersing trainees in the culture we espouse, we aim to instil in them the same values that we hold to in order that they will in turn espouse and practise them. Attitudes and values are not acquired by practice or telling alone, but enculturated through interaction with human

role-models (Bandura, 1969). This transference of ideologies from institution to individuals in order that the individuals themselves support and promote them was characterised by Foucault (1975) as from 'sovereign' to 'capillary'. He described a situation where a social technology (in this case the HEI) can construct the machinery needed to support this, and he saw the first job of this machinery as to render bodies (individuals) docile – i.e. capable of being instructed – and then to move those individuals to a state of utility: that which he called the 'economy' of the body. He described this in two key ways – that of an increase in the economic force of the body in terms of obedience and utility, and a diminishment in the political force of the body in terms of disobedience and disutility (i.e. going against the socially accepted and transmitted messages). For our purposes, this can be recognised as teaching our trainees to be ready to receive and understand our fundamental message, then instructing them so as to involve them at a deeper level of enculturation. This has the twin benefits (for us) of a) rendering them more likely to 'obey' and 'be useful' (based on the positivist position that the use of learner-centrist, constructivist teaching strategies is the most effective pedagogical approach in Primary schools), whilst b) diminishing the possibilities of disobedience and being less useful (based on the same premise): "via a political technology... the 'body' becomes a useful force only if it is both a productive body and a subjected body" (Foucault, 1975 p26).

What has become notable for me is that in trying to explain the culture within which I work I am also writing a commentary on my own personal pedagogical and epistemological stance, as further discussed in Chapter 3. At a cultural level, the members of the Primary Initial Teacher Education team at my HEI espouse the social constructivist view that knowledge is constructed socially through experiential learning. Whilst not identified as such, much of this rhetoric is around the principles of Bereiter's (2002) theory of knowledge building, Engeström's (2001) theory of expansive learning, and Nonaka and Takeuchi's (1995) model of knowledge creation: learning as participation; knowledge and skills being learned/produced that are not stable, not even defined or understood ahead of time; important transformations that are literally learned as they are being created. A key element is that learning is also

seen as 'horizontal' (Bernstein, 1999), through peer talk rather than from top-down 'delivery' methods, and is developed through boundary-crossing interactions (e.g. between two interacting activity systems, such as formal and informal learning methods, or theory-based and practical activities [see e.g. Akkerman & Bakker, 2011]), generally in socially-supported pathways. For this to happen, it is posited that intellectual skills and cognitive strategies such as problem solving or managing one's own learning require prior knowledge, guidance and application in other contexts (Bruner, 1970).

Alexander & Wolfe (2008) note that, for the decade or so before they were writing, dialogue, as used for the transaction of educational purposes has come to the fore, listing Wells (1999); Alexander (1995, 2001); Wegerif (1996, 2008) and with Mercer (1997); Mortimer and Scott (2004); and Wolfe (2006) as some of the principal researchers into this phenomenon, with the caveat that two separate research aims have been conflated into this one list: those interested in student-student interactions and those on teacher-student interactions. Dialogic teaching and its interactive rather than disseminatory nature are clear manifestations of the principles under discussion.

Further to a discussion as to which knowledge and skills should be disseminated in our curriculum, the goal of education *per se* should be to use these knowledge and skills as tools for carrying out activities of personal and social significance for the learners (Senteni & Taurisson, 2005). Social construction, in its Vygotskian sense, calls for an approach to learning and teaching that is both exploratory and collaborative (Wells, in press). In order to imagine the curriculum as a set of negotiated activities that have personal significance for the students, we need to construct their pedagogic and epistemic positions on multi-voiced, negotiated visions of knowledge, subject to power relations determining what is to be considered the truth (Foucault, 1977).

There is much in this shared cultural understanding (in my context) of what education needs to be that shares many of the characteristics of the humanistic principle of learning as becoming (see e.g. Freire, 1970; Knowles, 1975; Maslow, 1943, 1954) such as empathy and motivation (see Maslow's Hierarchy, 1943). In this philosophy

of education, it is preferable to facilitate rather than instruct, and learners are encouraged to take responsibility for their own learning and provide input to it from their own experience. They are encouraged to frequently re-evaluate themselves and their learning.

The ideal of this is that it leads to self-actualisation (Maslow, 1965; Rogers, 1951). However, there are some key criticisms of these philosophies (Platzer *et al.*, 2000). One is that they often fail to account for the social connectivity that may limit opportunity to participate on equal terms. These factors act reflexively in the social construction of identity and the individual's perceived power (economic or social) to effect change (Bourdieu, 1977; Foucault, 1977). These approaches can sometimes seem to place too much personal responsibility on individuals disadvantaged by society and organisational structures, although those within my culture and context would argue that we intend to empower rather than overload. Some problems are necessarily bigger than the individual, involving as they do human systems and processes over generations and embedded in cultural rituals and traditions.

Whatever the criticisms, however, I work within a culture that embraces social constructivism at both internalised and external levels, and it is this epistemological and pedagogical paradigm which underpins our implicit and explicit planning and teaching. Much has been made of the schism between the cognitive constructivism of the Piagetian school and the social constructivism of the Vygotskians, but I believe with Cole and Wertsch (1986) that they are different, rather than in opposition (c.f. Rogoff, 2000, who comments that they can be considered as “continua with two extremes”). Suffice it for us to accept that the culturally normalised view is that “learning should be viewed as both a process of active individual construction and a process of enculturation into the...practices of (the teaching community),” Cobb (1994 p136).

The espoused cultural ideal – within my context – of our trainees being inculcated with the same ‘memplex’ (a collection of ideas, behaviours or styles that spreads from person to person within a culture: see Dawkins, 1976; cf. Latour, 1993, on ideas as hybrids created in interactions) is depicted by Foucault as “the art of distributions”:

how strategies, practices and cultures converge and become institutional practices enacted by all (Foucault, 1975). He wrote of institutions such as the 'School' (for which 'HEI' can be easily substituted) as an apparatus dedicated to the disciplined management of society and to the production of a particular type of person.

Foucault also advanced the notion of body-object correlations: how tool-use (tools in the Vygotskian sense) leads to more 'economic', well-disciplined bodies that are better able to perform skills correctly and well. This leads us to a brief consideration of tools and their uses as socially-mediating phenomena – especially the crucial tool of language.

Vygotsky drew on the theories of Marx and Engels about dialectic materialism (Lefebvre, 2009), building on their notion that humans during the course of their labouring do not just transform nature; they themselves are transformed. This is the premise that the tools humans use – from hammers to computers – not only have an effect on the physical, natural world but that they also reciprocally transform and regulate us. This returns us to Foucault's notion of well-disciplined bodies: those who use tools regularly become better at using them, more effective in their use and 'regulated' as to their use: faster typists, better at aiming the head of the hammer, more adept thinkers, *better pedagogues*. Through this regulation, humans can access deeper levels of participation in the communities of practice (Lave & Wenger, 1991) they choose to belong to.

A key claim of Vygotsky is that language, as a symbolic system that externalises thought processes, is a tool that mediates human social processes and thinking. All such psychological tools – art, language, musical notation, algebra, computer programs – are artificial formations but by their nature are both social constructs and inherently social activities. They are directed towards the control of behavioural processes, and are to do with thinking and consciousness. Through our use of language, we transform others, and are ourselves transformed. For Vygotsky, these cultural artefacts play a central role in any account of how knowledge is constructed and where it is located (Cole, Engeström and Vasquez, 1997).

Vygotsky made the logical next step that language and mind are linked, and that learning is mediated through social collaborations. Although Piaget also believed that new scientific knowledge is constructed out of dialectic processes such as debate amongst the scientific community, Vygotsky went further with his notion of distributed mind (in Cole *et al.*, 1997), which suggests that knowledge does not reside in any one mind nor in the environment, rather knowledge is a network of interconnected and overlapping representations of truth distributed within and across social networks or discourse communities and what 'truth is' is continually re-negotiated. Through our interactions we share, construct, refine and revise such meanings of 'truth'.

This brings us back to our discussion of relativism and positivism: that the 'truth' is dependent on one's perspective on it whilst shared understanding can be arrived at through negotiation. The so-called Sapir-Whorf hypothesis (Kay & Kempton, 1984) can be considered a relativist view because it postulates that linguistic categories and structures shape the way people view the world: "Language and culture are inextricably bound up with each other" (Datta, 2000 p16). The question – and particularly the answer – of whether a single understanding of a fundamental truth, empirical or not, can be arrived at by multiple observers is beyond the scope of this thesis, but I make the twin claims that language is a catalyst for understanding, and that through the socially-mediating tool of negotiation humans can understand more and thus be acculturated into deeper levels of the communities to which they belong, although note Heidegger's ideas on the limitations imposed by the situations and contexts that parameterise any human's existence and the understandings they are afforded the capability of reaching (Withy, 2014; cf. my later discussion of 'phase space'), of which language is one.

As will be mentioned later in regard to Foucault, this use of power – this enculturation – is an enabling and empowering process; an 'affordance' that gives us ways to further engage and participate in authentic environments (Herrington and Herrington, 2006). To return to the trainees at my HEI, it is in these authentic environments in practice-based school attachments that 'situated learning' (Lave and Wenger, 1991), or learning that takes place in the same context in which it is applied, best takes place, rather than in the more theoretically-based sessions at the HEI. Lave and

Wenger expanded this into their theory of Communities of Practice which, as Pilkington (2010) has shown, draws on a number of wider sociological theoretical perspectives including cognitive-behavioural theories (learning as practice); cognitive constructivism (learning from the experience of doing); situated social theories (interaction in a community); and humanist theories (development of an identity). Put briefly, as we enter new spheres of knowledge we join a community of people who have this knowledge and can put it into practice at differing levels of expertise. Over time, we may deepen our involvement and expertise in this area, moving from peripheral participation to active membership of the community. Since 1991, many academics have built on these original ideas. Hansman (in Kimble *et al.*, 2008), for example, shows how adult learners discover, shape, and make explicit their own knowledge through situated learning within a community of practice. For the trainees, this community of practice is that of teachers, and the trainees gain deeper access into the community as they 'become' teachers (cf. Vygotsky's move from "novice" to "master"), through extending and broadening their experience and understanding by working with mentors in authentic settings. This resonates with Vygotsky's contemporary Leont'ev's work on goal-oriented activity (1974), especially in the sense of the movement from individual to collective, or social, activities.

Culture is constitutive – it makes us who we are, and makes things what they are: it helps define both us and them (Baumann, 2000). To be successfully enculturated into new cultures or activity systems (Engeström, 1987), "neophytes must learn and conform to the conventions, codes, and genres of those communities" (Wardle, 2004 p1; cf. Bazerman, 1998; Berkenkotter, Huckin, and Ackerman, 1988). Primary ITE teacher trainees are, by their very nature, explicitly seeking a more profound involvement in the culture and community of teachers – trying to adopt the language, ideals and practices of teachers.

As an initial teacher trainer in HEI, it will be remembered that it is my contention that, through immersing trainees in the culture we espouse, I aim to instil in them the same values that we hold to in order that they will in turn espouse and practise them. These values may be seen as the 'signature pedagogies of our profession' (Shulman, 2005). Shulman's central thrust is that trainees must come to understand

in order to act, and they must act in order to serve. I work, as previously explored above, within a culture that espouses that “learning should be viewed as both a process of active individual construction and a process of enculturation into the...practices of (the teaching community)” (Cobb, 1994 p136). It is interesting to note, however, that this set of beliefs is in tension with the practices we use: much of the teaching within the limited time we have with trainees can be seen as occupying the more transmissionist (Harel and Papert, 1991; cf. Schuh, 2004) rather than the learner-centric (Smith 2016b) end of the pedagogical continuum. This tension will be explored further later, in Chapter 2.2.

I have written above about Foucault’s notion of ‘the art of distributions’: how strategies, practices and cultures converge and become institutional methods used by all (Foucault, 1975): the transference of ideologies from institution to individuals in order that the individuals themselves support, espouse and promote them. We now reach the first critical point of this chapter. My reading of this view of enculturation – although it undoubtedly was not Foucault’s own interpretation – is that it is negative: it is done *to* rather than done *by*, and, which is worse, it does not allow for the self-empowering notions that have been so in vogue in education and society for two decades and more (see, for example, Kreisburg, 1994; Tan, 2012). At the level at which our trainees are working, for example, we andragogically teach them pedagogy, but are actually aiming for them to become heutagogic (Hase and Kenyon, 2001) – i.e. to lead themselves to knowledge. There is one perspective from which Foucauldian view of knowledge, however, is intrinsically bound up with power – with the learner most definitely as the less powerful: “power is always exercised from the top downwards and thus society is hierarchically arranged with those at the top having the capability of exercising more power than those at the bottom” (Scott, 2008 p53). There is a clear resonance here with the Marxist-leaning rhetoric of Freire in his *Pedagogy of the Oppressed* (1970) as he describes the “banking model”, with the student as an empty vessel to be filled with knowledge, an image he repudiates, and which has been strongly criticised by many researchers in education (Bereiter, 2002; Paavola *et al.*, 2004). He argues, as I will argue here, for a pedagogy that treats the learner as a co-creator of knowledge rather than viewing them as a receptacle. (This negative image seems to demand an opposing metaphor, and I

cannot better the equivoque attributed to Plutarch: “the mind is not a vessel to be filled; *rather it is a fire to be kindled*”.)

Although originally a theme of Foucault’s discourses on the origins and lineages of human sciences (Foucault, 1980), this pervasive leitmotif of ‘*pouvoir-savoir*’ has become perhaps the most well-known element of his writing (“there is no power relation without the correlative constitution of the field of knowledge, nor at the same time any knowledge that does not presuppose and constitute at the same time power relations’ [Foucault, 1977 p27]), and was a dominant theme for commentators on curriculum design in the 1980s. He explains that Power does not exist universally in a concentrated or diffused form; rather it “exists only when it is put into action” (Foucault, 1982 p788). Power is not so much a confrontation between two bodies; “it is a question of ‘government’: the way in which the conduct of individuals or of groups might be directed. To govern, in this sense, is to structure the possible field of action of others” (Foucault, 1982 p790).

For Foucault, then, power exists everywhere and spontaneously irrupts from everywhere; he saw it as a key concept because he envisaged it as a form of relation – the enactment – between people. Foucault did not view the effects of power negatively: for him, power did not exclude, repress, censor, mask, or conceal. Rather he saw it as a producer of reality: “it produces domains of objects and rituals of truth” (Foucault 1977 p194). The importance for him was in the effect that power has on entire networks, practices, the authentic world of experience as dictated by relationships, and the ways that behaviour is affected, not the power in and of itself.

Perhaps the best-known of the regulatory modes of power/knowledge that Foucault cited was the Panopticon, the architectural design suggested by Jeremy Bentham in the mid-19th Century for observing the inhabitants of prisons, asylums, schools, hospitals and factories (figure 2i, over). The Panopticon offered, not violence, but a civilised powerful and sophisticated internalised coercion, achieved through constant unobtrusive observation. This possibility (however unlikely in practice) of being under personal observation at any given time acted as a control mechanism; thus consciousness of constant surveillance became internalised and, eventually,

normalised as part of a lived experience, and stemming from the threat of discipline. The desired behaviour is achieved not through total surveillance, which was then impossible to achieve, but by the discipline imposed by the possibility of it and by the internalisation of this as a means of inducing the population to conform to this reality. "The actions of the observer are based upon this monitoring and the behaviours he sees exhibited; the more one observes, the more powerful one becomes. The power comes from the knowledge the observer has accumulated from his observations of actions in a circular fashion, with knowledge and power reinforcing each other" (Mason, 2016). Foucault notes that "by being combined and generalised, they attained a level at which the formation of knowledge and the increase in power regularly reinforce one another in a circular process" (Foucault 1977 p13).

Figure 2i
Foucault's Panopticon

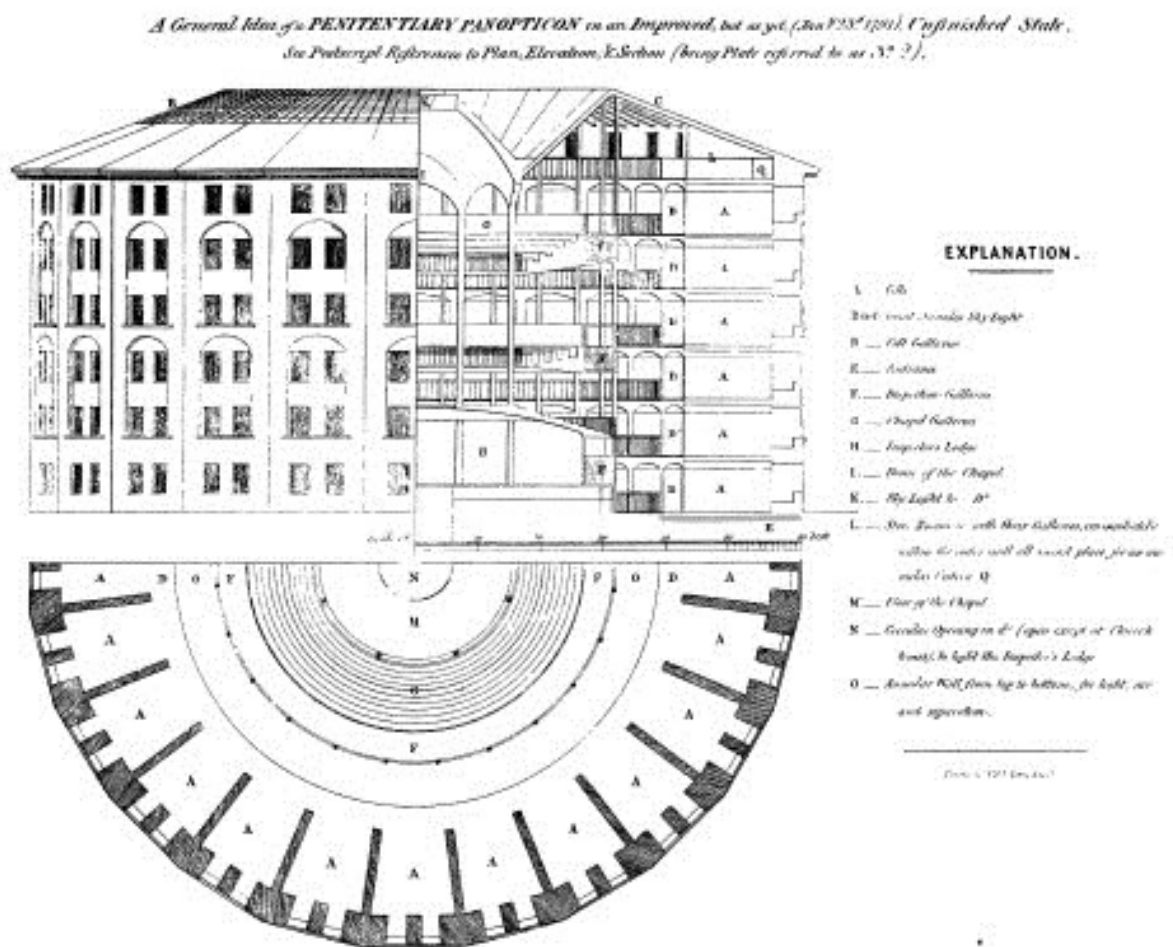


Fig 2i: the Panopticon as originally conceived by Jeremy Bentham, 1843.

Olssen (2004 in Scott, 2008) outlines a Foucauldian view of knowledge as a construct – there are key structures that give definitive rules which establish limits and exclusions, and which are constrained by the impositions of institutional power and control within the culture; that outline the phase space (c.f. Stewart and Cohen, 1997) of what it is possible and legitimate within the culture; that are “not linked to or embodied in individual subjects but are themselves, ontologically, part of a discursive regularity” (Olssen, 2004 p64); and that in and of themselves constitute forms of power which manipulate individuals and regulate the culture through an imposed enculturation of individuals into the knowledge of and valued by that culture. In his most commonly-cited metaphor, Foucault spoke of the Panopticon as an instrument of discipline and power in which, due to the fear of surveillance, all members of an institution regulate themselves by adherence to rules whether or not they are actually being observed. This again has negative undertones: in all the examples he provided (inmates of prisons or sanatoria for the insane, contagious hospital patients, unruly schoolchildren) there is, to a greater or lesser degree, a justifiable reason for surveillance – baleful as it may be to those observed. In extrapolating this metaphor out to wider societal cultures, the necessity for malevolent scrutiny would seem to be obviated, or at least lessened. For Foucault, however, the real danger was not necessarily that individuals are repressed by the social order (with Power used in Scott’s negative sense) but that they are “carefully fabricated in it” (Foucault, 1977 p10), i.e. inured to its uses and unable to define themselves in any other way than the way society does, and because power penetrates into the behaviour of individuals.

Although for Foucault power is created and instilled in networks and exercised in relationships – people perceive power through their understanding of where they belong in the hierarchy – commentators have spoken of the need for direct inspection from ‘the powerful’ as those under observation may subvert the culture. I disagree with the need for this, as I believe that they need to change the culture in order to make it relevant to themselves and as exigencies and circumstances demand. I will return to this key point at a later stage. Foucault's idea of power, misapplied here, is that the structures, processes and systems of the powerful are to be employed to control or modify the body of discussion within the phase space of all possible

discussions in this culture (cf. Heidegger again), to the benefit of the powerful: that the culture remains intact and replicated by succeeding generations: it is internalised and reified. If those subordinated submit to their given role in this power play and self-regulate their discussion then the need for the display of a more overtly coercive or repressive power is not merely prevented but pre-empted (Scott, 2008). This is ostensibly kindly – it refers to itself as pastoral or caring, in that it helps individuals to pass through the gateways of recognition and attain the cultural identification necessary, in this case to be a teacher, passing the cultural rituals of ‘meeting the Teacher Standards’ (DfE, 2011) – but it also enframes and parameterises the limits of the possible.

To explain my position: I read this as negative because it denies the learner the power to learn autonomously or in self-determined ways; the learner can neither receive information in a way that best suits them nor can they have a say in what they learn. Scott again: Power is always repressive (Scott, 2008), in the senses that it both insists individuals do certain things and prevents them from doing others. Power is thus exerted and not possessed and, although it can be positive in that it allows individuals to perform, it is also oppressive in that the same individuals operate and perform within a tightly parameterised sphere, whose boundaries are societally or culturally imposed by the powerful – those with the knowledge. As capillary agents, they then continue the beliefs, practices and values of the sovereign institution forward into their own praxis within their now-self-imposed boundaries, having ingested the values of the dominant symbolic order (Lacan, 1977). I will return to this notion having, hopefully, ‘positivized’ it, as the power is used to empower rather than repress, with those entrusted with authority – to wit – me as the teacher – taking responsibility to use that authority ethically, morally and beneficially.

Writing about examinations (although I argue here that the same is true for his wider writing on the relationship of power to knowledge, as an exam is merely a vessel for displaying that knowledge) Foucault (1977 p184) states that they “combine the techniques of an observing hierarchy and those of a normalising judgement”. This judgement of the powerful is a form of observation that makes it possible to qualify, to classify and to punish. It creates a vision of individuals that does not merely allow for

them to be differentiated and judged but that actively requires it, for the sake of the viewer and for the internal characterisation and graduated match-and-slotting into positions within the more-or-less accurate and variably mature hierarchies of the viewed, at whatever level of enculturation they have attained. It allows the culture to construct individuals in certain ways that are valued by and intrinsic to the culture, and in the process creates a self-fulfilling promulgation of these values. The intimates of the society – here the ‘gatekeepers of the profession’, or the team of professionals that comprise the hierarchically ‘powerful’ – construct their knowledge of the trainees through forms of observation and transfers of power in specific ways which have the tripartite effect of “binding individuals to each other, embedding those individuals in networks of power and sustaining mechanisms of surveillance which are all the more powerful because they work by allowing individuals to police themselves” (Scott, 2008 p57). When we consider, however, that this hierarchically powerful elite is merely a team of sixteen (fallible) lecturers (who, furthermore, change from year to year), this artificial and theoretical metaphor, powerful and beguiling as it is, is shown to be less secure than Scott would admit.

Moreover, it is still a negative and negating understanding of the reality of the transfer of knowledge. It would be foolish to deny that there are power relations in effect between lecturer and student: one is tasked with disseminating the knowledge both of the culture and its practices (not that this need be achieved hieratically!), and with making judgements; the other with ‘becoming’ a functioning member and participant in the practices, but this does not need to be seen as the priest and the neophyte: I argue here for a kinder reading of the transfer of knowledge in which the students are partners in learning and active participants rather than vessels to be filled and blank canvases to be filled to our design; in which power is used responsibly, as outlined above.

I see this as a more positive reading of what we as teacher trainers aim to achieve. Unlike the ideological transfer of cultural traits and concomitant bestowal of power described by Foucault, this view empowers the learner to consciously and deterministically choose to bring themselves before the knowledge and to learn autonomously and in self-determined ways, allowing them to receive and assimilate

information in a way that best suits them (Kolb, 1984), their multiple intelligences (Gardner, 1983) being brought to bear upon the knowledge to help decipher and integrate it. Two key elements of this are individual tasks wherein learners are expected to heutagogically (Hase and Kenyon 2001; 2003) inform themselves; and horizontal, peer-led learning, explicitly facilitated by us as teacher trainers allowing space within our teaching timetables for trainees to work together on tasks in Learning Groups and then present their new learning. Outside of the lecture halls and in the 'authentic situations' of classrooms described by Herrington and Herrington (2006), the trainees continue their trajectories in 'becoming' teachers through observational learning in which they are voluntary, initially peripheral, observers of the practical activities of the culture of teachers, leading to an increasingly participant role. This observation is "a potent and central mechanism of enculturation, the process by which a (trainee) comes to bear the knowledge, values and practices of the surrounding cultural environment (Herskovitz, 1948 in Odden and Rochat, 2004; Mead, 1963; LeVine, 1990; Gaskins, Miller & Corsaro, 1992; Strauss & Quinn, 1997; and Tomasello, 1999). This observational acculturation is at odds with the oppressive, vertical, forced enculturation that I take from misreadings of Foucault.

It is my belief that trainees, as they absorb the culture, traits and rituals of teaching and incorporate them into their own practices do so by sieving what they receive from us in theoretical and ideological transfers in lectures, and from observational and empirical experience in authentic class-based realities, through a network of filters: those of personality, previous experience, level of acceptance of the culture etc., influenced by an individual's multiple intelligences, which leads to an individualisation of approach within the parameters of the culturally acceptable. They demonstrate the acquisition of competences, rather than personal transformation.

To conclude, then, although there are clear differences in their perspectives and theories, there are many parallels and connections between disparate thinkers that congregate into a widespread paradigmatic agreement on the social construction of learning that can be described as 'participatory learning' (Odden and Rochat, 2004) – the importance of increasing participation in the culturally specific activities of a given society for learning (see. for example, Cole, 1985, 1996; Lave, 1988; Rogoff, 1990,

1993, 1998; Wertsch, 1985). Much of this is an inheritance from Vygotskian educational theory, with its central principle of effective learning being achieved through scaffolding in social contexts, led by more knowledgeable 'experts' in the Zone of Proximal Development (Vygotsky, 1978; see also Bruner, 1990; Cole, 1985; Rogoff *et al.*, 1995; Wertsch, 1985). Rogoff encapsulates my thinking on this area, as she emphasises the positive and active side of enculturation, defining it as 'the personal process by which, through engagement in an activity, individuals change and handle a later situation in ways prepared by their own participation in the previous situation. This is a process of becoming, rather than acquisition', (Rogoff, 1995, in Odden and Rochat, 2004 p40). This is more than a mere re-enactment of a transferred ideology; it is through an active engagement with cultural practices, sifted through each individual's personal network of filters, that trainees 'become' individual teachers, able to personalise their approach to each encountered situation and to teach 'their' way. This leads to self-actualisation (Maslow, 1943, 1965; Rogers, 1951) rather than a closed system vocabulary (Schön, 1987) – i.e. autonomous agents who are able to become their own potentialities (Rogers, 1951) and are independent, not reliant on culture and environment to form opinions and views (Maslow, 1943) – and, by extrapolation, to act – instead of knowing the theories and words but being unable to act in accordance with them. Very recently, Mcnamara, Murray and Phillips (2017 p51) have discussed the importance of viewing student teachers not merely as apprentices just aping their masters, nor as reductionist technicians of a skillset, but as "fully research-engaged and research-informed professionals envisaged as ideal by some commentators" (Orchard and Winch, 2015; the BERA-RSA review, 2014).

I have argued that it is the model of widened participation, of self-actualisation and of the transition from peripheral participation to active membership on the trajectory of 'becoming' that our trainee teachers follow that is to be espoused by teacher educators, rather than an ideological transfer utilising the 'pedagogy of the oppressed', and I finish with the personal view that this is what I see in practice. My colleagues and I do not only espouse these ideals but we attempt to enact them in principle and practice: allowing and enabling our trainees to assimilate the knowledge and culture of teachers, but individualising both their approach to doing so and acting out their own interpretations of these in the authentic situations they find themselves

in when on school-based attachments and as they take on the role they have 'become' through building it for themselves: a teacher.

2.2 TEACHING TEACHERS

I have previously discussed how I believe children learn, and how I believe teachers should teach – the broad pedagogical methods they should employ – so I now turn to the question of teaching the teachers how to teach. Should we as Teacher Educators employ the same pedagogical methodologies, or should we look to a different set of principles? Are we aiming for the same styles of learning in adults as children? Do we want teachers to be led to understanding or to find it for themselves? And – critically for this work – can we practise what we preach, or do the contingencies and exigencies of authentic classroom-based realities insist that what we do is not what we would espouse doing?

As I noted in Smith (2017), Feiman-Nemser defines four orientations towards teaching. The first of these is the academic, which highlights the fact that teaching is primarily concerned with transmitting knowledge and developing understanding, with a clear emphasis on the teacher as master and the student as novice (see e.g. McDiarmid, Ball, and Anderson, 1989; Shulman, 1986, 1987, all in Feiman-Nemser, 1991). Second is the personal orientation, which places the teacher-learner at the centre of the educational process and shifts the emphasis from teaching to learning. Learning to teach is construed as a process of learning to understand, develop, and use oneself effectively. The teacher's own development becomes a central goal of teacher education (this can be seen as heutagogy, to which we will turn presently). A key aspect of this approach (Combs, 1978; Fuller and Bown, 1975) is the importance of personal interactions with teacher educators who “function as counsellors, helping prospective teachers explore problems, events, themselves, and others” (Feiman-Nemser, 1991 p4). The third approach – the critical orientation – “combines a progressive social vision with a radical critique of schooling: an optimistic faith in the power of education to help shape a new social order; with the understanding that schools have been instrumental in preserving social inequities” (op. cit. p6). Teacher education is seen in this paradigm as playing a part in the larger strategy of creating

a more just and democratic society (see e.g. Freire, 1970; Giroux, 1997). Finally Feiman-Nemser describes the technological orientation, which focuses on knowledge derived from the scientific study of teaching. The key aim is to equip teachers with the means to apply professional knowledge to the tasks of teaching. Learning to teach means acquiring and using research-based principles and practices (Berliner, 1985; Brophy and Good, 1986; Gage, 1978). The technological orientation is generally associated with a training model of learning to teach (Joyce and Showers, 1980; 1984).

Feiman-Nemser makes the point that these different orientations and approaches exist because people hold different expectations for schools and teachers. Taking this relativist position – that people understand, conceptualise and interpret the same goals and the correct pathways to them differently – as being true, teacher educators cannot avoid making choices about which approaches to adopt, whether consciously or unconsciously. I therefore agree with Feiman-Nemser that these decisions must be foregrounded, with deliberations and discussions about the most worthwhile goals and the most appropriate means thus needing to be an ongoing activity in the teacher education community. Her conclusion is that, “in such deliberations, it would be more productive to clarify the kind of teaching one wishes to foster rather than to debate the orientation one favours” (op. cit. p13).

I now return to a point previously made in order to reflect further upon it: that the set of beliefs culturally held by the Primary ITE team is in tension with the practices we use: much of the teaching within the limited time we have with trainees can be seen as occupying the more transmissionist (Harel and Papert, 1991; cf. Schuh, 2004) rather than the learner-centric end of the pedagogical continuum.

Preservice, or trainee, teachers need a blend of content and pedagogy that is unique to the profession (Feiman-Nemser, 1991). Shulman (1986) labelled this "pedagogical content knowledge", and defined it as an inclusion of both useful ways to conceptualise and represent the key material in specific subjects and understanding why different students will find learning those topics difficult or easy (Wilson, Shulman, and Rickert, 1986), to which I would add *along with the professional*

knowledge of what to do with this information, which can be seen as an interpretation of Shulman's 'signature pedagogies of our profession' (Shulman, 2005).

Adult learners are considered distinct from child learners due primarily to the work of Knowles (see e.g. 1975; 1984), who developed the principle of Andragogy. He identified five main characteristics of adult learners: self-direction; a wide variety of experiences from which to draw; a readiness to learn relevant information; a life-centred rather than subject-centred orientation; and barriers that they must overcome in order to be effective learners (Eberle and Childress, 2007). Andragogy is traditionally seen as teacher-centred, but learners are actively involved in identifying their needs and planning on how those needs will be met (McAuliffe *et al.*, 2008). A key attribute of andragogy is *self-directed learning*, defined by Knowles as "a process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes" (Knowles, 1975 p18). A key aim of this self-directed learning is that learners develop the capacity for self-direction, supporting *transformational learning*. Transformational learning can be defined as where learning happens at points on a trajectory directed by the learner as they reflect on their learning in relation to their changing and maturing perceptions and understandings. As they re-establish equilibrium through an expanded worldview (cf. Piaget's cognitive construction) and reflect on this from a perspective of wider experience, the learner perception is adjusted and transformative learning can occur (Mezirow, 1997). There are parallels and shared concepts here with actor-network theory (Latour, 1987), the expansive learning model (Engeström, 1987), the model of knowledge creation (Nonaka and Takeuchi, 1995), communities of practice (Lave and Wenger, 1998, cf. also Wenger, McDermott & Snyder, 2002) and the theory of knowledge building (Bereiter, 2002). What all of these models have in common is the explicit aim of the integration of learning with the systemic reconstruction of the social contexts within which they operate (Senteni and Taurisson, 2005).

The role of the educator in an andragogical approach is that of tutor and mentor, with the instructor developing the capacity of the learner to become more self-directed in

their learning through key support mechanisms: directing learners in how to find information, relating significant information to the learner experience as relevant to their current understanding, ability and progress, and focusing on relating all theoretical content to real-world situations (Eberle and Childress, 2007; McAuliffe *et al.*, 2008).

The key principle of self-directed learning has been given an even stronger voice in Heutagogy. Heutagogy (from *ευρετικός* *heurista* “to discover” and *άγω* *ago*, literally the skills needed *to lead to discover* [oneself]) was defined by Hase and Kenyon in 2000 as the study of self-determined learning. Learners are “the major agents in their own learning, which occurs as a result of personal experiences” (Hase and Kenyon, 2007 p112). The instructor facilitates learning through guidance, but fully surrenders the learning journey to the learner, who negotiates learning and determines what will be learned and how it will be learned (Hase and Kenyon, 2000; Blaschke, 2012).

There are clearly issues here, then, for teacher trainers who have a duty to ensure that certain knowledge and key skills are passed on to the learners. It is not enough, I would argue, to merely ensure access to the learning whilst abdicating all responsibility for its being learned. If it were, then centre-based University training in any field would become redundant, and the distance learning model would become the only sensible option. Indeed, much of the writing on heutagogy is specifically about online learning (see e.g. Eberle and Childress, 2007; Hase and Kenyon, 2007; McAuliffe *et al.*, 2009).

However, there are some useful elements of heutagogy that we may press into service for our adult learners as they strive to become teachers of children. One of these is self-reflection. We expect our trainees to keep learning journals and to complete a series of reflective tasks. In these, we ask the trainees to discuss critical incidents where they felt they learned something useful: Mezirow’s transformative learning experiences. This again has elements of knowledge construction: building on their own experience. We also encourage discussion and dialogue around these critical incidents, leading once more to social construction and learner engagement.

Returning to my point that we as instructors cannot renounce all accountability for learning, the heutagogical answer is that it is important that learners acquire both competencies and capabilities (Stephenson, 1994 as cited in McAuliffe *et al.*, 2008 p3). Competency is seen here as the ability to acquire knowledge and skills, and capability is characterised by learner confidence in their competency and, as a direct result of it, the ability “to take appropriate and effective action to formulate and solve problems in both familiar and unfamiliar and changing settings” (Cairns, 2000, as cited in Gardner *et al.*, 2007 p252). I would still argue, however, that this learner autonomy does not limit nor exempt the instructor from actively passing on subject-specific knowledge or advice from gained experience that the trainee necessarily cannot have. In the heutagogical approach, then, it will be up to the learner to decide whether or not this is worth learning. This has its limits: a trainee teacher cannot decide not to learn what the principles of Systematic Synthetic Phonics are, for example: this is a condition of meeting the current and future standards needed to qualify as a primary teacher (DfE, 2012 p7). In this instance, it would be incumbent upon the instructor to ‘enforce’ this knowledge-gaining, although there are different ways to do this. Heutagogically, the most effective would be through the use of reflective work requiring autonomy and maturity, but still requiring proof. Perhaps a more realistic alternative would be facilitated learning (e.g. ICA-SAE, 2005), whereby trainees are encouraged to take more control of their learning process and instructors facilitate personalised learning of course content, for example having participants work independently to develop an action plan, related to the course content but tailored to their needs.

However, using my own example, the exigencies of a key course I teach on, the PGCE “Core” Module, gives me merely nine sessions – under eighteen hours – with which to prepare trainees to teach all the elements of English proscribed by the National Curriculum (DfE, 2014) to all primary age children. Whilst this is clearly impossible, it is still incumbent upon me to give trainees the maximum input in this time. Along with most practitioners, I aim to offer the most important elements of a subject, and also discuss the key pedagogical approaches to take when teaching these: to bridge the gap between epistemic espousal and pedagogical practice (cf. Feiman-Nemser, 1991 and Shulman 1986, amongst others, discussed previously).

This was highlighted recently when I took part in a stimulated recall interview for a colleague's doctoral research. It was very noticeable on the video that I consciously exposed trainees to my pedagogic thinking at every factual point, discussing at least one practical way that each piece of knowledge could be conveyed to primary children of different ages. An example of this is poetry. It is impractical and unattainable in a two hour lecture to equip trainees with all the subject knowledge they could possibly need to teach poetry adequately – let alone well – to children in the vast age and ability range found within the 5-11 curriculum. Instead, I can hope only to show them to the best of my ability key generic elements that they will be able to draw upon when faced with specific learning objectives in the authentic situations they will encounter in the classrooms, and to foreground the pedagogical approaches they might consider when teaching these elements.

As previously stated, I believe both children and adults learn best experientially; that discovery is more meaningful and transformative than received wisdom. Meaningful learning is “active, constructive, intentional, authentic, and collaborative” (Jonassen *et al.*, 2003, in Blaschke, 2012 p6). Learners need to be “active participants who articulate, reflect, and understand the relevance of what they learn” (Blaschke, 2012 p4). So the question of how to facilitate this within a two-hour session remains. Teacher educators must make conscious decisions about the approaches they adopt in sessions. In my poetry example, I try to be as collaborative and facilitative as possible, allowing trainees to act and do – to engage in writing poetry individually, in groups and with me modelling a shared writing (Routman, 1994; 2005) pedagogical approach – but I must perforce didactically instruct a lot as the ‘master’ to the trainees’ ‘novices’ in Vygotskian parlance. This choice, and its explicit message – that there is and will be much that the trainees will need to read up on, revise and learn for themselves – leads to an expectation on my part that trainees will become heutagogic: will lead themselves to the requisite knowledge, based on the foundations that my input has given them. This is particularly realistic for those trainees who are actively seeking a deeper participation in the culture and community of practice of teachers. It also inevitably leads to an accusation of instructionism. I will return to this shortly.

Underpinning and acting as a catalyst for meaningful learning are the experiences that the trainees undergo. These are pivotal in transformative learning and in trainees' emerging and developing perceptions of their professional identity. Although the trainees experience the teacher-led andragogical processes described above in University-based training, I contend that an even more fundamental role is played by the school-based experiences that the trainees encounter. It is in these authentic environments (Herrington and Herrington, 2006) that 'situated learning' (Lave and Wenger, 1991), or learning that takes place in the same context in which it is applied, best takes place, as demonstrated earlier. This ties in with the developing identities previously discussed: the "student teachers' identity trajectories (Luckmann, 1982) intersect with the processes of mentoring in schools to produce particular versions of professional identity" (Edwards & Ogden, 1998 p174). I have already explored two dichotomous views of this 'becoming' (forced enculturation as against active participation), arguing that the second of these is imbued with a more empowering and self-deterministic character. I concluded that, whilst there are parallels between the paradigms, it is the self-actualising participatory model rather than the oppressive that not only should we as teacher educators espouse but that we enable and see in practice.

However, whilst this is a desirable outcome, and is the trajectorial model of 'becoming' that I both advocate and – for the most part – observe in my role as teacher and tutor of trainees, this reliance on practical experience in school-based attachments does not solve the conundrum I posed initially, and to which I wish to return: whether didactic, instructional methods of teaching work best andragogically for preservice teacher trainees in short timeframes, or whether the facilitative, learner-centric models of pedagogic practice I espouse can work.

A key criticism of the didactic, transmissionist approach is that the learning that results from direct instruction can be seen as lacking in conceptual depth and lacking transferability of understanding to other areas of knowledge or situations (Johnson, 2014). Moreover, it fails to access and engage higher level cognitive skills – those at the upper end of Bloom's ubiquitous taxonomy (Bloom, 1956). The belief that knowledge can be transmitted through a linear method of instruction is the most

common model today, maintains Singh (2009). The constructionist approach, he continues, claims that knowledge cannot be transmitted to a learner; rather the learner needs to construct knowledge by themselves. This freedom to structure knowledge as their inclination and instinct directs them may lead to incorrect understandings and mistakenly accepted truths. Singh, amongst many other writers, argues that to overcome the shortcomings of both these pedagogical approaches, an integrated approach to teaching may prove to be more useful.

Johnson is scornful of some of the positivist and positive meanings I have attributed to certain terms used by constructivists (following, amongst others, Jonassen *et al.*, 2003; Blaschke, 2012), arguing that “terms such as meaningful learning and student-centred instruction are dogma and are not useful in daily classroom practice” (Johnson, 2005 p15). She draws on some key writers (Dahl & Freppon, 1995; Fisher, 1991) to suggest that it is rather active student involvement, intrinsic interest and self-motivation, and an innate satisfaction with learning that form the fundamental benefits of the constructivist approach (see also Hogan & Peterson, 2001; Martinez *et al.*, 2001). And yet, she maintains, direct instruction, whilst undeniably “mechanistic and thereby, to some, dehumanizing” (*op. cit.* p15), is highly effective in facilitating student skill acquisition (Carlson & Francis, 2002; Kameenui & Carnine, 1998). That such an approach can still yield positive learning outcomes seems undeniable, but the question remains of whether it is troubling. Johnson highlights the core strengths of the instructionist approach as being time given over to task- and goal-oriented activity, teacher organisation, corrective feedback, and fixed learning objectives (Hoover & Fabian, 2000; Swanson, 2001).

With clear advantages to elements of both approaches, are teacher educators thus obliged to reconcile the learner-centric freedoms and widely accepted tenets of constructivism with the utility of instructionism? Epistemologically and paradigmatically, knowledge is both objective and subjective: it is “dependent on one’s perspective on it whilst shared understanding can be arrived at through negotiation” (Smith, 2017). The curriculum we must impart is an objective reality but our understanding of it is subject to personal, subjective and contextual interpretation of meaning which may be influenced by any number of factors, for example previous experience, teacher attitude and/or situation-specificity (Steffe & Gale, 1995).

There is literature to show that a combination of the two – tentatively called “instructionist-constructivism” (Johnson, 2005) – may combat the faults of each approach and, in the best practice, embed specific skill instruction in enjoyable and meaningful tasks. The constructivist method’s ability for learners to self-select goals and learning approaches, and the thematic style of programme construction (Honebein, 1996), may contribute to off-task learner behaviour, whereas the teacher-controlled instructivist approach, often using group response, and clear learning criteria (Snow et al., 1998), may be motivational for learners, if not used exclusively or overmuch. This dual approach would allow for systematic instruction not being taught in isolation but within a context of personalised meaning and individual interest for learners. In this context, teaching specific skills is a consequence of student need where meaning and comprehension are emphasised (Strickland, 1998, in Johnson, 2005).

In my own practice, this seems to be the tacit approach I have adopted. Where I have more time – for example, on the undergraduate course where trainees have twenty-four two-hour sessions of English input in each of the first two years – I can adopt the more constructivist, learner-centric approach, albeit with the explicit understanding between me and my colleagues, and between my learners and me, that there are elements that will be directly instructivist in approach, such as the aforementioned systematic synthetic phonics). However, within the very tightly constrained parameters of the PGCE course I do have to adopt an approach that is counter to my wishes, and one which I explicitly state to my learners not to follow when discussing the previously-discussed “signature pedagogies of our profession”. I advise them specifically to avoid this instructivist method of teaching children and to utilise the constructivist approach for all the reasons described throughout. I teach pedagogy andragogically, and expect the learners to heutagogically lead themselves to full, personal, understanding. I have to negotiate the difference between what I say and what I do, but I can live with this paradox, as I believe I still empower my trainees to do the right thing through this.

2.3 PERSONAL EPISTEMOLOGY

As mentioned previously, and explored in Smith (2016a), it is now generally accepted that social constructivist theories in teaching and teacher education are effective ways to theorise teaching and learning. As a direct result of this, teachers are expected to facilitate student-centred learning by helping students to: construct knowledge in social contexts; engage with higher-order thinking rather than 'merely' reproduce knowledge; address real-world poorly-structured problems; and engage in collaborative learning, both with peers and with 'expert' tuition (Elen & Clarebout, 2001; Yang, Chang & Hsu, 2008). This current focus on learners as active agents in their own learning has emerged because we now have a better understanding of how teaching and learning take place in social contexts and how knowledge construction is mediated by tools of technology (Windschitl, 2002). Children learn best experientially; and discovery is more meaningful and transformative than received wisdom. Meaningful learning is "active, constructive, intentional, authentic, and collaborative" (Jonassen *et al.*, 2003, in Blaschke, 2012 p6). Learners need to be "active participants who articulate, reflect, and understand the relevance of what they learn" (Blaschke, 2012 p4).

Although these social constructivist approaches to teaching are thus advocated as good practice, many teachers are challenged by these approaches to teaching (Rosenfield, 2006) and traditional, teacher-centric approaches, which can be seen as transmissionist, or instructionist (Harel and Papert, 1991; cf. Schuh, 2004), often remain the default teaching practice (see e.g. Windschitl, 2002; Yang, Chang & Hsu, 2008). It can be baldly stated that, in order for teachers to engage in these practices, they need to have beliefs that support these approaches to teaching. Brownlee *et al.* (2011) argue that a specific type of teacher belief is under scrutiny here: these are the beliefs that teachers hold about the nature of knowledge and knowing which are referred to as *personal epistemology*. The phrase personal epistemology is used instead of *epistemological beliefs* because it reflects the individual, rather than philosophical, nature of these beliefs (Kitchener, 2002; Sandoval, 2005). Pintrich (2002) states that there is overall support for the notion that personal epistemology involves an individual's cognition about knowing and knowledge.

There is a wealth of literature on inservice teachers and the links between their personal epistemologies and their teaching practices. For example, Maggioni & Parkinson (2008) completed a review of studies that specifically investigate the relationship between the two, and demonstrated that personal epistemologies are generally consistent with the observed teaching practice. This was borne out by studies on, amongst others, Taiwanese secondary teachers (Yang, Chang & Hsu, 2008), mathematics teachers (Muis, 2004), early years practitioners (Brownlee, 2000; 2001), and special education teachers (Jordan & Stanovich, 2003).

There is also evidence that beliefs and practices are not always consistent. Many *et al.*'s (2002) review of the literature shows that teachers may teach in ways inconsistent with their espoused epistemologies and pedagogical beliefs (see also Vacc and Bright, 1999; Wilson and Cooney, 2002). Espoused beliefs should not therefore be considered as predictors of genuine classroom practice. They are not necessarily deliberately disingenuous, but may be considered as representative of intentions rather than actions (Feiman-Nemser *et al.*, 1987; Fosnot, 1989). These intentions may not suit a reality which bears little or no resemblance to the envisioned situation and experiences for which the original intentions were created (Cooney, 1985; Karaagac and Threlfall, 2004, both in Liljedahl, 2008). Other studies that bear this out include Lee & Tsai (2010) and Schraw, Olafson & VanderVeldt (2011). Argyris and Schön (1974) mark the distinction between an individual's practice and espoused pedagogies with the terms 'theory-in-use' and 'espoused theory'. That there is also a clear gap between the two in *preservice* teachers, regardless of the level of sophistication of their personal epistemologies, is attested to by such studies as Olafson *et al.* (2010), Ozgun-Koca & Sen (2006) and White (2000).

A full review of the literature in this fast-growing field (Hofer, 2004) is well beyond the limits of this thesis. As Greene (2007) notes, however, studies from the areas of educational psychology, philosophy and developmental psychology must all be included in order to better understand epistemic cognition, as well as studies – both theoretical and empirical – from the fields of educational research to better comprehend its role in pedagogical practice.

The study of personal epistemology itself still defies concrete definition and scope (Hofer & Pintrich, 1997; Kitchener, 2002), thus allowing for a large range of models, frameworks and perspectives, rendering the task of a review all the harder. Hofer (2004a, 2004b) notes that a range of paradigms for understanding and studying personal epistemologies is evident in the research literature in this field. These paradigms allow researchers to develop “rich understandings about how to promote effective learning and, to a lesser extent, effective teaching in a range of educational contexts” (Brownlee *et al.* 2011 p5). These paradigms include *epistemological development*, *epistemological beliefs*, *epistemological theories*, *epistemic metacognition* and *epistemological resources*. I will discuss each of these briefly, but for the purpose of this review I decided not to categorise the literature in the field as Greene (2007, building on Perry, 1999) proposed, but rather into four paradigmatic fields, based initially on Pintrich’s 2002 system of three broader ways of researching personal epistemology: the cognitive developmental approach (*epistemological development*), the cognitive approach (*epistemological beliefs*, *epistemological theories*, *epistemic metacognition*), and the contextual approach (*epistemological resources*). The key difference is that I have split the cognitive approach into separate sections on beliefs and theories, following Brownlee *et al.* (2011). Throughout this chapter I will follow Brownlee *et al.*’s definition of personal epistemology as both set within the context of teaching and teacher education, and as meaning the teachers’ understanding of and cognition about knowing and knowledge, regardless of the paradigm on which the research is based (Ibid, 2011 p7).

Much of the extant literature on personal epistemology refers to studies that have taken place in academic contexts (Schraw & Sinatra, 2004) and there is an academically-robust body of research that shows how personal epistemologies influence student learning. Kang (2008) asserts, however, that little research has investigated the relationship between personal epistemologies and teaching, and Feucht (2009) states that there is even less in the specific field of teacher education. Hofer (2010) has recently expressed concern that we still lack research evidence in the area of personal epistemologies and teaching practice. In the following

paragraphs I present the current state of research as seen through the four paradigms I described earlier.

The first paradigm is that of *epistemological development*: how a range of education contexts influence the development of personal epistemology (Hofer, 2004a). The formative work of Perry (1970) and King & Kitchener (1994) showed that an individual's worldview can develop from simplistic to more complex, evidence-based understandings. Kuhn & Weinstock (2002) have, more recently, discussed developments in personal epistemology that demonstrated a particular trajectory: absolutist – subjectivist – evaluativist. In their view, individuals can be seen as moving from simplistic, absolute views of knowledge where there is little reflective cognitive behaviour as issues are seen as black-and-white, through to an understanding that personal opinions have a bearing on understanding but knowledge itself, whilst to some degree a personal construction, is received and “largely unexamined”. The final, evaluative, stage is characterised by an understanding that some knowledge is ‘better’ than others and thus any claims to knowledge need to be made after evaluating a range of different theories and perspectives and tentative conclusions made as to the best understanding and its concomitant response. Pintrich (2002) points out that the terms commonly used by the research community to label these different epistemologies are *naïve* and *sophisticated*, terms to which I shall return throughout this chapter. There were a number of models of this understanding of epistemological development created and discussed in the 1980s, generally inspired by Piagetian developmental psychology (Brownlee *et al.*, 2011).

These have been built on by the models advanced in the 1990s (see e.g. Schommer, 1990) that this is too simplistic a framework – that the described stages are too rigid and cannot adequately explain something so fluid as the transitions it attempts to describe – and that, instead, we should comprehend this field through the lens of *epistemological beliefs*, which postulates that personal epistemology consists of a set of independent, multidimensional and potentially self-contradictory beliefs (see e.g. Schommer-Aikens, 2004). Brownlee *et al.* (2011) give the example of an individual

who simultaneously holds a naïve belief about the certainty of knowledge but the more sophisticated understanding that it is a personal construct.

However, there is another body of research that describes personal epistemology as more than this: the research that comprises the field of *epistemological theories* conceptualises personal epistemology as comprising both general and domain-specific theories, for example an individual may have a naïve or general understanding of knowledge itself but a sophisticated comprehension of, for example, mathematics. Hofer (2004a), building on Kitchener (1983), has further developed this theory in order to label and define an emergent field as *Epistemic metacognition*, in which an individual's personal epistemology is seen as the previously-defined set of domain-general and domain-specific theories acting metacognitively – without conscious thought. These metacognitive operations are also seen as contextually, culturally and educationally influenced by the local environment in which they interact: “situated in practice and activated in context” (Hofer, 2004a p46).

Subsequent researchers have expanded this paradigmatic framework. Whilst at first glance it seems a return to the ideas of the 1980s, it focuses rather on generalistic theories of knowledge that can be found anywhere along a continuum of naïve to sophisticated world views. Theorists who explore this field through this paradigm, such as Bendixen & Rule (2004), and Olafson, Schraw & VanderVeldt (2010), describe an individual's personal epistemology as comprised of “multiple beliefs that develop together as an integrated set of beliefs that comprise a unified belief system” (Brownlee *et al.*, 2011). Schraw & Olafson (2008) contrast epistemological worldviews with ontological worldviews as they assert that an individual's beliefs about knowledge are not necessarily related to their beliefs about the nature of reality and being. Others (Brownlee, Purdie & Boulton-Lewis, 2001; Brownlee & Berthelsen, 2006) have described a more inclusive theoretical understanding with the term *personal epistemology*, through which they see an individual's epistemological worldview as comprising all one's “beliefs, attitudes and assumptions about the acquisition, structure, representation and application of knowledge” (Brownlee *et al.*, 2011). Although there is limited research evidence in the area of personal epistemologies and teaching practice, what there is seems to suggest that links

between personal epistemologies and practice may be moderated by the broader teaching and learning environments (Johnson, Woodside-Jiron & Day, 2001; Kang & Wallace, 2005).

Further work has led to the final of these theoretical perspectives: that of the *epistemological resources* paradigm. This was first espoused by Hammer & Elby (2002), and describes an individual's epistemology as a set of context-specific 'resources' that will allow a person to adjust their epistemological lens to the task(s) at hand. A key way of understanding this is to envision personal epistemologies as individually adaptable and variable both between and within individuals, dependent on the context in which they are present. This paradigm has been summarised by Louca *et al.* (2004) as the concept of epistemology being characterised by context-specific resources rather than developmental stages: the idea that ways of knowing the world can vary according to the environmental context.

There is some recent literature that makes varied attempts at unifying two or more of these theories together into a hybrid tool for analysis in order to study elements of personal epistemology (see e.g. Feucht, 2011; Schraw *et al.*, 2011). However, none of these make any concerted effort to tie their contributory theories into a unified explanatory guide to the study of personal epistemology, nor goes far enough in adopting each of the paradigms discussed above into a single unified whole. Whilst seeing the attraction of such a goal, I here contend that more research in this area is needed and I feel secure in leaving such studies out of my present review of the extant literature.

From my studies in this area, I present the following table (Figure 2ii, over) as a synthesis of the findings of the key literature discussed so far as it pertains to the three-way construct of the conceptual frameworks discussed, the personal epistemology of preservice teacher trainees, and the impact of this on their pedagogical practice in "real-world situations" (Eberle and Childress, 2007; McAuliffe *et al.*, 2008).

Figure 2ii

Author(s)	Conceptual framework	Implications for epistemology	Impact on learning/ pedagogical practice
Perry	Developmental: a shift from absolutist to evidence-based ways of knowing	Development is dynamic, and learners are always in flux	Exposure to cognitive disequilibrium leads to movement along the continuum towards relativism
King & Kitchener	Developmental: levels of reflection: from prereflective – quasi-reflective – reflective	Movement through the developmental stages occurs through interaction with the environment and construction of personal meaning	Exposure to ill-structured problems leads to higher-order, evaluative thinking
Schommer	Beliefs: multidimensional beliefs that may be simultaneously naïve and sophisticated	Links between epistemology, self-efficacy and self-regulation	Dilemmas faced by teachers are resolved in different ways based on personal epistemologies
Hofer	Beliefs: 4 beliefs subsumed under 2 general dimensions: <i>the nature of knowing</i> and <i>the process of knowing</i>	Numerous independent factors that comprise and influence an individual's personal epistemology: these beliefs affect what they set out to learn and how successful they are	The more learners reflect on their personal epistemologies, and the more sophisticated they are, the greater learning potential they have
Schraw & Olafson	Theories; multiple beliefs that develop together that comprise a unified belief system	Discussion and reflection aimed at calibrating beliefs and practices	Realist beliefs relate to direct instruction; relativist to learner-centrism and constructivist teaching
Kuhn	Developmental: realist – absolutist – multiplist – evaluativist	Epistemological maturity is a balance of subjectivity and objectivity	Critical thinking is vital in as a means of establishing justification
Brownlee <i>et al.</i>	Developmental	Social reflection on practice leads to ownership and deeper comprehension of personal beliefs	Sophisticated beliefs lead to constructivist practices; naïve beliefs lead to instructionist transmission
Schwartz & Jordan	Personal: individuals identified as on a continuum between <i>pathognomonic</i> and <i>interventionist</i>	Promotion of awareness of theories that underpin knowledge, teaching, and learning.	Interaction with students will impact on teacher attitudes and empathy
Bendixen <i>et al.</i>	Theories: multiple beliefs that develop together that comprise a unified belief system	Use of specific reflective tasks to increase awareness of beliefs	Unspecified
Marra & Palmer	Developmental: individual beliefs across multiple developmental stages	Collaborative reflection and discussion of beliefs on pedagogical choices: deeper comprehension	Discursive reflective and collaborative outcomes
Baxter Magolda	Developmental: Levels of reflection: from absolute – transitional – individual – contextual	Construction of meaning from environment and experience allows individuals to form and re-evaluate their epistemological assumptions	A balance between disequilibrium and commitment to one's own beliefs and sense of self required for learning
Hammer & Elby	Resources	Epistemology as context-specific rather than developmental stages: learners can hold two views and use the relevant one where necessary	Learners can both take instruction from authority yet construct their own knowledge
Bråten & Strømsø	Beliefs, following Hofer	Dimensions of personal epistemology influence learning outcomes – more sophisticated leads to greater comprehension	Reflection through direct discussion of conflicting beliefs, with the aim of aligning beliefs and practices
Tabak & Weinstock	Developmental, based on absolutist, multiplist and evaluativist stances	Differing stances on pedagogy lead to very different outcomes	Relativist epistemologies promote constructivist teaching and higher student autonomy, widening perspectives of both
Pintrich	Overview of all frameworks	Naïve – sophisticated belief trajectory	Not discussed
Ramsden	Theories	Based on weaker or stronger acts of constructivism	Stronger acts help students to use deep-holistic approaches to learning
Yadav <i>et al.</i>	Overview of the developmental, beliefs and theories paradigms	Relativistic nature of education: further longitudinal study needed	Personal epistemologies related to practice, but results inconclusive across literature

Figure 2ii: Synthesis of research

From this table it is clear to see that there is no clear consensus about a definition for the term, or parameters for the study of, personal epistemology. Strengths and weaknesses can be identified in all the four frameworks that I have chosen to subgroup the literature under. I argue here for the idea of individuals' developing epistemological sophistication not as a series of definable stages; but rather as a continuum on which individuals can be pinpointed at a certain moment, with the clear notion that they may move along this continuum in either direction, dependent on contextual, environmental and experiential circumstances.

IMPLICATIONS FOR PRESERVICE TEACHER TRAINEES

Muis (2004) presents strong evidence that an individual's personal epistemology influences learning strategies and learning outcomes in preservice teachers: the more sophisticated the epistemology, the more appropriate the strategies used and the more effective the learning. Ravindran, Greene & DeBacker (2005) provided evidence that personal epistemologies may influence goal-setting, which then impacts on the approach to learning that is used. Results from their studies showed that more sophisticated personal epistemologies were linked to meaningful approaches to learning and mastery goals.

There is a growing body of research (Yadav & Koehler, 2007; Many, Howard & Hoge, 2002; Muis, 2004; Peng & Fitzgerald, 2006) that suggest that personal epistemologies may filter how preservice teachers experience learning in teacher education courses and engage in meaningful approaches to learning. Bråten & Strømsø (2006b) demonstrated how first-year preservice teachers' personal epistemologies about the speed of knowledge acquisition influenced their capacity to engage in critical thinking, and a separate study showed that students with sophisticated personal epistemologies demonstrated better comprehension when reading conflicting texts about a single subject (Bråten & Strømsø, 2006a). This study, alongside Bråten, Strømsø & Samuelstuen (2008) and Peng & Fitzgerald (2006) demonstrate how various dimensions of personal epistemologies may differentially influence learning outcomes in terms of text comprehension.

The social constructivist theories of learning and knowledge-creation are those that most deeply influence writing in this field, but particularly the literature that I have labelled as epistemologically theoretical. Ramsden (2003 in Thompson, Pilgrim & Oliver, 2005), for example, describes what he calls “deep-holistic learning strategies” – building on personal meaning and organising ideas so that links are made to prior knowledge, connecting ideas and evaluating a range of evidence (critical thinking). This is in opposition to surface-atomistic learning (surface meaning with few interconnections made between topics). This has been described by Windschitl (2002) as *strong* and *weak* acts of constructivism. Where teachers promote strong acts of construction with their students, they help students to use the deep-holistic approaches to learning and to build personal meaning. This is characterised by experiential learning, evaluative strategies, collaboration with teacher and peers, and the use of high-order thinking skills (Elen and Clarebout, 2001; Yang, Chang & Hsu, 2008). Teachers who promote weak acts of construction create conditions that only allow for surface-atomistic approaches to learning. These are characterisable by teacher-centric, didactic practices, and imitative activities rather than engagement, which can lead to the reproduction of information without necessarily demonstrating personal understanding. It is in allowing trainees to “surface and examine their beliefs and assumptions” (Feiman-Nemser *et al.*, 1989 p1) and, as a logical extension, their subsequent actions, and to help them engage with reflection that we as teacher educators can help to develop their epistemologies and thus their practices.

From that material I have labelled epistemological beliefs, it can be seen that sophisticated personal epistemologies are related to meaningful approaches to learning (Bondy *et al.*, 2007; Brownlee, Berthelsen & Boulton-Lewis, 2004). Bondy *et al.* report that students with sophisticated personal epistemologies (defined as seeing that knowledge is uncertain and integrated) were more likely to be open to multiple perspectives and to see the interconnections between ideas. Schraw & Sinatra (2004) note that teachers with more sophisticated personal epistemologies are likely to be quite adaptable in terms of teaching strategies and engage more with their students. Weinstock and Roth’s (2012) study shows how teachers’ personal epistemologies are related to their predilections for teaching student autonomy. Tabak & Weinstock (2008) demonstrate that teaching practices related to inquiry

teaching can cultivate certain personal epistemologies in children. These studies all reinforce the notion that naïve personal epistemologies are related to weaker acts of constructivist teaching whereas sophisticated personal epistemologies are linked to strong acts of constructivist teaching (cf. Windschitl, 2002).

Chai, Khine & Teo (2006) assert that preservice teachers' personal epistemologies are related to beliefs/conceptions regarding teaching rather than their actual teaching practice, which reinforces my earlier point about espousal not necessarily being an indicator of practice.

Cheng *et al.* (2009) demonstrated that sophisticated personal epistemological beliefs were found to be related to constructivist conceptions of teaching in preservice teachers just as in in-service staff. Tsai & Liang (2009) found that those with more sophisticated personal epistemologies were more able to listen to and respond effectively to peer feedback and – importantly – to develop more creative, enjoyable and relevant activities. Brownlee *et al.* (2011) show clear links between sophisticated personal epistemologies and child-centred, constructivist teaching interactions. Kienhues, Bromme & Stahl (2008, in Brownlee *et al.*, 2011 p14) contend that teacher education needs to promote sophisticated personal epistemologies not only because of the links between these and meaningful learning but also because a “knowledge economy requires sophisticated approaches to knowing.”

There is a large body of research to support the view that explicit reflection on personal epistemologies may encourage changes in such beliefs. The majority of studies of the personal epistemologies of preservice teachers conclude with a key recommendation for teacher education programmes that personal epistemologies should be an explicit focus on those courses and that students should be encouraged to engage with specific reflection on their beliefs (see e.g. Bondy *et al.*, 2007; Buitink, 2009; Cady, Meier & Lubinski, 2006; Chai *et al.*, 2006; Chan, 2004; Cheng *et al.*, 2009; Liu & Tsai, 2008; Kang, 2008; Silverman, 2007; Tsai and Liang, 2009; Yilmaz-Tuzun & Topcu, 2008). Hobson *et al.* (2008) add that their findings in their review of the literature support recommendations for teacher educators to assist their trainees to ‘surface and examine their initial beliefs and assumptions’ (Feiman-Nemser *et al.*

1989 p1; cf. Fosnot 1996; Edwards and Ogden 1998; Hobson *et al.* 2006). This is echoed by Maggioni & Parkinson (2008) who note that effective teachers explicitly “direct students to what counts as knowledge and appropriate ways of obtaining that knowledge in the specific situation” – a practice they label “epistemological moves” (Maggioni & Parkinson, 2008 p453).

In studies where explicit reflection on preservice teachers’ personal epistemologies has been promoted there is clear evidence of an effect on these epistemologies (Valanides & Angeli, 2005). It was shown that those who engaged in reflection experienced a greater change in personal epistemology than those who had merely completed the tasks.

If preservice teachers are encouraged to reflect on their epistemologies at a metacognitive level they could attain more sophisticated views about the nature of knowledge (Brownlee, Purdie & Boulton-Lewis, 2003; Brownlee, 2004). The personal epistemologies of preservice teachers also seem to be related to their approaches to learning (Brownlee & Berthelsen, 2006; Chan, 2003), teaching goals and strategies (Hashweh, 1996; Kang, 2008) and their teaching practices (Tsai, 2003).

Whilst there is an overwhelming consensus that preservice teachers need to reflect on their personal epistemologies and the nature of critical thinking, it is less clear what methods should be used, or will achieve the greatest results. Brownlee *et al.* (2011) discuss calibration, drawing on the work of Cunningham *et al.* (2004), Maggioni & Parkinson (2008) and Stahl *et al.* (2006). This is the idea that “well-calibrated teachers know what they do and do not know and can therefore seek knowledge in areas that need improvement” (Maggioni & Parkinson, 2008 p454). Stahl *et al.* (in Maggioni & Parkinson, 2008 p455) describe how individuals with sophisticated personal epistemologies were “more able to calibrate their goal setting and planning to the difficulty of the task”. Brownlee *et al.* conclude that preservice teachers need to “engage in explicit reflection on their own personal epistemologies to come to an understanding of them, and then to be shown how to calibrate these personal epistemologies to various teaching contexts” (Brownlee *et al.*, 2011 pp15-6).

Figure 2iii

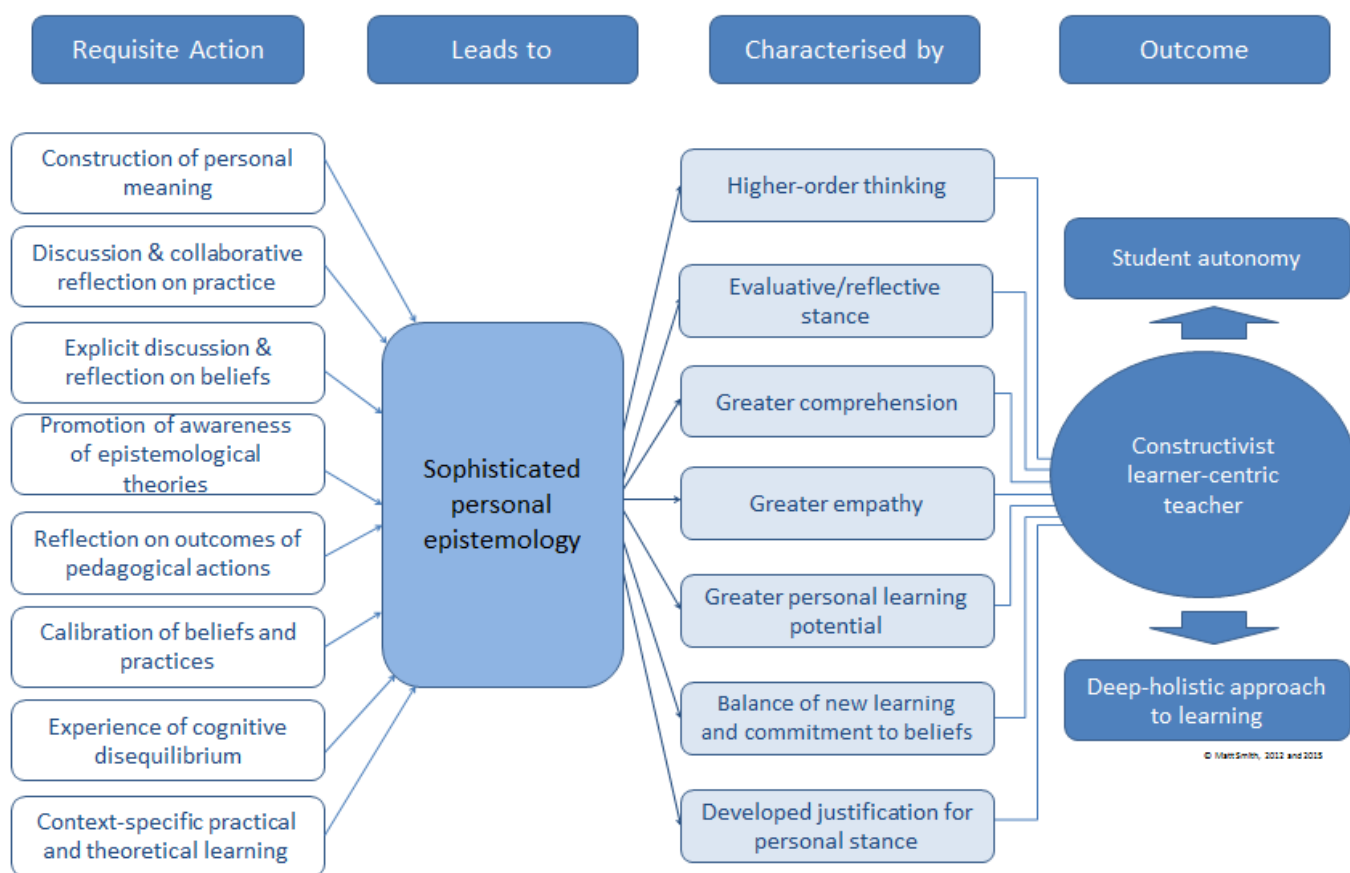


Figure 2iii: the relationship between a sophisticated personal epistemology and constructivist teaching practices

Figure 2iii explains my understanding of how a sophisticated personal epistemology leads to a more constructivist approach to teaching which, as will be remembered from the beginning of this chapter, is commonly held to be a desired outcome by instructors on Primary Initial Teacher Education courses. I therefore maintain that it is important that we, as teacher trainers, allow for the development of exactly these sophisticated personal epistemologies through explicit teaching and exposure to the specific reflective practices mentioned in order to promote the best possible outcomes for the children our trainees will go on to teach in their subsequent careers.

It would be difficult to argue that the development of sophisticated personal epistemologies for those who attend is a desirable outcome or goal for teacher education programmes; however it is reportedly often the case that undergraduates who finish their courses and enter the profession still hold relatively naïve personal epistemologies. “Clearly, in these circumstances, teacher education programmes are

not helping teachers to develop the more sophisticated personal epistemologies needed for teaching” (White, 2000 in Brownlee *et al.* p7). This, in part, has been a driver for my own research.

I will offer further conclusions in the final pages of this thesis, but I would like to note here that, following this discussion, I feel that we as teacher educators should specifically introduce preservice teachers to theories that enable them to think ontologically and epistemologically, and initiate and sustain reflective and discursive practices throughout their courses. Secondly, I suggest that HEIs need to retain relative control over the contexts and experiences that trainees will encounter. These two stratagems together will, I believe, allow for the development of sophisticated personal epistemologies which will lead to effective teaching through a ‘calibration’ of epistemological beliefs with pedagogical practices.

CHAPTER THREE: RESEARCH DESIGN

3.1 RESEARCH PARADIGM

I would describe myself as a strong social constructivist (see e.g. Duffy & Jonassen, 2013; Glaserfeld, 1989) with clear relativist affiliations (Bernstein, 2011; Rorty, 1991): I believe that humans learn in social interactions, and that shared understandings – both cultural and interpersonal – are stronger constructs than individual stances. This could be seen as a hybrid view approaching that of critical realism: that there is, in many cases, an objective reality that can be discovered through empirical observation, but that humans imbue this reality with their own meanings and understandings, “viewed from within their own internally consistent frames of reference” (Hollis and Lukes, 1982 p1). When our study is within the human world, rather than the natural, it can be seen that we are studying something fundamentally different from the physical world and must therefore adapt our strategy to studying it. The mechanisms producing social events can be characterised as in a much greater state of flux than those of the physical world. If we take it, as I intend to for the purposes of this discussion, that human agency is made possible by social structures (Bourdieu, 1977; 1990), and that the individuals that inhabit these social structures are capable of consciously reflecting upon, and changing, the actions that produce them, then we can further postulate that each can understand both the action and the result differently, and that dialogue between the authors of these autonomous accounts is necessary to create a more coherent social meaning and understanding that each of the observers can agree on. In this view, coexisting paradigms are acceptable, in that multiple comprehensions of a single phenomenon can be true dependent on one’s position in relationship to it (Kölbel, 2004; Brogaard, 2007; Hales, 2014), but closer alignment of individual understandings are to be pursued in order to produce a consistent perception in which an individual agent is cognisant of the perspective of the others. This brings us closer to, but not to, the more positivist, dialectic position that there is a construction of reality that different observers can agree on. These can be defined as “contextually specific constructions which bear the mark of the situated contingency and interest structure of the process by which they are generated” (Knorr-Cetina 1981 p226).

Qualitative research can be defined as a “naturalistic, interpretative approach concerned with understanding the meanings that people attach to actions, decisions, beliefs, values and the like within their social world, and understanding the mental mapping process that respondents use to make sense of and interpret the world around them” (Ritchie and Lewis, 2003 p3). Tying together this definition with the relativist position described above, the qualitative aspects of my research – which, it will be remembered, is within a culture that supports and espouses a similar social and co-constructionist approach to teaching and learning – aimed to uncover different perceptions and understandings of what levers exist for the changes that were clearly apparent through my quantitative findings, with autonomous and individual agents each adding their personal assumptions, beliefs and perspectives to an evolving understanding that led to some outcomes and conclusions that were tentatively agreed upon. Inevitably there are many perspectives on a given situation or occurrence – what Maruyama (1991) calls polyocularity – thus for my research to have any meaning, maintains Drake, it is “not a matter of looking harder or more closely but of seeing what frames the seeing, of exploring the spaces I construct, of looking critically at what the research makes visible” (Drake, 2010 p88).

Further, qualitative research is “broadly inductivist, constructionist and interpretivist” (Bryman, 2012 p380). There is an argument that data is not analysed, but ‘interpreted’ (Bryman, 2012, cf. Silverman, 1993), bringing with it the insinuation that findings are preloaded with the interpreter’s personal biases, but trying to use a purely statistical analysis of a topic has several problems. The first is that it assumes the superiority of what can be referred to as the positivist model of research (Hammersley, 2010); and it applies this positivist model to the task of analysis. This model involves a view of science that, critics suggest, may not accurately replicate, capture or describe the ‘messy’ authentic practice of natural science, and thus may not be a sensible ideal for studying human social life. Hammersley argues that natural science necessarily relies on personal or tacit knowledge (cf. Polanyi, 1959; 1966). He denies that science can, or should even attempt to, operate on the basis of fully explicit procedures. This resonates with Davies’ view that purely quantitative and replicable studies are not ‘better’ per se, as the positivist, statistical approach

presupposes; rather the types of question studied by social scientists require more qualitative and 'naturalistic' research methods (Davies, 1999).

I chose a mixed methods approach (Creswell & Clark, 2011) in order to understand the accumulated data and interpretations from as many perspectives as I could, bringing together the statistics and the perceptions of all their observers in order to triangulate to a position as close as possible to an agreement that retains validity and transferability: which would be repeatable in other situations or would bear the same results if repeated with the same participants by another researcher.

Cresswell (the most widely-cited authority in this area of scholarly activity) defines mixed methods research as “a research approach, popular in the social, behavioural, and health sciences, in which researchers collect, analyse, and integrate both quantitative and qualitative data in a single study or in a sustained long-term program of inquiry to address their research questions” (Cresswell, 2013, online). Bryman (who holds a similar position of authority within the UK and educational fields) holds a similar position, describing mixed methods as “the type of research in which a researcher...combines elements of qualitative and quantitative research approaches (e.g., use of qualitative and quantitative viewpoints, data collection, analysis, inference techniques) for the broad purposes of breadth and depth of understanding and corroboration” (Bryman, 2013, online). These two key authors offer a series of justifications and rationales for using mixed methods in research, including the fullness of triangulation that it enables, the way that using both qualitative and quantitative approaches allows one to illustrate or comprehensively support the other, the way that they can enhance and help explain each other, and their ability to reveal further insights and avenues for further exploration. With such a fulsome rationale behind this approach, I feel confident that using mixed methods gave me greater insights into the data and findings, and was the correct methodology to adopt. Were I to repeat the research, I would have no hesitation in using the same tactics.

Both Cresswell and Bryman delineate a series of approaches to mixed methods research. Of these, I have used the explanatory sequential design, whereby I use my

qualitative findings to interpret the quantitative analysis. See Figure 3i (below) to see how this works:

Figure 3i

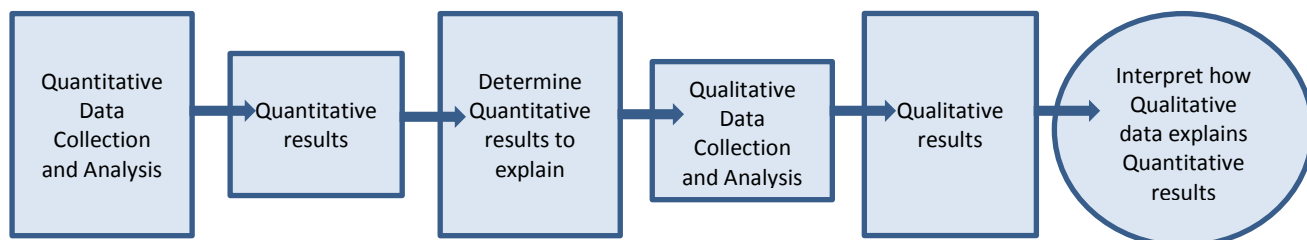


Figure 3i – my research, as described by the Explanatory Sequential Design (Cresswell, 2013).

3.2 RESEARCH SETTING

This was more fully dealt with above, but can be summarised as the Primary department within Initial Teacher Education at a post-1992 University in which the dominant pedagogical, epistemological and ontological positioning can be defined as social constructivist with a clear focus on facilitating learning through transformative and experiential teaching and we aim to enculturate the trainees into these beliefs: they are expected to endorse and espouse this culture. As a Senior Lecturer within this Institution I was explicitly espousing these ideals *to* trainees whilst concomitantly researching both whether they were being assimilated *by* the trainees as regards the teaching of English and whether changes in their pedagogical beliefs and – importantly – practices were as a result of our (and my!) input and teaching, or whether their experiences in schools were having a greater impact. This insider researcher perspective is more fully discussed below.

3.3 RESEARCHER ROLE – THE INSIDER/OUTSIDER PARADOX

Doing endogenous research in my own HEI can be described as ‘insider’ research. Trowler (2011), however, notes that my adoption of ‘insiderness’ was dependent on my own identity positioning – I have chosen to see myself in part as an insider: as part of the community of practice (Lave and Wenger, 1991) under study. However, I do not feel fully immersed; not fully an insider. Gunter describes this as a ‘liquid researcher’ (based on Bauman's *Liquid Modernity* – Gunter, 2014) – sometimes an

insider (for example, in the classroom with my PGCE trainees, with the explicit intention of influencing their pedagogical beliefs and practices), sometimes an outsider (although embedded within a clear power relationship, as defined by Foucault and discussed in Chapter 2): not a student myself; in some of the years not even teaching on the PGCE course. Thus I have inhabited the roles of both insider and outsider *at the same time*.

Drake notes that the kind of research I undertook is not in a “neutral setting” but rather in an “intensely political climate” (Drake, 2010). She goes on to note that insider researchers tend to have outcome expectations and a developed theoretical stance, based on professional experience, before beginning the actual research project – as indeed I did, as I have made clear. She makes the point I articulated previously: that I have chosen methodologies that have enabled me to contemporaneously act as a professional practitioner, teacher, tutor (to some) and a researcher, and that, in the qualitative stage particularly, I have striven not to maintain a gap between myself as the ‘investigator’ and the participants as ‘respondents’, or between respondents and reality, “because it is their constructions of reality that the inquirer seeks to reconstruct” (Lincoln and Guba, 1985 in Drake, 2010 p98). This becomes most evident in Chapter 5 where I report on the Community of Inquiry discursive sessions in which I tried to allow “autonomous and individual agents, each adding their personal assumptions, beliefs and perspectives to an evolving understanding, to lead to some outcomes and conclusions being agreed upon” in a synergistic and dynamic fashion.

Rooney (2005) discussed the issue of the bias when conducting insider research and possible effects on the validity of the entire research process. Following her literature search of case studies she created a series of questions that I have amalgamated and used to obviate the accusations of bias. I reproduce them here, along with my answers.

1. Do the researcher's relationships with subjects have a negative impact on the subjects' behaviour so that they behave in a way that they would not normally?

To this classical 'Hawthorne Effect' dilemma (Adair, 1984), I answer in the negative with confidence for the quantitative results. For the September data, the trainees had no experience of the Institution or of me prior to answering, so this precludes any impact, and the wording of the questions, especially the reverse-coded ones, lends itself I believe to their giving their genuine responses rather than looking to please or appease me. For the July data, trainees had no need to give answers that acquiesced to my hopes – they were by this time fully-fledged (or held themselves to be) members of the community of practice of teachers, having undergone 120 days of school experience, and were, in my opinion, unafraid of giving honest answers. Also, they never had to see me again, so had no fear of comeback. For the qualitative Col sessions, I asked a specific question around this, and the overwhelming consensus was that they felt they could give their own beliefs without fear – otherwise, as one pointed out, what was the point in their being here? They agreed that for the purposes of the professional discussion, they needed to be honest.

2. Did the researcher's prior, tacit knowledge distort results by leading to misinterpretations or false assumptions?

There was clear potential for conflict between my roles as a researcher and a professional, and that participants may have expressed their answers in ways that meet their expectations of my own preferences: the interview bias. My position within the HEI may also have been a constraining factor, limiting who was willing to participate and what was revealed (Smyth and Holian 2008). Mason (2002) also raises the problem of the generation of data using methods and principles that could be seen to express my own epistemological position, but it is my contention that the trainees answered the qualitative surveys authentically with no prior input from me at either timepoint, and the received data was therefore 'true' and valid for analysis 'as is'. The tests carried out (see Chapter 4) demonstrate a high level of statistical significance, with a clear indication that the null hypothesis can be ruled out.

3. *Did hidden politics, loyalties, and other agendas lead the researcher to misrepresent or disregard important data?*

I have clearly articulated my previously-held paradigmatic, methodological and pedagogical beliefs, and striven to report on the discovered patterns and understandings as truthfully as I can.

3.4 METHODS AND METHODOLOGY

My methodological stance has been articulated throughout the thesis, so I will here only briefly repeat that I identify myself as a social constructivist with ‘weak’ relativist (Hacking, 1982; Williams, 1985) affiliations. My goal is to seek and demonstrate shared ‘understandings’ rather than making claims of absolute truth. My choice of instruments was influenced partly by these underpinning paradigmatic beliefs and theoretical leanings, but also by the sort, the depth and the detail of information which I needed to ensure the validity, significance and the reliability of the findings. I deemed the use of questionnaires, for example, to be unsuitable for this type of research as the information collected is usually descriptive rather than explanatory, as noted by Munn *et al.* (2004). They move on to state that “questionnaire data can be superficial whereas information collected from fairly open interviewing is often described as ‘rich’” (*op. cit.*, p7), tying in with Geertz’ (1973) ‘thick’ descriptions.

As I am capturing data across the length of time PGCE students are on the course, my research can be described as longitudinal. McKay (2013) outlines the point of view that longitudinal studies are seen by research funding councils such as the ESRC as more valid than other forms of study. Menard (2008) notes that longitudinal research involves the collection of data on one or more variables on more than one occasion, which allows for researchers to capture a change over that time, and may provide explicit data to explain that change. Designs that take account of time are preferable to those without (Bechhofer and Paterson, 2000). In this respect, it differs from cross-sectional design, which can be simply thought of as the opposite of longitudinal design (SAGE, 2013), involving as it does observations of a sample, or cross-section, of a population (such as the PGCE cohort, or those who chose to participate) made at a single point in time. The advantage of this approach is that

researchers can compare individuals involved in the same activity but who fall within different categories, for example different age groups, or organisations in different localities, which can lead to the identification of differences between them (Bryman, 2008). Evidence of change is inferred from the differences between the groups. For example, researchers may identify a clear difference in the responses of members of the variant categories and speculate that the patterns discernible between these diverse response groupings are caused by age, income, or some other factor (Gilbert, 2008).

Longitudinal research is designed to allow researchers to implement data collection methods of the same phenomena over an extended period; it permits a focus on the trajectories followed by participants; it can help the researcher focus on the time element and the duration of the study if that seems pertinent; and aids in getting a 'fuller' picture of the phenomena and participants under scrutiny. This can be seen as more helpful – more warrantable – in revealing causation, or at least in lessening the likelihood of misinterpreting results from an individual sampling (Bechhofer and Paterson, 2000).

Lizotte *et al.* use the analogy of photographs and moving pictures (Lizotte *et al.* in Krohn *et al.*, 2009). They maintain that cross-sectional research is like a photograph, where subjects are surveyed at one point in time. The researcher studies the subjects in the 'snapshot' and analyses the subjects within it *relative to each other*. Continuing the analogy, in this design the researcher cannot identify – at least not with any clarity or validity – the state of the subjects, the environment or the context prior to the photo being taken. Perceptions on these states elicited from the subjects themselves are fraught with difficulty for the researcher concerned with academic legitimacy: perceptions may be clouded, the subjects being questioned or observed may not accurately recall the situations or prior events and contexts correctly in terms of their sequence or impact, and contexts may well be perceived through a multi-layered set of biases, affiliations, affronts, orientations (to management, for example) and so on. It is also impossible for the subjects under scrutiny to accurately report on future events as everything is measured at a single point in time. So, argue Lizotte *et al.*, in a cross section "one must make at least two dubious assumptions: first, that all

causality happens instantaneously in the snapshot, and second that one knows the causal order of the relationships between events” (Krohn *et al.*, 2009 p46). Whilst advocates of cross sections point to their ease and cost-effectiveness, and maintain that this design allows researchers to measure the cause and effect at the same time, the key deficiency is that it tells us nothing concrete or warrantable about the relationship between the two: it can be difficult to prove one’s assertion as to which is the cause and which the effect. Even if the researcher is correct, at least on the balance of probability, there are academic and ethical difficulties with accepting conclusions without proof.

Contrastingly, longitudinal research, in the same analogy, is more akin to a moving picture, allowing the researcher the ability to have oversight of developments over and through time. In this approach, researchers compare individuals to themselves, thus using each subject as their own control group and comparator (McKay, 2013). Because the picture is available to be interpreted at different points in time, researchers have a greater likelihood of establishing the causal order of any variables identified (Lizotte *et al.* in Krohn *et al.*, 2009). There are, however, difficulties inherent in this approach too, such as unmeasured characteristics affecting the outcome, during or over the period of observation, rendering the conclusions incorrect but at the same time inarguable, unless some astute reader can identify and highlight a possible alternative to the given analysis and conclusions. I have ruled this out due to the tightness of my research design, and the fact that participants had so many opportunities to comment on the influences they felt they had come under, and to argue these amongst themselves and decide on the most likely scenarios.

There are different styles of longitudinal research (McKay, 2013), including Trend Studies, which examine change within a population over time; Cohort Studies, examining specific sub-populations or cohorts as they change over time, usually based on a common starting point; and Panel Studies, which examine the same set of people each time. Whilst mine has characteristics of each, in that I have different cohorts within it, and study the same people at both timepoints, it is a Trend Study, interested above all else in the patterns of shift in pedagogical belief. There are also

two ways of running these longitudinally-designed researches: prospectively and retrospectively (Cohen *et al.*, 2011). The former is by tracking forward from a given point, and the latter by asking respondents to describe what has happened over a given period of time. My study has built in the positive aspects of both these approaches, whereby I have tracked those participants I was able to match scores for through the duration, and have also engaged contributors in descriptive Col sessions.

However, I have also had to contend with the problems inherent in each. With the prospective approach there is the key problem of attrition, whereby for a host of reasons participants leave the study and, particularly for this research, with the final timepoint literally at the end of the students' time with us, there is no opportunity to catch any missed responses. The retrospective approach has to deal with the problem of recall, key elements of which I described above, and also the fact that opinions and perspectives offered will be based on the systems that were in place at the beginning of the study rather than those in place currently. Beyond any of these lies the question of how far any of the decisions take the researcher towards an explanation of any identified trends or conclusions.

There are also inherent difficulties with analyses of longitudinal research (Bryman, 2008). There are 'confounding' issues that may be myriad, although I have tried to design these out through the use of polyocularity upon the phenomena. Selection bias has been negated through the necessity in this of using those who chose to a) participate in the surveys at both timepoints, b) give their student ID numbers both times, and c) take part in the Col sessions or written explanations (those who did so became my *de facto* convenience sample group). I had no control over any of this, and so must take it that any bias in the reported results is unlikely – in the qualitative data, it is almost impossible: the null hypothesis can be safely dismissed. However, despite these numerous objections, longitudinal research designs continue to be lauded for their academic validity when held up against other forms of research, lending my findings greater authority.

Regression to the mean is a hugely important and often overlooked issue in research, especially in longitudinal research (McKay, 2013). A ubiquitous feature of repeated data, it should always be considered as a possible cause of an observed change. I was mindful of this when considering my findings.

I chose to run this research longitudinally rather than on a case-by-case basis in order to have valid results for each cohort rather than potentially unrepresentative data from a select few. Lots of seemingly different approaches can still be classified as case studies (Skelton, 2013). What all these approaches to the use of case studies share is a prominence given to rhetoric around study in depth (Stark and Torrance, 2005) – the concept that focusing in on individuals within a study will reward the researcher with a ‘rich description’ (Geertz, 1973), allowing deeper insights into the processes, the context and the results of the target of the investigation. Where these approaches diversify is “the extent to which researchers are seen as being able to produce a definitive account of the case; from the ‘outside’ as ‘objective’ researchers; or, from the ‘inside’ from a series of possible readings” (Skelton, 2013, drawing on Stark and Torrance, 2005). Yin considers the use of case studies as a strategy for doing research involving empirical investigations of particular contemporary phenomena within their real life contexts, and using multiple sources of evidence to do so (1994, in Yin, 2008). Robson adds that doing so eventuates in the development of deep and broad knowledge about an individual case, or of a small number of related cases from within the wider study (Robson, 2002).

Case studies typically feature the selection of a single case of a situation, individual or group of interest or concern; they study the case in its context; and collect information via a range of data collection techniques including observation, interview and documentary analysis. In doing so, their authors are following the precepts laid down by Yin (see previous paragraph) and enabling themselves to triangulate in to what they see as the essence of the study. Case studies thus are more easily categorised as belong within the qualitative research bracket (Gall, Gall & Borg, 2003; Mertler & Charles, 2005, both in Mann, 2006), although they may well be used quantitatively– and use quantitative data. I will not enter what Gorard (2002, drawing

heavily on Hammersley) has deemed the 'paradigm wars'; suffice it to agree with him in his contention that neither the one nor the other is more useful; rather a synthesis of the two is, as a rule of thumb, a more useful way to understand a given phenomenon under study as even 'pure' statistical analysis can be misunderstood by observers if they fail to take into consideration the social contexts in which the phenomena is situated, and the qualitative elements and features inherent within these contexts, before reaching any conclusions (Gephart 1988). Using a mixture of both methods is, as discussed earlier, particularly useful when trying to reflect different perspectives on a subject, or put quantitative information into a robust real-world context (Johnson and Onwuegbuzie, 2004).

There are a set of assumptions that underpin case study research design, which would need deconstructing, or at least would require a demonstration of why the case study approach was chosen despite these, in order to retain validity. Stark and Torrance (2005) summarise these as the assumptions that social reality is created through social interaction; that social interaction is situated in particular contexts and that these contexts have been arrived at through specific histories; that the 'case' is arrived at through analysis of the perceptions and experiences of the participants; and that it identifies and describes before trying to analyse and theorise. Further to this is the central tenet that subjects themselves can describe what is happening in the social 'reality' under scrutiny authoritatively and accurately. I agree with all of this, and consciously designed the focus group stage to draw on this, to enhance my understanding – and the validity of the research – by drawing on exactly these "perceptions and experiences of the participants" in order to better comprehend and more fully articulate the context.

Two epistemological difficulties arise from the use of case studies: the issues of generalisability and of what constitutes a case. The first issue contains contentious decisions such as where the boundaries need to be drawn – i.e. what will and will not constitute a 'case' within given scenarios: the inclusion/exclusion parameters that have been decided upon by the researchers. More importantly, for me, most authorities agree that it is not possible to generalise from one, or a small number of cases, to the population as a whole, because of the specific contextual and

situational conditions within which the cases operate (see e.g. Mann, 2006). However, there is also a general consensus that case studies – if carried out correctly – do indeed offer a detailed and valid account of the reality they claim to report on, which is the assertion I make for my research and findings.

I have thus triangulated my research and analysis through the use of these complementary methods.

3.5 DATA COLLECTION PROCEDURES

3.5a SURVEYS

The research has been devised to approach the twin questions of what, if any, shifts in pedagogical belief are made by PGCE trainees through the year they study, and what the root causes of any changes in belief may be (the results will be made clear in chapters 4 and 5). To the first end, a scale has been created which consists of twenty-five questions (“items”) answerable on a Likert scale of frequency (see appendix 1). Use of Likert scales is a valid social research tool (Gilbert, 2008) with some key points to recommend it, not least that it builds in degrees of sensitivity and differentiation whilst still operating quantitatively – e.g. it generates numerical data which can be plotted. It also has a unidimensionality in that it only measures one thing at a time (Oppenheim, 1992). Not least, it allows for polytomous answers to be given, allowing the creation of a continuum. There are valid concerns raised in Gilbert (2008): firstly, that there can be no assumption of equal intervals between the possible answers, e.g. the step interval between ‘agree’ and ‘strongly agree’ is not necessarily the same as that between ‘no opinion’ and ‘agree’ leading to some dis coherence between individual respondents’ understanding as to which of the given answers their response more closely aligns to. This argument is perhaps best expressed by Richardson (2014), who claims that closed-ended questions make assumptions about the respondents and assume all rationales are the same, ignoring the fact that that one person’s perception may be different to another.

Other concerns raised by Gilbert include the fact that there is much evidence to support responses being left-side biased; there is no way to ensure that responders

reply honestly; the extremes are often shunned (e.g. given 0-5, the vast majority of answers lie within 1-4); and there is the tendency to cluster answers in a similar area. In answering my questions, trainee responses are expressed numerically, giving me interval data (Fife-Schaw, 2000). In order to combat the problems of clustering and left-hand bias (Gilbert, 2008), some of the questions have been reverse coded so that e.g. “most of the time” becomes the negative response rather than the positive. This involves recoding these questions in the analysis in order to ensure coherence between each response. To answer the question of perception, as expressed by Richardson (*op. cit.*), I would counter that, although drawing conclusions at certain times about participants within cohorts that may not have the same assumptions and rationales, the overarching aim of my research is to compare the same individual participants’ responses longitudinally against each other and I believe it to be reasonable to assume that their individual rationales and their understanding of, and reactions to, the survey questions remain consistent between the two time periods of data collection.

Pampaka *et al.* (2008) argue for the use of a smaller Likert scale of four, or even three, points to alleviate the previously raised problems of clustering and avoidance of the extremes but academic advice would lean towards being a scale between five and eleven points with seven perhaps being the optimum (Cohen *et al.*, 2011). Nevertheless I feel that five is a useful number for the scale I have adopted with a more manageable scale of steps that respondents can understand without linguistic nuances between, for example, “often” and “regularly”: this also helps further counter the previously raised criticism of respondent perception. Further to this, as is inherent in all questionnaires, there was no potential for ‘interviewer variability’ (Bryman, 2004), which helped ensure that the initial data was as unbiased as could be made.

The findings from each of the iterations of the survey were analysed initially using Excel, which enabled simple recoding of the reverse-coded answers and averages to be calculated automatically. For more in-depth data mining, the common tool SPSS (Version 20.0) was used, which helped in performing median sign and Wilcoxon Signed-Rank tests to better understand the significance of data and in analysing it.

3.5b COMMUNITY OF INQUIRY SESSIONS

In attempting to uncover the fundamentals for the observed continuum shifts – what the prerequisites are for change to take place, and whether this is the same for all individuals under study and, by inference, for the entire population of primary teacher trainees – I feel that I was investigating the tacit learning problem of academic learning and experiential learning being nominally in different silos. I was exploring whether what my trainees learn experientially in authentic situations (Herrington and Herrington, 2006) matches the more didactic, taught material they had in centre-based training. Changing the *habitus* (Bourdieu, 1990) will bring with it implicit problems. As instructors, we may have helped the trainees create a learner-centric constructivist theory but putting this theory into practice may well be constrained by the authentic experiences that they undergo (Cooney, 1985 in Liljedahl, 2008). Argyris and Schon (1974) denote the distinction between the theory that students *advocate* and that which they *adopt* in practice with the terms ‘theory-in-use’ and ‘espoused theory’. “A practical theory contains all the terms, notions, perceptions, opinions and convictions that the student teacher uses when preparing, delivering and evaluating teaching and when thinking about teaching” (Buitink, 2009 p119; cf. Eraut, 1994). Practical theory, on the other hand, is based on trainees’ personal and professional experiences (Calderhead, 1988; Johnston, 1992). I specifically explored the links between both academic and authentic experiences, and the shifts on the continuum made by the trainees.

Following the principles of heutagogy (Hase and Kenyon 2001; 2003), I engaged trainees in giving reflective accounts of transformative incidents within a dialogue-based environment, which encouraged them to explore their answers rather than merely voice them. These were in answer to questions posed so as to elicit an answer that involves the double-loop learning cycle (Argyris and Schön, 1978 – see Figure 3ii, over) as the sessions started off by prompting the trainee to think of their previously-held belief(s) and finish by asking if these had changed and how.

Figure 3ii

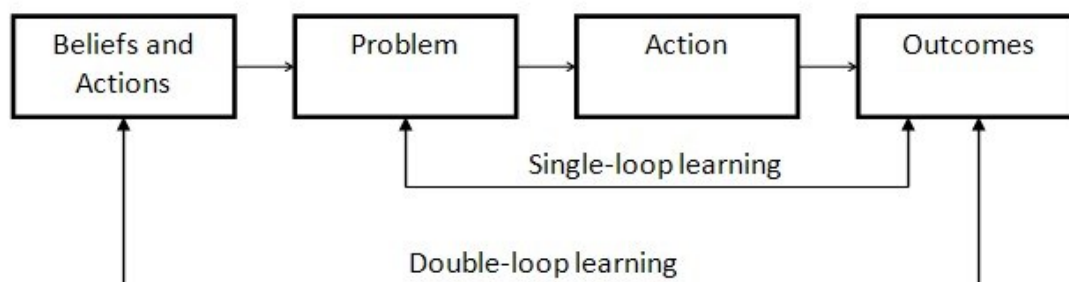


Figure 3ii: Double-loop learning (Argyris and Schön), as shown in Eberle (2009 p183).

These reflective accounts were formed through Community of Inquiry (Dewey, 1938; Garrison et al. 2000) focus group sessions where trainees discussed these issues and experiences with each other in order “to construct meaning through sustained communication” (Garrison et al. 2001). This resonates with the ‘distributed mind’ notion of Vygotsky (in Cole *et al.*, 1997), which suggests that knowledge does not reside in any one mind nor in the environment; rather knowledge is a network of interconnected and overlapping representations of truth distributed within and across social networks or discourse communities and what ‘truth is’ is continually re-negotiated. Through interaction we share, construct, refine and revise such meanings of ‘truth’. Participants in this research engaged in dialogue between themselves (mediated by myself) so as to both clarify their own positions (especially as they changed across the year) and to further investigate the notion of whether a positivist position can be reached where the trainees unify their perspectives into a jointly-held locus.

This ‘distributed mind’ notion of Vygotsky was extended by Cohen and Stewart (1997) into the broader term ‘extelligence’, which they define as all the cultural capital that is available to humanity in terms of its shared knowledge. They contrast extelligence with intelligence, by which they mean the knowledge and cognitive processes within an individual brain. Further, they regard the interplay between the intelligence of an individual and the extelligence of culture and society that is both passed on as memes or a memplex (Dawkins, 1976; Latour, 1993) and desired to

be known as fundamental to the development of consciousness for the individual. This can also be seen as a lineal descendant of the constructivism of Piaget, Dewar and Kolb. An interesting aspect of this is the relation between subjective knowledge (the extrinsic), objective knowledge (the intrinsic) and the mediation of this knowledge through, and represented by, man-made artefacts (language, for the purposes of this thesis) that was discussed by Popper (1979). A key aspect of Cohen and Stewart's view is the way they describe an individual's relation to the pooled sum of human knowledge. They propose that no one can access it all; rather, each individual accesses the parts of the total extelligence space that their intelligence can comprehend, or desires to. I would add – as I have proposed throughout – that this process is mediated socially, either through the intervention of a more knowledgeable other (Vygotsky, 1974) or experienced as a dialogue. An objection that can be raised is in situations where there is no overt social intervention: no 'teacher' or other member of society that is guiding one to knowledge. This, however, may be dispensed with, as to have got to a state where heutagogy (which, it will be remembered, is leading oneself to knowledge) is possible, so much cultural interaction must have taken place *a priori* that the social mediation may be considered as implicit. Piaget went further, describing the process as the dialogue between novice and expert becoming less explicit as these types of dialogue are also internalised by the growing child, progressively becoming a silent dialectic: in other words we argue with ourselves and construct our learning as if in communication with another. For the purposes of this thesis, however, I intend to assume that the trainees I am discussing were learning in a socially-mediated fashion: dialogically, and within overlapping and congruent social contexts.

I chose to use focus groups rather than series of interviews because of the "quasi-unique" affordances (Kamberelis & Dimitradis, 2013 p39) they offer. A (non-systematic) trawl of literature in which focus groups have formed part of the data collection methods has shown that those who use them do so specifically when consensus or debate is wanted to explore perceptions and investigate whether participants are in agreement or not; to provide spaces for debate and possible resolution; as a mechanism for helping people generate and share their ideas, especially when the interaction between the participants allows members to

understand and articulate their own thinking more effectively and ‘sparks’ a discussion that offer a rich and ‘thick’ illustration of the topic under study; and when common trends are under exploration.

A key element of this technique, for me, is the deconstruction of the traditional power frames and the decolonisation of the dominant pedagogical worldview that comes with the empowerment of participants as co-creators of understanding, and as co-inquirers with the researcher, which has clear reflections of the learner-centric pedagogies I espouse. Once the parameters are framed, participants can ‘own’ the space, mitigating some of the traditional power relationships between trainees and tutor. Although these conversations and discussions are not entirely natural, the outcomes can be seen to be more realistic and naturalistic than a conflation of a series of individual interviews. Kamberelis & Dimitradis note that focus groups can lead to the emergence of “more focused, richer, more complex and more nuanced” outcomes (*op. cit.* p40) and that they can help explain bald quantitative statistics. An extremely useful function of them is to highlight these nuances and dissimilarities and hold them up for discussion amongst practitioners who are describing their own *habitus* (Bourdieu, 1990). Finally, the social nature of focus groups brings forth a ‘synergy’ of perspectives, allowing exactly that confluence of different perceptions discussed in Chapters 2 and, at greater length, 3 to emerge. Moreover, as a direct result of the evaluative and discursive nature – especially within a community of practice – focus groups can “surface eclipsed or invisible connections between constitutive social, cultural and political structures and forces ... (i.e. they are) effective tools for making the invisible visible” (Kamberelis & Dimitradis, 2013 p40), which both answers the concern raised in section 3.3b and is exactly what I was aiming to do.

Given my stated position on how our use and understanding of language helps frame, to some extent, our perspective on an issue, it follows that I wanted to involve participants in my research in dialogue between themselves.

The theoretical framework of the Community of Inquiry (hereafter Col) is based on the work of Pierce and Dewey and can be described as empirical or conceptual

inquiry into problematic situations (Dewey, 1938) by groups of individuals. This has been substantially built on by later educationalists (see e.g. Lipman, 2003) and used most notably by Garrison, Anderson and Archer (2000), who developed the Col model as an online learning research tool, which has been described as “a comprehensive theoretical framework for research into both online learning and the practice of online instruction” (Arbaugh *et al.*, 2010, in Gorsky *et al.*, 2010). The model emerged in the specific context of computer conferencing in higher education, that is, asynchronous, text-based group discussions (Garrison, Anderson, & Archer, 2010). It has subsequently led on to a large amount of empirical research internationally, many of which studies have been published widely (Akyol *et al.*, 2009; Garrison, Cleveland-Innes, Koole, & Kappelman, 2006).

Lipman (2003) offered a useful set of antonymic statements that contrasts the dominant (transmissionist) educational paradigm with the more reflective and learner-centric educational paradigm in which he states communities of inquiry can more naturally occur. The following lists of statements are taken from this work:

What Lipman designated as the ‘standard’ paradigm poses the following:

- Education consists in the transmission of knowledge from those who know to those who don’t know
- Knowledge is about the world, and our knowledge of the world is unambiguous, unequivocal, and unmysterious
- Knowledge is distributed among disciplines that are non-overlapping and together are exhaustive of the world to be known
- The teacher plays an authoritative role in educational process, for only if teachers know can students learn what they know
- Students acquire knowledge by absorbing information, i.e., data about species; an educated mind is a well-stocked mind (*op. cit.* p18).

The reflective (and thus learner-centric and co-constructivist) paradigm, in contrast, poses the following:

- Education is the outcome of participation in a teacher-guided community of inquiry

- Teachers stir students to think about the world when teachers reveal knowledge to be ambiguous, equivocal, and mysterious,
- Knowledge disciplines are overlapping and therefore problematic,
- Teachers are ready to concede fallibility,
- Students are expected to be reflective and increasingly reasonable and judicious
- The educational process is not information acquisition but a grasp of relationships among disciplines (*op. cit.* p19).

Lipman held that a community of inquiry can “be seen to exist to the degree that it avoids the qualities of this standard paradigm and shows the qualities of this reflective paradigm” (p19). Whilst Lipman was making a broader point about the educational and pedagogical virtues of a learner-centric approach in the classroom, opening up education to be a co-constructivist, students-as-partners and as co-inquirers approach (which is heavily endorsed by the Higher Education Academy in the UK: see e.g. HEA 2013; HEA 2016), these definitions and statements help define the aims, methodology and outcomes I planned for.

Col is described by Garrison *et al.* as constituting three elements essential to an educational transaction – cognitive presence, social presence, and teaching presence (Ling, 2007) – see Figure 3iii, below.

Figure 3iii



Figure 3iii: the Community of Inquiry Model (Garrison & Vaughan, 2008, Figure 2.1, p. 18).

Cognitive presence is defined as “the extent to which participants are able to construct meaning through sustained communication” (Garrison *et al.*, 2000 p.4), although it can be extended to the intellectual context in which the inquiry can take place. Social presence, a term first coined by Short, Williams, and Christie (1976), is used in this model to refer to “the ability of participants in the Community of Inquiry to project their personal characteristics into the community, thereby presenting themselves to the other participants as ‘real people’” (Garrison *et al.*, 2000 p4) through whatever means of communication is being used – focus groups in my case. Garrison *et al.* (2000) contend that this social presence supports both the cognitive and teaching presences through its ability to instigate, to sustain, and to support interaction. Teaching presence includes subject matter expertise, the design and management of learning, and the facilitation of active learning (Anderson, Rourke, Garrison, & Archer, 2001, in Ling, 2007), and is aimed specifically at “realising personally meaningful and educationally worthwhile learning outcomes” (*op. cit.* p5) or, in this case, meaningful and worthwhile research findings.

I did not run Col sessions for each iteration as, during the pilot and the first two full years, I had no clear understanding of what questions I needed to ask, nor any real comprehension of the emergent patterns. It was not until after I had collated and run preliminary analyses of the first three years’ worth of quantitative survey data that I was able to determine the avenues I needed to pursue in order to further investigate, and try to gain collegiate understanding of, the developing patterns, trends and findings.

The Col focus group interviews I held all took place in the HEI at the most opportune time in order not to discomfit or inconvenience the participants. These were very difficult to recruit to and to schedule as the trainees have extremely compact and full timetables during their constrained time in centre, and when they are on attachment it is impossibly impractical to get them together, as primary teaching is such a time-intensive occupation with different schools operating differing policies on marking, planning expectations, staff meeting times, etc. This meant, in practice, collecting whoever was available and willing to participate in the

few opportunities I identified. Rather than being a drawback, I feel this adds to the veracity and authenticity of the conclusions and consensuses that were reached, as it was almost blind assignment with no possibility of weighting the argument in a given direction or freighting the group with individuals who represented a specific perspective from any point on the continuum. A digital voice recorder was used to capture the interviews, allowing for downloading of the recordings directly on to a laptop to aid transcription. All data were burnt to an unmarked CD kept in a locked cabinet and all remaining copies of the transcriptions deleted upon completion of the transcription process. Participants identified themselves with a chosen name during the actual focus groups, and all identities remain concealed through the use of these chosen pseudonyms where quoting. The focus group interviews were transcribed to allow for coding. These typed transcripts were emailed to participants within three weeks of interview in order to ascertain their accuracy and to validate that it was a true representation of what had transpired. At no time was this accuracy refuted or called into question. The answers to key questions raised from the initial quantitative analysis and commonalities among the descriptions leading to that 'synergy' discussed below were identified through coding and analysis and specific quotes were identified to support these findings (Lofland *et al.*, 2006).

There are benefits and drawbacks to using focus groups, but Bryman notes that argumentation may give a researcher more realistic data, as participants, once challenged, are perforce made to think about, defend and possibly revise their view (Bryman, 2012). This may bring us closer to the previously-discussed positivist position of a jointly-held consensus, even if each participant views it through the prisms of their individual understanding and epistemology.

I intended to manage my role as moderator in these Col sessions in the manner described by Fenton *et al.* (1998): in the region between the entirely open-ended and the more structured approach espoused by e.g. Schlesinger *et al.* (1992, in Bryman, 2012). Broad questions for discussion were planned, but interventions were occasionally necessary in order to ensure trainees remained 'on-topic' and to gain specific insights into my research areas. I make explicit in my reporting the interaction that took place, as this distinguishes my work from interviews (Kitzinger,

1994; cf. Wilkinson, 1998, in Bryman, 2012). I use transcripts to show key passages where trainees have come to a useful syncretic conclusion on an aspect of their experience. In her oft-cited key text, Kitzinger (1994) specifies two types of interaction: complementary, where participants help the researcher by reaching a consensus of description that helps frame their paradigmatic worldview; and argumentative, which – as seen – forces participants to investigate more deeply their thoughts on issues in order to articulate them more fully.

A “critical role” (Roller and Lavrakas, 2015 p113) of the moderator is that they need to “deal with group dynamics, individual personalities, possible disruptive behaviour and potential runaway dialogue... (but also)... exude an authority, minimise bias from domineering participants etc.” which I maintain that I achieved, whilst mindful of the importance of my “continuous assessment of the interactions between various participants” (Grønkjær *et al.*, 2011 p25).

3.5c OTHER DATA COLLECTION PROCEDURES

After the first set of Col sessions, I realised that although I had a wealth of ‘rich’ and ‘thick’ description, of nuanced and complex perspectives on the data under study and on the underpinning reasons for the quantitative results, it was not fully representative of the participant body, selected as it was in a random and arbitrary manner. In order to gain even wider perspectival accounts, I created an option for all participants to answer some additional questions in one of two ways – either to respond to an online survey, or to submit written notes on an additional piece of paper handed out on the final day to all the PGCE trainees from the final two cohorts who were present for their valedictory lecture. This allowed me to capture a wider set of qualitative responses than just those who participated in the Col sessions. Across the two years and the two forms of submission, I received 165 sets of responses to a short survey and 99 sets of written answers, which I again subjected to a coding analysis in order to have as broad a set of responses and understandings on the subject as I could achieve.

3.6 DATA ANALYSIS

3.6a DATA ANALYSIS: QUANTITATIVE

Although there will be a more in-depth discussion in Chapter 4 along with the displayed data, here follows a brief outline of the processes undergone. With the Likert scale data from the survey questionnaires, an Excel spreadsheet was created to correspond with the questionnaire items, which recoded the reverse-coded answers automatically, which allowed the data to be analysed in a variety of ways:

- Responses to questions by each individual and their average 'person score' for placement on the created continuum
- Responses to each question, or 'item' collectively and an average calculated
- Responses to questions by cohort, gender, age, ethnicity etc.
- Responses from each member of the focus group to match their statements and shared perceptions with their underlying espoused beliefs
- Matched data for person scores – how individuals shift on the continuum across the longitudinal study
- Matched data for item scores – how each cohort, and all respondents together, shift in their answers to each question
- Matched data for cohorts, and those in the gender, age, ethnicity groupings identified
- Matched data, where possible, for Col participants to match their statements and shared perceptions with their shifts in beliefs across the longitudinal study

In this way, it has been possible to identify and comment upon trends and patterns for individuals, for cohorts, for the entire body of participants across the four years of study and for the identified groups at individual timepoints and longitudinally, and to create diagrammatic representations of the person and item scores data at each timepoint and of the patterns of shift described by the individuals and cohorts and within the items.

Further to this, the use of SPSS has allowed for greater depth of investigation and validation of the significance of the findings using Pearson bivariate correlations, Wilcoxon Signed-Rank and median sign tests, and the creation of further graphs and charts to demonstrate the points made.

I make the point here that I am no statistician. I chose to follow this approach to my data collection and analysis to both more closely follow Swan's work and for my own professional development. As an English specialist whose previous work has always been qualitative, I was out of my comfort zone during this period, and wish to acknowledge Dr Ian Davison at the University of Birmingham and Professor Alan Tuckett of the University of Wolverhampton for their support, both face to face and via email, in helping me understand the techniques and the results.

3.6b DATA ANALYSIS: QUALITATIVE

Analysing the written responses and, even more so, the recorded Col sessions required a more labour-intensive process. Each questionnaire/survey was typed up into Excel along with their ID numbers and shifts on the continuum if they could be identified. I then read through and highlighted key words or phrases in a simple code, identifying which I felt were positive and which negative. This allowed me to identify common themes and to highlight oddities and anomalies. The transcripts of the Col sessions required a very structured approach. Each transcript was typed up by me alone, which allowed me to refresh my memory of, and gain a useful initial insight into, what the discussions had been and what conclusions had been tentatively agreed. In order to maximise the opportunities this afforded me, a document was established and kept alongside my transcriptions to record anything seemingly significant as I encountered it (Bryman, 2015; Cohen et al., 2011; cf. the 'memoing' of Merriam, 2009). When completed, each transcript was read once cursorily for initial impressions to sink in, and then in detail over several weeks in order to gain the fullest insight into the accumulated data. Each time I went through the transcript I attempted to code the data (Strauss & Corbin, 1998; Gilbert, 2008). Saldana (2009 p4) observes that "coding is the transitional process between data collection and more extensive data analysis." It certainly allowed me to synthesise and group the participant responses, pulling together both contrasting and similar ideas, and linking key data and direct quotes to my growing understanding of the answers to my research questions, creating links between the ideas and notions of the research (Richards & Morse, 2012).

3.7 ETHICAL ISSUES AND NEGOTIATING RESEARCH RELATIONSHIPS

Ethics can be defined as “rules of conduct that enable us to operate defensibly in the political contexts in which we have to conduct educational research” (Simons, 1995 in Pring, 2000 p142). Cohen, Manion and Morrison (2011 p75) define a series of ethical considerations that must be addressed, and I give them here in full:

- a) informed consent;
- b) gaining access to and acceptance in the research setting;
- c) ethics in social research generally;
- d) sources of tension in the ethical debate;
- e) dilemmas confronting the researcher (privacy, anonymity, deception etc.);
- f) ethical issues in research methods;
- g) ethics and evaluative research;
- h) regulatory ethical frameworks;
- i) personal codes of conduct;
- j) sponsored research; and
- k) responsibilities to the research community.

This research was not sponsored in any way (3.7j), so I shall dispense with this consideration and, in the interests of brevity, sections c, d, f, g, i and k will be subsumed within other sections. Each of these important elements of the ethical debate is dealt with within the wider parameters of sections a-e and h which, after a brief introduction to the topic of ethics in research, I shall address seriatim, firstly generically and then with specific regard to my research.

Researching social life and aspects thereof inevitably means investigating people and their practices. With so many possibilities for offence, endangerment, embarrassment or harm at each stage of the research – the nature of the research query, the questions asked, the nature of the participants, the methods used, the data collected and its publication (Cohen *et al.*, *op. cit.* p76) – it is scant wonder that a host of regulatory bodies have developed and rules have been declared within the frameworks, literature, practices and agencies of these bodies in each field of research. However, as Simons and Usher (2000) point out, each individual act of research is an event unto itself, with its own situatedness and the ethical

considerations must be understood to be interpreted within localities, historicities and situations that may not ever align again.

At its most basic level, ethics can be understood as a benefits/cost analysis and trade-off (Frankfort-Nachmias and Nachmias, 1992): what the benefits to society/ research/the field (or the expected or purported benefits) are or may be need to considered against what the personal costs to participants might be. These could be personal embarrassment, loss of status or 'face', possibility of facing harm etc. As Frankfort-Nachmias and Nachmias note, this has to be subjective and there can be no clear absolutes, which correlates with Simons and Usher's point about individual and event-specific interpretation. Within the quantitative element of my research I was not much concerned with this, as the participants were only asked their own beliefs at two timepoints and were not asked to pursue this any further. However, in the qualitative aspect, this became more of an issue to resolve, as there was the possibility, especially in the face-to-face Col sessions, that participants risked humiliation or loss of face if their ideas, beliefs or interpretations were ignored, ridiculed or outvoted.

3.7a INFORMED CONSENT

Informed consent is one of the "fundamental concepts in research" (Cohen *et al.*, *op. cit.* p76). Diener and Crandall's classic (1978) text defines this as "the procedures in which individuals choose whether to participate...after being informed of facts that would be likely to influence their decision", and demarcate four elements that help determine whether individuals will make the correct decisions as to whether or not to participate: briefly, competence (whether the individual is responsible, mature and psychologically equipped enough to make a choice); voluntarism (participants freely choosing to participate or not); full information (potential participants are given as much information as possible about the research, except in the cases where outcomes are unknown or withholding certain facts for the integrity of the research) and comprehension (participants fully understanding the research undertaking and any concomitant risks). Oliver (2010) notes that difficulties may arise with informed consent in situations where participants are part of a defined hierarchy, and many authoritative texts discuss the potential risks when using informed consent with

minors and other vulnerable groups on the grounds of 'competence' (see, e.g. Cohen *et al.*, *op. cit.*; Crano *et al.*, 2015; Fine and Sandstrom, 1988; Greig and Taylor, 1999).

Gibbs states that "there are some aspects of qualitative data and their collection which can raise ethical issues. Perhaps the most significant is that the qualitative data are usually very personal or individual" (Gibbs, 2008 p8). As noted above, the quantitative data was given by trainees who chose to complete, either on paper or online, a survey into their beliefs. This was accompanied by an explanation of the purposes of my research and the clear choice to consent to participation or to refuse. Informed consent also implies informed refusal, as the subject(s) must have the right to either refuse to participate or to withdraw at any time throughout the research timeframe (see, e.g., Frankfort-Nachmias and Nachmias, 1992). Similarly, Miller *et al.* (2012) believe that consent should be an ongoing aspect which can be renegotiated between the researcher and participant. In the case of my research, trainees were enabled to choose whether to participate longitudinally by completing the second survey or not, again with an accompanying explanatory passage.

Cohen *et al.* (2011) maintain that, at the least, it should have been made clear to the potential participants what I was studying, how they would take part, any potential risks, how the data would be collected and disseminated, potential benefits, their right of refusal at any stage, their rights to confidentiality and anonymity (where possible – certainly from external recognition, even though this is impossible within face-to-face dialogic sessions internally), opportunities to ask questions, and signed consent.

In order to achieve these, the explanations I offered alongside the survey (see Appendix One) sought to make it clear that: in this instance I was studying the long-term effects of being on a Postgraduate Certificate of Education course on the teaching beliefs of the participants; that I could not foresee any risks or harm to them through answering the survey sight unseen with no judgments being made through this; that all data collated would form part of my doctoral thesis; that they would be helping me and – hopefully – the wider research community through their answers;

that they would maintain confidentiality as their answers would be discussed with no-one and anonymity as they were identified only by their student IDs to me, not their names, and that even these would not be disclosed to anyone else; that questions were welcomed; and that by giving their ID number and actively participating they were consenting in an informed manner so to do. For more, see section 3.7e.

At the final quantitative data collection timepoint, all trainees were reminded that this was forming part of my research, was intended for publication and given the same information as they had been at the start of the year. In these ways, I believe that the ethical consideration of informed consent has been met through all the quantitative stages of research. For further deliberation on the qualitative aspects, see section 3.7e, where I discuss voluntarism as opposed to coercion.

3.7b GAINING ACCESS TO AND ACCEPTANCE IN THE RESEARCH SETTING

This was not, on the surface, difficult. Once I had been granted initial ethical approval by my own Institutional Ethic Committee, I had access to the trainees I wished to use as subjects, and had automatic acceptance from them firstly as a member of staff, and secondly as someone engaged in research as part of my role within an academic institution. My right to be there was never questioned, and my authority to be asking the questions was taken seriously by staff and students throughout. This ‘endogenous’ research (Maruyama, 1991) carried clear benefits: I had better access than would have been accorded me as an outsider to both “naturalistic data and to respondents” (Trowler, 2011), which she moves on to describe as better enabling me to produce ‘emic’ accounts (ones meaningful to the actors within the research and the setting), and to “use naturalistic data, critical discourse analysis and phenomenography, because (I am) ‘culturally literate’” (*op. cit.* p2) in the setting and community of practice (Lave and Wenger, 1991) I was researching, with a ‘feel for the game and the hidden rules’ (Bourdieu 1988 p27). It was also, of course, more practical to research within my own HEI. Although I attempted to widen out the research to other Institutions, this proved difficult longitudinally, as described elsewhere. As Trowler notes, I was “empowered to offer a thick description (Geertz, 1973) of lived realities, of the hermeneutics of everyday life” (*op. cit.* p2).

There are, of course, arguments that only outsiders can produce genuinely objective research (as discussed – and dismissed as a fallacy – by Merton, 1972), and the legitimate point that being embedded within the situation has made it much harder to produce a culturally neutral, ‘etic’ account of my findings. I have tried throughout to foreground my own paradigms and methodologies in order to warrant my findings against this accusation (Gorard, 2002), as I understand the importance of understanding my own context and role(s) as part of a narrative interpretation (Angrosino, 2005). I have attempted to remove myself in order to observe as neutrally as possible the dimensions under discussion, but admit that behaviours, thoughts and practices that are habitualised and ‘normal’ for me in my roles may have been ignored or represented without explanation as I may not have recognised the need for their inclusion. I have tried throughout to ensure that this has not happened – “there is no neutrality. There is only greater or less awareness of one’s biases. And if you do not appreciate the force of what you’re leaving out, you are not fully in command of what you’re doing” (Rose, 1985 p77). I have specifically aimed to be as aware as possible, to surface these potential flaws, and to open spaces for participants to give their insights into how faithfully I have rendered their accounts.

I wrote about further ethical considerations of ‘endogenous’ research – that within my own Institution – in section 3.3, and refrain from repeating myself here.

3.7e DILEMMAS FACING THE RESEARCHER

There are many decisions to be made by any researcher beyond the benefits/cost ratio discussed earlier. In this section I seek to explain how I attempted to design out of my research – or at least, subjectively rationalise to myself as a self-declared ethical and moral being – some of the ‘questionable practices’ raised by Robson (1993, in Cohen *et al.*, *op. cit.* pp88-9).

I feel justified in my stance that at no point in my research was I actively involved in deceit or causing harm: no-one was involved without informed consent, I did not withhold information about my research design or its goals; induce, encourage or otherwise expect anyone to do anything that would result in a lowered self-esteem; actively expose participants to any form of mental or physical stress; invade their

privacy; withhold benefits from e.g. a comparative group; or treat any participant unfairly.

The areas of Robson's questionable practices where I feel that I need to justify my choices are coercing participants and violating their rights to self-determinacy. I take these in turn and explain why I feel the need to justify these, and the lengths I have gone to in order to avoid the accusations.

Firstly I return to Diener and Crandall's 'voluntarism': it was incumbent upon me to negate the potential for coercion into participation. As newly-arrived trainees (it will be remembered that I intended for the surveys to be taken as soon after they arrived as possible, even on their first day, to get the least 'contaminated' answers possible) it is conceivable – even, probable – that sheer enthusiasm will dictate that many of them will 'mindlessly' (Cohen *et al.*, *op. cit.* p80) volunteer without taking time to inform themselves fully about what it is they are participating in. I was caught between two ideals here: wishing for as large a participation group as possible, yet needing to make them aware of all the points noted above. However, I genuinely feel that, even where trainees willingly participated but in an ill-informed fashion, no harm was done to them, no repercussions were visited upon those who chose not to participate, and I did not take advantage of their choosing not to inform themselves fully: the information and advice was there for them to read and – as mature and responsible adults on a postgraduate teacher education course with the level of personal education this implies – trainees were perfectly capable of allowing themselves to make an informed choice.

However, as a member of staff in a position of some authority over the trainees, I needed to obviate the potential for trainees to feel compelled to participate when it was requested, as advised by Oliver (2010). This was achieved through deliberately and explicitly making it clear that this was voluntary, that there were no physical rewards for taking part, and no repercussions or sanctions for not doing so. Trawler (2011 p3, drawing on Scott, 1991 and Rubin and Rubin, 2005) comments that endogenous data collection raises issues around "disparities in power", recommending I consider the ethical and methodological issues around using

participants who lack power relative to me in my position as a member of staff. I answer these concerns about the integrity of answers given to me in the light of the power relations between myself and the trainees in section 3.5.

Wax (1982) makes a similar point to those of Frankfort-Nachmias and Nachmias (1992) and Miller *et al.* (2012), identified in section 3.7a, by noting that consent has to be continually negotiated when engaged in qualitative aspects of research, especially as new scenarios emerge. Lessof notes that longitudinal research that has a number of data collection events “inevitably involves the respondent in a series of separate decisions rather than a continuous obligation” (Lessof, 2006 p39). He moves on to assert that individuals’ consent to participate is only valid for each particular event in the series, and that each new time an individual is invited to participate in a new data collection event, their agreement to this is required, implicitly or explicitly. At the second timepoint data collection, trainees were reminded of the research and given the specific choice as to whether or not to participate.

As trainees were invited to the latter, qualitative stages of research, their initial enthusiasm was gone, to be replaced with a more knowing and realistic outlook, and the take-up of the opportunity was that much less. Here I was able to sit with the small groups that made up the face-to-face Col and explain at each step what the benefits/cost ratio was and allowed them to judge for themselves whether they still wanted to participate, and with those that contributed via the computer-mediated method described above I ensured that they were given the same information and advice, and the same opportunities to decline to participate.

The issue of violating the trainees’ rights to self-determination is an extremely interesting one. Robson gives the specific example here of “studies designed to promote individual change” (Robson, 1993, in Cohen *et al.*, *op. cit.* p89). My response here is that my research was not designed so to do; rather, it was to measure the extent of any observed change. However, as stated previously, as both a teacher and a social constructivist with a clearly-defined viewpoint, my personal aim was, and is, to promote my epistemological and, therefore, pedagogical beliefs and practices in order that the trainees self-enculturate themselves into these

practices in order to deepen their participation in what I hold to be the best praxes of the community of practice (cf. Lave and Wenger, 1991) of primary teachers. I thus state that my research does not violate these rights, but my *raison d'être* in teaching is to do so – to explicitly try to move trainees towards a more child-centred approach to learning and teaching.

I now turn to the issues of confidentiality and anonymity, two fundamental facets of the overweening right of humans to privacy. Nothing in my research could be called 'invasive', and I do not believe that participants were subject to unwarranted or deceptive practices aimed at 'tricking confessions' out of them. However, the principles of participants' rights to having their thinking, beliefs and contributions to this research kept private by me and unidentifiable to any external reader were undeniable, and I ensured where possible that these remained inviolable through the measures outlined below, and it will be noted that these were different for the qualitative and quantitative aspects of the research.

The first and most obvious measure was to ensure that names were not identified anywhere in the research. Bell (2005) notes that that confidentiality can be understood as the principle that participants will not be identified by name or presented in the research in such a way as to be identifiable (e.g. by title or role), while anonymity is the idea that no-one, not even the researcher, will know which responses came from which participant. While confidentiality has been ensured by aggregating data (social scientists are "interested in 'human' behaviour rather than in the behaviour of specific individuals" [Aronson and Carlsmith, 1969 p33]) and not specifying any personal information in the quantitative data findings and analysis, anonymity was a more challenging concept throughout, especially in the qualitative element of the research.

As I was conducting longitudinal research and matching individuals' aggregate scores at two timepoints, I had to know who had responded how so as to match up the correct sets of data. As it is immaterial to the research to know who it was I needed no names at any point, so asked trainees to use their student identity numbers on the surveys. Some refused to do so, or left it blank for reasons unknown,

so although their data can be added to the overall understanding of the cohort's thinking current at each of the two timepoints, I have not been able to match these. I did think about the use of aliases, but could not credit that anyone who gave a false name off the cuff early in September would be able to recall it in late June/early July the following year, so ruled this out. Where the surveys were done as a paper-based exercise, only I have seen them, and they are safely locked away and unidentifiable. The online versions are stored in an alpha-numerically password-protected account and are unreachable by anyone. I would have deleted these, but the University of Birmingham's Code of Practice for Research (2015) states that, following completion of the research, data should normally be preserved and accessible for ten years. These identifying numbers have been both replaced in my calculations with aliases – a simple numerical sequence – and erased from the final text, and no individual can be identified as occupying any particular place on the continuum at either timepoint; nor is any single person identified as having shifted one way or the other: rather, patterns are identified and trends in the aggregated data commented on where I feel that this gives clear indication of what is signified within the trends recognised.

For the qualitative aspects, it was different for each of the data collection methods. For the online Community of Inquiry (CoI), I specifically asked each participant to choose an alias when they initially logged in, so I had no data about them at all: identity, age, gender, ethnicity – nothing, only their views. The participants were also reassured that any collected data would be password-controlled, ensuring security, and kept secure for ten years from the date of the end of the project, and that I, as the researcher, would be the only person to have access to the data throughout the research, which was indeed the case.

However, in the face-to-face situation it was impossible for me as the researcher not to know the identities of the participants. Anyone involved in focus group work is necessarily privy to the comments made by other individuals. Also, participants were asked to be candid. Therefore, I used the principle of non-traceability (see e.g. Punch, 2013) by stating at the beginning of the focus group that, excluding my own knowledge of their identity, they would be subject to complete anonymity. In order to

achieve this I have kept no records of who participated, and made notes under pseudonyms given on the day that only reflect each participant's gender but no other aspect of them. In this way, although anonymity could not be assured, confidentiality was, meeting the criterion laid down in Cohen *et al.* (*op. cit.* p92) that although I knew "who has provided the information and am able to identify participants from the information given, (I) will in no way make the connection known publicly; the boundaries surrounding the shared secret will be protected".

In conclusion, I feel that the discussions above demonstrate clearly how I have met all of the core principles of the Economic and Social Research Council in the UK (Appendix 18).

3.7h REGULATORY ETHICAL FRAMEWORKS

Fully aware of the need for my proposed research to be approved by my Institutional Review Board (see, e.g. Yin, 2015), I applied to first my own for the pilot and was granted ethical approval to begin. This was before beginning my doctorate at the University of Birmingham. Since I fell under their auspices, I have ensured that everything I have done for my research has complied with their rules and regulations, and was granted full ethical approval (ERN_15-0755) on 14th June 2016. I have also made sure to work within the guidelines of the ESRC, as is evident throughout this chapter.

3.8 VALIDITY and RELIABILITY

Reliability, academically, is the confidence in the measurement within a piece of research: the instruments and the data: whether or not "the instruments measure what they intend to measure" (Blankenship, 2010 p130), and whether the "information obtained with an instrument serve its purposes" (Wallen & Fraenkel, 2001 p 88). A truly reliable study would be one in which there could be a high level of confidence that, should another researcher carry out the same research study using the same methods and instruments, they would obtain ostensibly the same findings (Davies & Hughes, 2014): that its data and analysis would be repeatable or replicable (Connaway & Powell, 2010). Similarly, Pole and Lampard describe the reliability of a

research instrument as being “the extent to which respondents will consistently respond to it in the same way” (2002, in Burton and Bartlett, 2009 p.24).

Sapsford & Jupp define validity as the strength of the design of research so that it will “provide credible conclusions; whether the evidence which the research offers can bear the weight of the interpretation that is put on it” (2006 p1). I present here the steps I took to ensure that my research design, data collection, results and conclusions were valid and reliable.

Crano et al. (2015) discuss the use of inferential statistical tests (I use *t*-tests and a nonparametric Median sign test) to assess the likelihood of the results I describe being ascribable to chance, and I use statistical significance to prove that they are not. These “powerful and necessary research tools” (*Ibid*, p29) have several properties that, when successively met, increase the power of the study. These are: participant numbers, the reliability of the instruments used, the effect size of the relationship, and the critical value used for the statistical test. I describe below the reliability of the instrumentation but, when added to the participant numbers in my study, the results obtained and the fact that I use the “critical rejection region of $p < .05$ rather than $p < .001$ ” (Crano et al. *op. cit.*, p28), I submit that my study is statistically significant, valid and reliable.

One key element that I have made sure to consider is that the design of my research has helped me dismiss alternative explanations of the results I obtained. There are eight major threats to the validity of research, as summarised by Campbell and Stanley in their 1963 seminal text. These are: history, maturation, testing, instrumentation error, statistical regression to the mean, selection error, mortality, and selection-based interactions.

In my pretest-posttest research design, I judge that the first five of these threats to my conclusions could be present, but not the last three, and I offer my justifications for how I have avoided them, or taken account of them, below, seriatim:

1. History – in experimental research design, this would refer to unrelated events that could nevertheless have a bearing on the results. My research specifically

investigates these histories as they pertain to cases, as this helps me understand the levers for change that I am exploring.

2. Maturation – this is the natural growth in characteristics that happens over time. In my case, as student teachers spend increasing lengths of time in schools they will logically undergo changes in their understanding, beliefs and practices. I am studying the degree to which this happens, and deliberately inviting participants to reflect on whether these changes were manufactured or symbiotic.
3. Testing – this is an error that can take place due to participants having already been exposed to the test, thus rendering the second data set less reliable. I contend that the ten-month gap between the two, and the number of questions to answer, makes it impossible to believe that any participant will remember their previous answers, and will answer the second questionnaire without any residual baggage.
4. Instrumentation error – I have described elsewhere how I feel that the quantitative instrument, and the statistical significance of the data derived therefrom, are both strong and confidence can be high that they do indeed measure what they were used to measure. The instrument was not changed pretest-posttest so remains valid, and I have not needed to read or deduce subjectively from it as it is bald numerical data, so cannot be accused of bias or of changed attitudes, emotive states or conscientiousness throughout the research. This is not the case for the qualitative Col sessions and here I must rely on the trust of my readers to accept that I am reporting faithfully the findings of the sessions and the thoughts and reflections of the participants and not projecting my own biases, conscious or otherwise, onto the report.
5. Statistical regression to the mean is to a small degree present but, as I do not examine cases specifically from the extremes, this is merely noticed and commented on without affecting my conclusions.
6. Selection error can be disregarded as there was no randomisation or otherwise of selection or assignment, as I had no differential groups among my participants. This also rules out the eighth and final threat, selection-based interactions, as no group was treated differently or used as a control group, as

that would not have been possible: each participant had to undergo the centre-based teaching and time in schools described previously.

7. Mortality, which is the drop-out rate of participants, can also be ignored as I am not comparing different groups, so the changes under investigation can be understood as not being due to changes within groups but to each individual.

Piloting is described as “always desirable, if at all possible” by Bryman (2012 p262). I piloted the ‘practices scale’ devised by Swan (2006) to describe the beliefs and practices of mathematics teachers to see whether it was fit for purpose for pre-service Primary teachers with a specific focus on English, and piloted methods of analysis thereon. Although I originally used Rasch techniques to understand the findings, as had Pampaka et al. (2008) in the paper I had been advised to follow by the colleague that launched me on the process that led to this thesis, I found it unsatisfying and bald, preferring the methods I have followed since, laid out above. These have stood me in good stead, as I have such statistically significant results (Chapter 4).

Triangulation is deemed vital to validity (Cohen et al., 2011). I have noted above how I have triangulated my data collection, the viewpoints represented and my analysis through the use of complementary methods. I will briefly enlarge on this through a discussion of multiple operationalisation (see, e.g. Crano et al., 2015). This is a recognition that a theoretical construct – in this case my continuum and the persons and items upon it – cannot be adequately defined or measured by a single instrument, nor understood through a single mechanism, and thus needs to be considered through several lenses. Each of these will be imperfect but, through the triangulation of these independent measurement processes, the likelihood of misunderstanding and mismeasurement is reduced (Webb et al., 1966). As is evident through my discussions above, I have used multiple data collection methods and have considered the findings through both qualitative and quantitative approaches. This has enabled me to aggregate the cumulative data to be more certain of both my findings and analyses.

As is evident from the reported numbers, I experienced significant participant loss. This is due to many factors: inability or unwillingness to complete the teacher training course, non-availability on the posttest date, failure to complete the student ID section of either of the questionnaires – all of these prevented me from having as many matched results as were theoretically possible. As I tested all participants at the beginning and end of each cohort of the research, it was possible to check both the pretest and posttest scores for each participant and, where they were in line with the ‘normal’ findings, calculate averages for the two timepoints and analyse these individually. Where it was possible to match pretest and posttest scores, I have a separate, and fuller, set of data that has been analysed to a greater degree (see Chapter 4).

To strengthen both the reliability and validity of the qualitative findings, I used code analysis to investigate the collected data. This method of data analysis was appropriate for this type of research as it allowed me to synthesise the participant’s responses, grouping together both contrasting and similar ideas, while also linking the informative data to the research questions. Saldana (2009) states that “coding is the transitional process between data collection and more extensive data analysis” (*ibid* p4): it helps in the swift analysis of qualitative data as the labelling allows the researcher to quickly identify and follow patterns within the responses (Richards & Morse, 2012) which allows researchers to distinguish probable leads from blind alleys; leads which can then be dissected and analysed in greater depth. The very nature of qualitative data can threaten the internal reliability of the research through its diversity and imprecision but, alongside the use of corroborative quantitative data, the reliability of the findings was strengthened through the methodical linking of ideas and concepts in order to demonstrate their ubiquity.

In terms of methodological validity, I needed an instrument that allowed me to measure both pedagogical beliefs and the manifestation of those beliefs in the authentic classroom situations student teachers found themselves in, at least according to their own accounts.

I have discussed above at length the continuum from transmissionist – learner-centric pedagogies, and now briefly discuss mechanisms for the measurement of individuals on that continuum.

As Pampaka et al. (2008) noted, there are three broad categories of these methods of measurement:

- Instruments used as part of broader international studies like PISA (OECD, 2003) and TIMSS (Mullis et al., 2000; NCES, 2000).
- Commercially developed measurement mechanisms, sometimes modified versions of which questionnaires are subsequently used by other researchers (e.g. McCaffrey et al., 2001).
- A variety of instruments that have been created and used by researchers into specific topics, e.g. mathematics or science, or with specific age groups (very often Early Years or Secondary) that were not fit for my own purpose.

Amongst those methods of teacher measurement that did have potential application to my study (Henke, Chen, & Goldman, 1999; Schuh, 2004; Smith, Hardman, Wall, & Mroz, 2004; Stecher et al., 2006 and Shulman's [1987] seven types of teacher knowledge, further refined by Ball *et al.*, 2008; cf. also Kanen and Nisbet, 1996) did not completely fulfil my objectives as they are not English-specific, or are aimed again at the wrong age group, or at pupils rather than teachers. Alongside these key texts, Howard *et al.*, 1997, and Van Zoest *et al.*, 1994 are cited by Beswick, 2011, as further instruments that may have helped, but did not meet my needs.

Pampaka et al. (2008), having ruled out the approaches of previous researchers in the same way as I have above, therefore built on the work of Askew et al. (1997) and, more particularly, Swan (2006) in constructing their measurement instrument, focusing on “how teachers report their practices in terms of being teacher-centred or student-centred” (*ibid*, p4). This seemed admirable for my purposes, I was encouraged by a colleague to use it, the piloting went well, and thus my study was born.

3.9 TRANSFERABILITY

Researchers are warned to be sceptical of the 'totalised explanation' and the generalisability of their conclusions. I need to demonstrate that they are true and valid for the cohort under investigation during the time frame my research took place in, and for the methodological and pedagogical reasons I cite. I must be aware of 'period effects' – the historical trajectory of, for example, primary education; the natural maturation of student teachers in their pedagogical understanding and beliefs – and that my measurements and analyses need to be understood within these contexts. I submit that I have done this, as will be evidenced particularly through Chapter 5. Throughout this chapter I have striven to demonstrate the importance I attach to the use of mixed methods, of polyocularity, and to multiple operationalisation in order to further 'warrant' my findings and analyses in order to arrive at more penetrative insights that captures some of the complexity of social reality.

4.1 QUANTITATIVE RESULTS

Once the trainees have completed their surveys, a twofold analysis is completed: of each respondent (generating a 'person score' for each) and each question (generating an 'item score' for each). These are the twin foci of the statistical analyses that follow.

PERSON SCORES

To generate the person scores for each individual, the average of all their responses is taken, and this score is then allocated to them (this is in contrast to Swan, who uses a final summative score between 25 and 125. Either way, the same stratification is arrived at). This score is then plotted on a continuum, with a higher average score denoting the espousal of a more learner-centric approach and a lower score showing an understanding that teaching should be more transmissionist. This is calculated for the September data and again for the July data. Firstly these are calculated based on all the responses to the questionnaire in order to provide cohort-wide information and averages. Once this basic data is compiled, where there are responses for individuals (identified only by numeric signifiers) at both time points these responses are then compared in order to chart any shifts in espoused beliefs. The analysis below (and in Smith, 2016b) takes account of the raw data of all respondents from the four cohorts of 2011-12, 2012-13, 2013-14 and 2014-15 at the two timepoints, and Figure 4ii (over) shows the shifts in belief of trainees plotted from September to July on the continuum shown in the double-headed arrow alongside.

The first two iterations and the fourth focused solely on my own HEI. It began as a pilot study involving my own caseload of trainees then – as the earliest results showed potential for a more in-depth study – I widened it out to the whole cohort the following year, remaining in-house for ease of access to participants. Table 4i shows the numbers of completed responses in September and in July by cohort, as well as the numbers of individuals that can be tracked across the longitudinal study:

Table 4i

Iteration:	Number of completed questionnaire at the first timepoint (September)	Number of completed questionnaire at the second timepoint (July)	Number of tracked participants on whom the pedagogical shift data is based
2010-11(pilot)	12*	9*	6*
2011-12	73	54	36
2012-13	62	64	34
2013-14	160	88	47
2014-15	33	33	0
TOTALS	328	239	117

*Unused data in full study after minor changes made to questionnaire.

Table 4i: number of completed questionnaires in each iteration

The third iteration of this research saw a widened participation in this matched measurement of beliefs at two time points to a wider set of five geographically-dispersed HEIs. The initial response rate was excellent with 160 valid and complete surveys returned. These have been added to the overall September data to give as accurate picture as possible of the initial thoughts of pre-PGCE ITE trainees across the UK. Unfortunately, and despite repeated request emails, due to the contingencies and exigencies of ITE training pressures and deadlines etc. there was a very poor response rate from these other HEIs at the later timepoint: only 11 completed surveys were received, all from a single HEI. At my own HEI, where I could pursue responses both in a final lecture and by email prompt, there were 86 completed responses, of which 47 could be mapped and tracked back to the September scores for comparison. The final iteration used in this study only has use for aggregate September and July data, as there were no instances of comparative responses, partly because many trainees neglected or refused to give their ID numbers. The low response rate of 31 can be seen as due to the timing of the final survey: following a change in governmental policy (that PGCE trainees were to move from 90 days in school to 120 during their PGCE year), there was little opportunity for trainees to participate in a final survey, as they only had one session at University following the end of their final school placements, and once trainees have left it is very difficult to get responses.

Figure 4ii

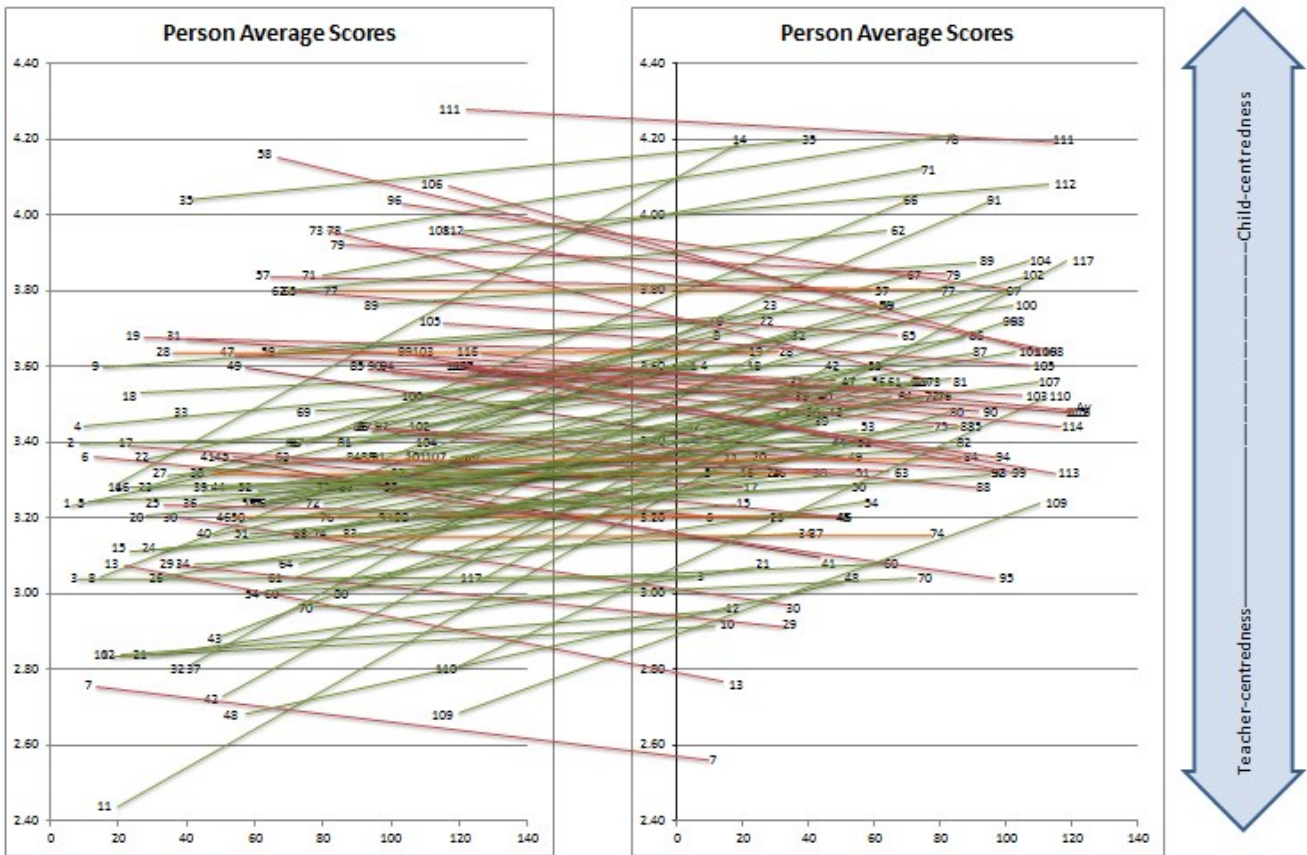


Figure 4ii: Charting shifts in espoused pedagogical beliefs: graph of all person shifts on the continuum

Figure 4ii shows the matched data from all 117 instances where both the September and July data were available for the same trainee. Two general principles are represented: trainees seem to either make rather more radical shifts towards child-centredness (75/117 trainees [64.1%] at an average shift of +0.28) or more slight shifts towards a more teacher centred orientation (37/117 trainees [31.6%] at an average shift of -0.18). The average shift was +0.13 per trainee (from 3.33 to 3.46) - a statistically significant trend towards a greater learner-centrism across the longitudinal study. On a basic visual level, although there is some evidence of regression to the mean, it is clear to see the upward trend from September to July as the majority of positions are higher.

A simple tabulation of all the results from all the cohorts combined is given in table 4iii:

Timepoint	Number of responses	Average score
September	328	3.33
July	239	3.46

Table 4iii: All received responses and average score.

In order to further statistically corroborate the veracity of my claims, a detailed analysis using the SPSS programme was carried out. Having first created histograms of the raw, unmatched September and July data, showing the population distribution curves (Figure 4iv, over), a paired *t*-test (used to compare two population means where observations in one sample can be paired with observations in the other sample) was performed to ascertain whether there was a change in espoused pedagogic belief between the first and second surveys even when direct comparisons were not possible as not all the participants could be tracked between the two timepoints. The paired *t*-test is appropriate for data in which the two samples are paired in some way (Elliott & Woodward, 2007). This data meets that need as it consists of before and after measurements on a single group of subjects. The key assumption for the paired *t*-test to be valid with small sample sizes is that the difference scores are normally distributed and that the observed differences represent a random sample from the population of differences (Bryman, 2012).

Figure 4iv

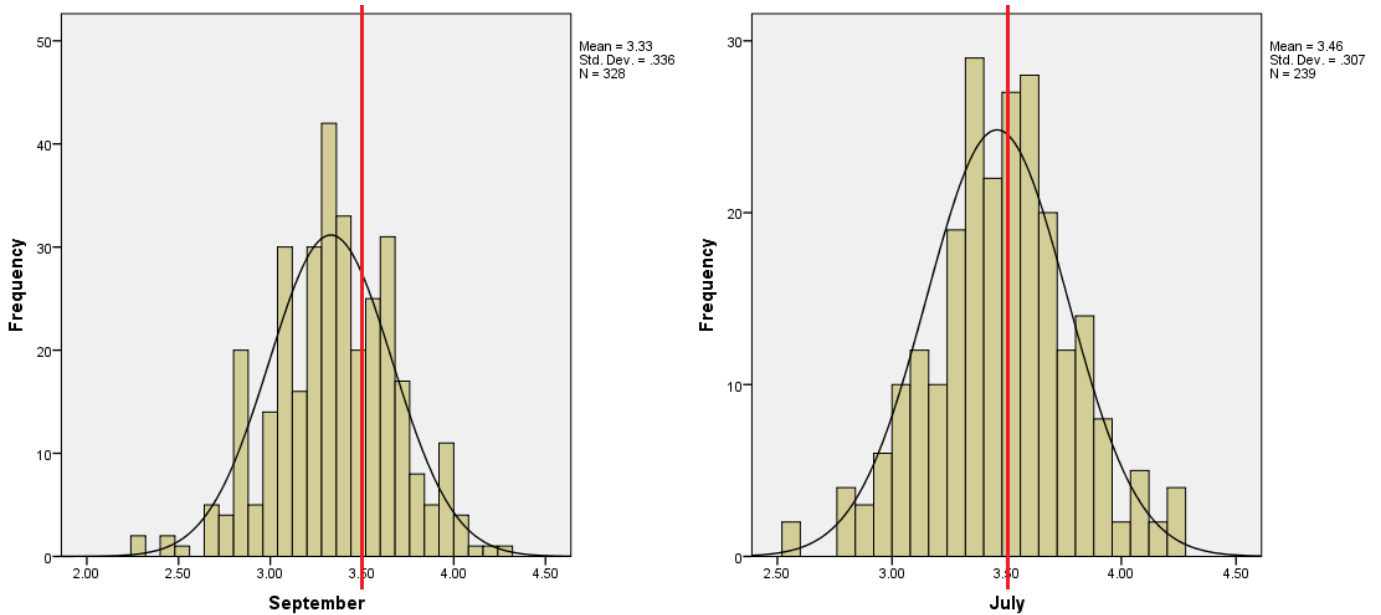


Figure 4iv: population distribution curves for all matched trainees' September (left) and July (right) data

Figure 4iv shows a comparison between all answers to the surveys in September and those in July. It is easy to see, with the overlaid lines, that there are greater numbers of trainees scoring above the 3.5 line in July, compared with September. The mean is also higher: 3.46 as compared with 3.33.

It is visually clear on the following two figures (4v and 4vi, following pages) that, although there is some evidence of regression to the mean, the majority of cases are occupying higher positions, and the overlying trendlines describe a higher score in the July data.

Figure 4v

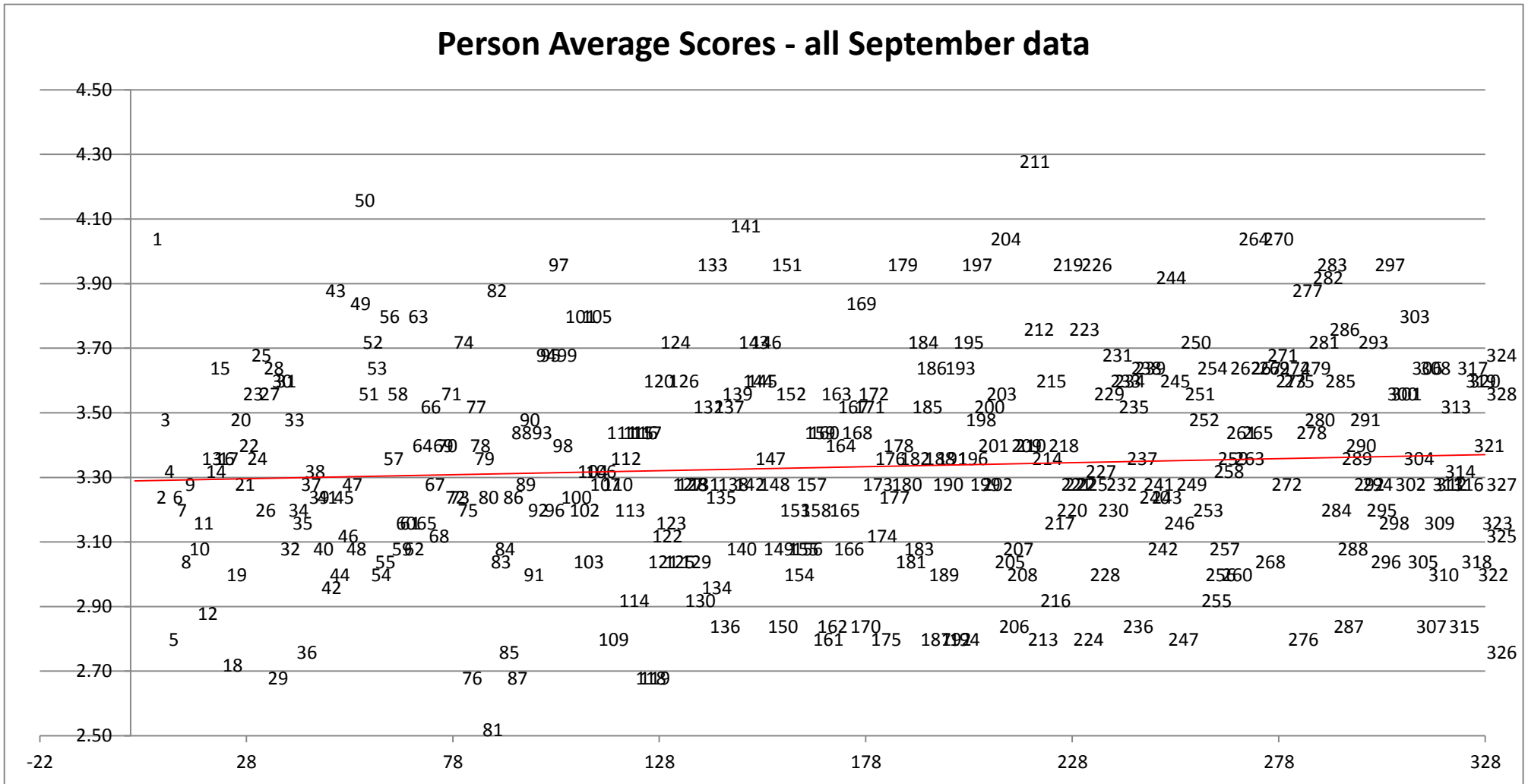


Figure 4v: September average scores – all cohorts (328 responses).

Figure 4vi

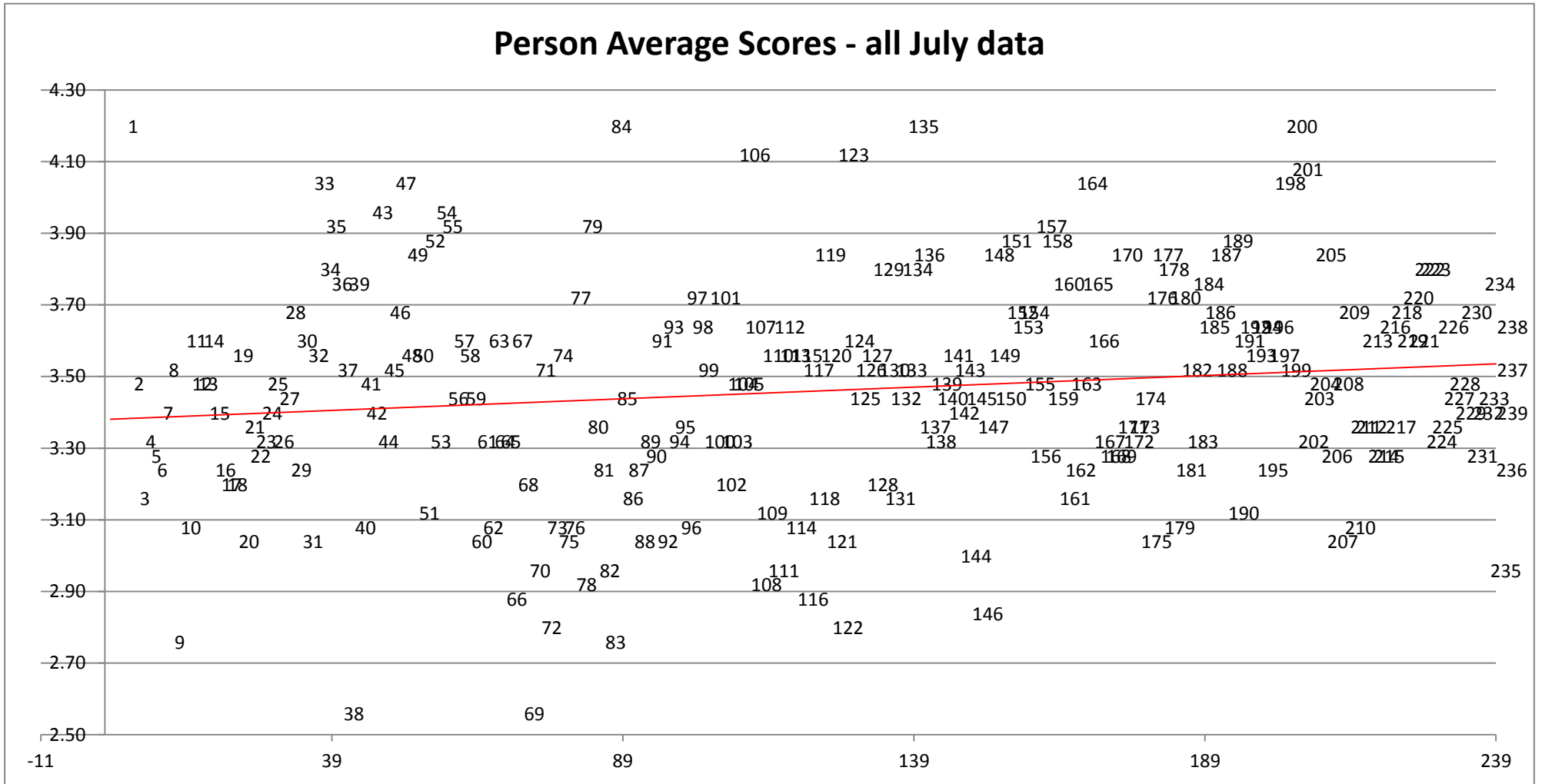


Figure 4vi: July average scores – all cohorts (239 responses).

Figure 4vii

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Sept	3.3549	117	.34539	.03193
	Jul	3.4928	117	.30718	.02840

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Sept & Jul	117	.587	.000

Paired Samples Test

		Paired Differences				T	df	Sig. (2-tailed)	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Sept – Jul	-.13795	.29840	.02759	-.19259	-.08331	-5.000	116	.000

Figure 4vii: Paired sample statistics, September/July data.

Figure 4vii provides clear evidence that the overall change is positive. The mean shift ($M = 0.138$, $SD = 0.298$, $N = 117$) was significantly larger than 0, $t = -5.000$, one-tailed $p < 0.00001$ (significant at $p < 0.05$), providing evidence that there is a clear shift in trainees' espoused pedagogic approaches to teaching from the didactic to the learner-centric: that trainees' pedagogic understanding and – by inference – practice has shifted from a more transmissionist approach to a more constructivist one. There is only one chance in 100,000 of falsely rejecting the null hypothesis (inferring there is a relationship in the population where none exists). This leads me to be very confident that there is a relationship between being on the trainee course and making a shift on the created continuum (or certainly as espoused) among all trainees. Corroboratively, completing a Pearson bivariate correlation on SPSS (a measure of the linear correlation between the two timepoints) gives us a figure of .587 which is significant at the 0.01 level (two tailed). A Pearson product-moment correlation coefficient was computed to assess the relationship between the September score

and that from July. There was a positive correlation between the two variables, $r = 0.587$, $n = 117$, $p = 0.000$. A scatterplot summarizes the results (Figure 4viii, below). Overall, there was a positive correlation between the two timepoints.

Figure 4viii

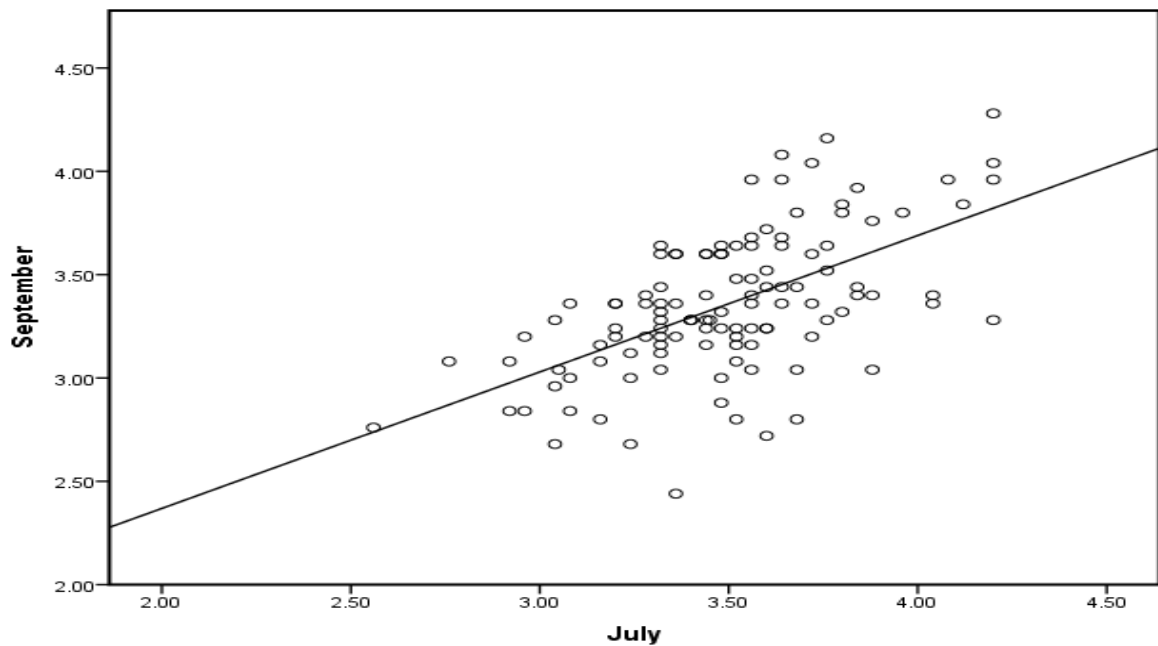


Figure 4viii: Paired data scatterplot with overlaid Pearson's R.

All of this is in line both with my original hypothesis, that trainees would make more positive moves toward learner-centric practices, and with the expressed preference of myself and the culture within which I work, which espouses learner-centrist, socio-constructive practices as an expressed goal. “As a lecturer in Primary Initial Teacher Education at a Higher Education Institution (HEI), my aim is for my trainees to leave with a clear understanding of the power of learning rather than teaching, and the pedagogical strategies to facilitate the learning of children rather strategies to ‘merely’ teach them” (chapter 2.1). Mason (2002) raises the problem of the generation of data using methods and principles that could be seen to express my own epistemological position, but the trainees answered authentically with no prior input from me at either timepoint, and the data received is ‘true’ and valid for analysis ‘as is’ (as discussed in Chapter 3).

However, Nevill (2014) discusses the use of a nonparametric Median sign test, allowing for greater reliability of results compared to a paired *t*-test. The latter assumes that data is distributed equally (as noted above). In this case, when used for the test and re-test data, a median sign test assumes non-homogeneity of variance and can therefore, according to Nevill, be depended on for a greater statistical reliability. The results show the same trend: a slight positive shift towards a more learner-centric position on the curriculum, with a high degree of statistical significance (asymptotic significance, 2-tailed, of .000) – figure 4ix (below):

Figure 4ix

Frequencies

	N
Negative Differences ^a	37
July – Sept Positive Differences ^b	75
Ties ^c	5
Total	117

a. July < Sept

b. July > Sept

c. July = Sept

Test Statistics^a

	July - Sept
Z	-3.496
Asymp. Sig. (2-tailed)	.000

a. Sign Test

Figure 4ix: non-parametric median sign test results, September/July data.

As to the face validity of the measurement itself, I have elsewhere described, with justification from academic sources, its construction and validity. The diagrams (Figures 4ii and 4xiii/4xiv) have many aspects and need explaining but once understood, it is easy to discern in Figure 4ii the distribution of the teachers along the teacher-centric \leftrightarrow learner-centric continuum that has been created for the September data, for the July data, and the pattern of shifts, described with green upward movements for the positive shifts (e.g. to a more learner-centric espousal) and red downward trajectories for the negative shifts to a more transmissionist

pedagogic espousal of beliefs. Similarly for Figures 4xiii and 4xiv, the distribution of each item can be clearly seen, and patterns identified.

Alongside this basic data, records were kept of the numbers and percentages of trainees who fall into the various logit steps along the continuum, allowing further insight into cohort, timeframe and overall patterns (Figures 4x and 4xi, following pages).

Figure 4x

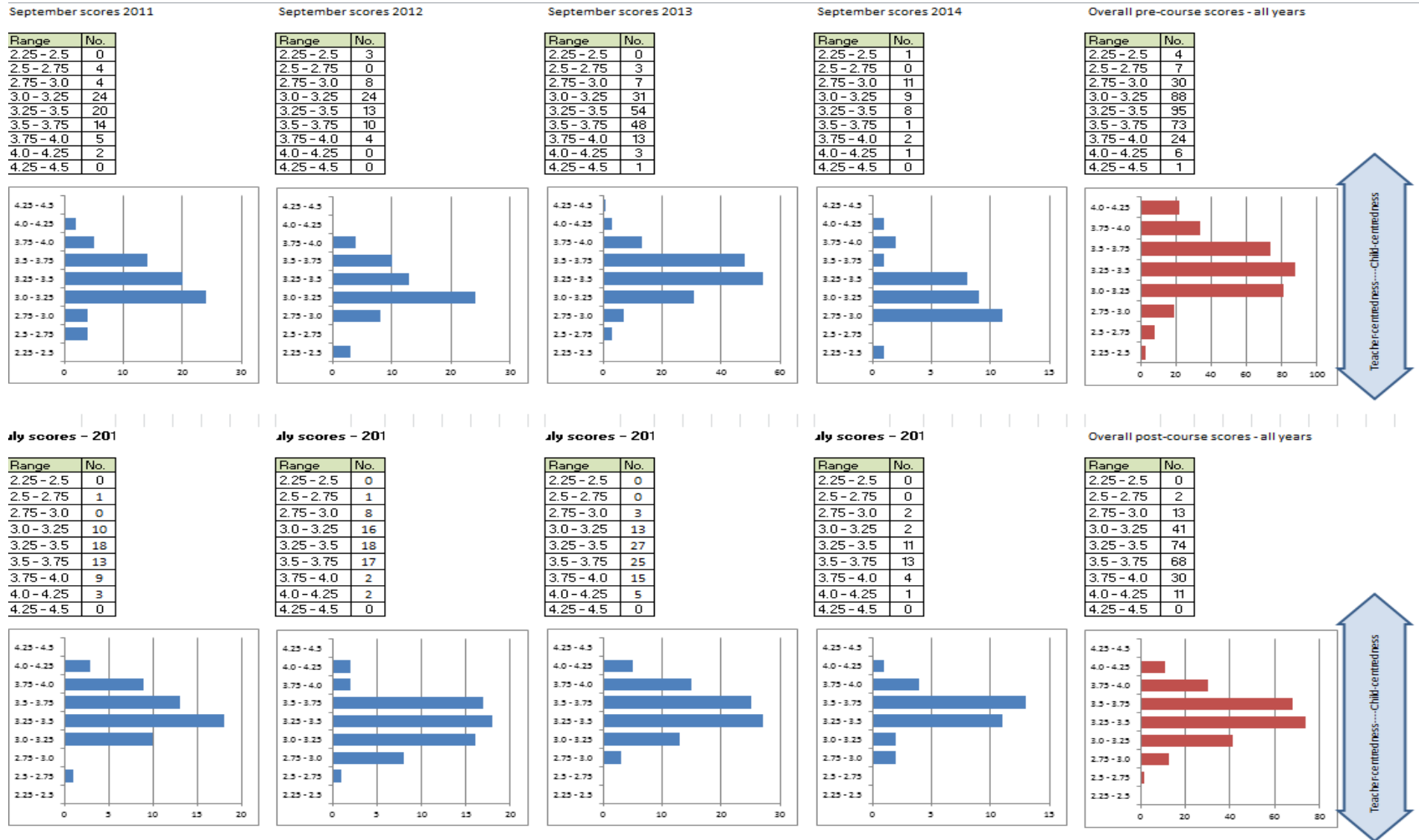


Figure 4x: Person scores in September and July (all cohorts) – percentage scores at each logit step

Figure 4xi

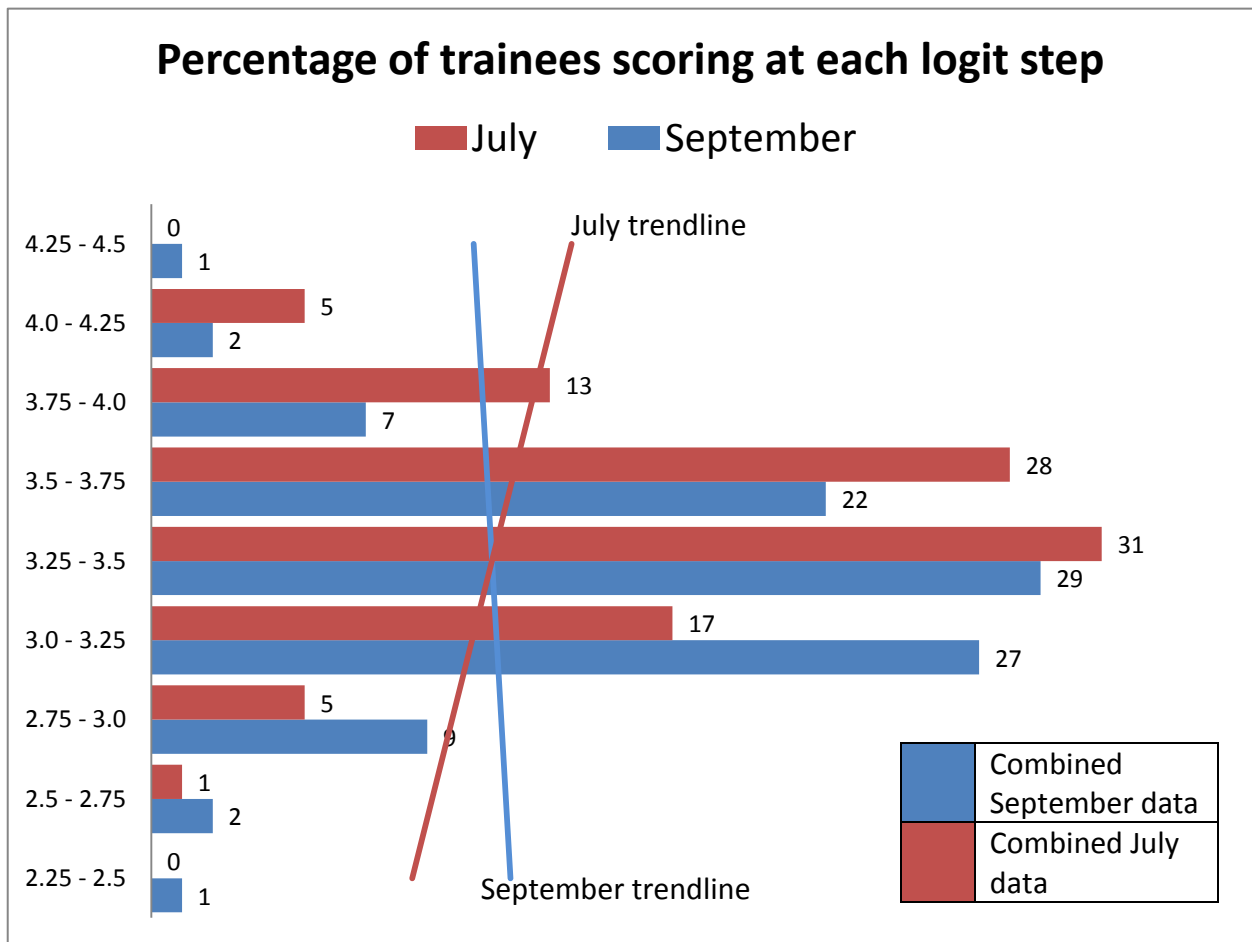


Figure 4xi: Percentage of trainees scoring at each logit step: all cohorts

What this clearly demonstrates is that, when combining the comparative data from both cohorts, the overall trend for trainees was to make a slight positive change, representing an encouraging change *in general* towards a less didactic approach to teaching. Figure 4xi, in particular, shows a lower number of trainees at each of the lower logit steps, and a concomitant rise in trainees scoring themselves at each of the higher steps in July. The overlaid trendlines also indicate a progressive movement for the July data and a regressive one for the September data.

Statistical analysis of the generated data has thus allowed insight into the pattern of behaviour of trainees on the teacher training course at the single HEI, somewhat corroborated by responses from a wider participant group: a general pattern of movement from a more teacher-centric to a more learner-centric espousal of pedagogical beliefs. The next step was to gain an understanding of the key levers for

this change, and for this I turned to the qualitative methods of data analysis described below in Chapter 4.2. Before that, however, I will describe the results of the item scores.

ITEM SCORES

For the item data, the score given to each question by each respondent was collected and the average was calculated, allowing the questions to be ranked and those which were more closely aligned with the teacher-centric or learner-centric approaches identified. As with the person scores, each cohort's data could be analysed individually or as an amalgamation, patterns at the beginning and end of the courses identified, and cohorts or survey times compared. Table 4xii (below) gives the questions and average responses, Figure 4xiii (over) shows the overall September and July data for both cohorts, and Figure 4xiv (further below) shows the comparative places on the continuum between the overall September responses and those from July. This allowed me firstly to see which areas are initially perceived as lending themselves to teacher-centric pedagogical strategies, which are thought of as more child-centred, and what shifts in perception occur across the longitudinal study, and secondly to pinpoint specific areas of Primary English teaching that become understood differently across the time period.

Table 4xii

Q	Belief Statement	Sept average	July average	Diff Sept-Jul
Q1	I believe learners should start with easy questions and work up to harder questions.	2.10	2.75	0.64
Q2	I believe I should tell learners which questions to tackle.	2.99	3.31	0.33
Q3	I believe I should teach the whole group all at once.	2.77	2.96	0.19
Q4	I believe I should know exactly what each lesson will contain.	1.60	1.70	0.10
Q5	I believe learners learn through doing repeated exercises.	2.57	3.03	0.46
Q6	I believe I should try to cover <i>everything</i> in a topic.	3.02	3.46	0.44
Q7	I believe I should avoid learners making mistakes by explaining things to them carefully first.	2.19	2.43	0.23
Q8	I believe learners should mostly work on their own, consulting a neighbour from time to time.	3.63	3.42	-0.21
Q9	I believe I should teach each topic from the beginning, assuming they know nothing.	3.32	3.61	0.29
Q10	I believe I need to teach each element of a topic independently.	3.76	3.78	0.03
Q11	I believe learners should use only the methods which I teach them.	4.19	4.03	-0.15

Q12	I believe I should draw links between topics and move back and forth between several topics.	3.36	3.46	0.10
Q13	I believe I should follow the textbook, or worksheets, closely.	3.59	4.20	0.61
Q14	I believe I should only go through one method for doing each type of question.	4.41	4.40	-0.01
Q15	I believe I should encourage learners to make mistakes and discuss mistakes.	3.85	3.92	0.07
Q16	I believe learners should be allowed to work collaboratively in pairs or small groups.	3.78	4.06	0.28
Q17	I believe learners should learn through discussing <i>their</i> ideas.	4.22	4.28	0.06
Q18	I believe I should jump between topics as the need arises.	3.01	3.33	0.33
Q19	I believe I should find out which parts learners already understand and don't teach those parts.	2.59	2.58	-0.01
Q20	I believe I should teach each learner differently according to their individual needs.	4.00	4.27	0.27
Q21	I believe learners should compare different methods for doing questions.	4.19	4.04	-0.15
Q22	Even though I'll plan my lessons thoroughly, I believe I'll be constantly surprised by the ideas that come up during my lessons.	4.58	4.44	-0.14
Q23	I believe I should encourage learners to work more slowly.	2.49	2.50	0.01
Q24	I believe learners themselves should choose which questions they are to tackle.	2.59	2.80	0.21
Q25	I believe learners should be allowed to invent their own methods.	2.91	3.00	0.09

Table 4xii: all questions and the September and July average responses

Figure 4xiii

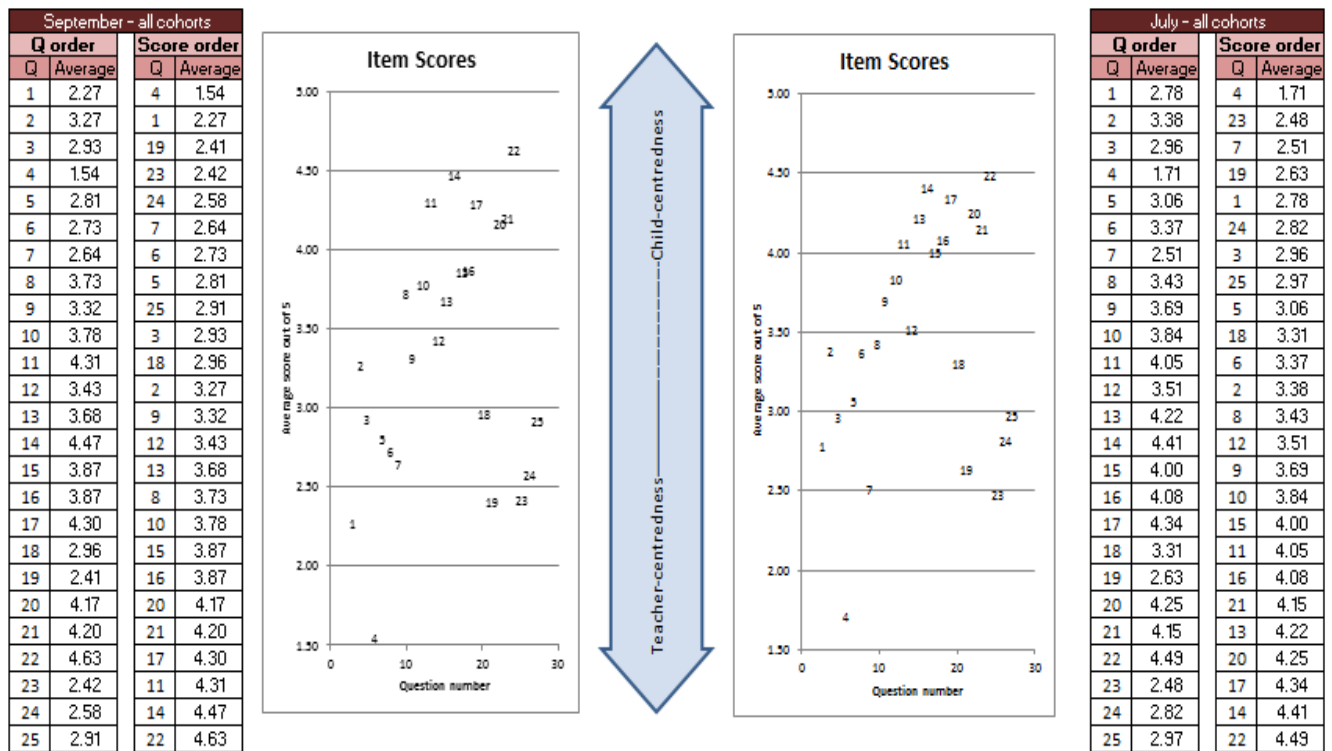


Figure 4xiii: All cohorts – item scores, September and July

Figure 4xiv

Q	Sept	July	Difference
1	2.27	2.78	0.51
2	3.27	3.38	0.11
3	2.93	2.96	0.04
4	1.54	1.71	0.16
5	2.81	3.06	0.25
6	2.73	3.37	0.64
7	2.64	2.51	-0.14
8	3.73	3.43	-0.30
9	3.32	3.69	0.37
10	3.78	3.84	0.05
11	4.31	4.05	-0.25
12	3.43	3.51	0.08
13	3.68	4.22	0.54
14	4.47	4.41	-0.06
15	3.87	4.00	0.13
16	3.87	4.08	0.21
17	4.30	4.34	0.04
18	2.96	3.31	0.34
19	2.41	2.63	0.23
20	4.17	4.25	0.08
21	4.20	4.15	-0.05
22	4.63	4.49	-0.15
23	2.42	2.48	0.06
24	2.58	2.82	0.23
25	2.91	2.97	0.06

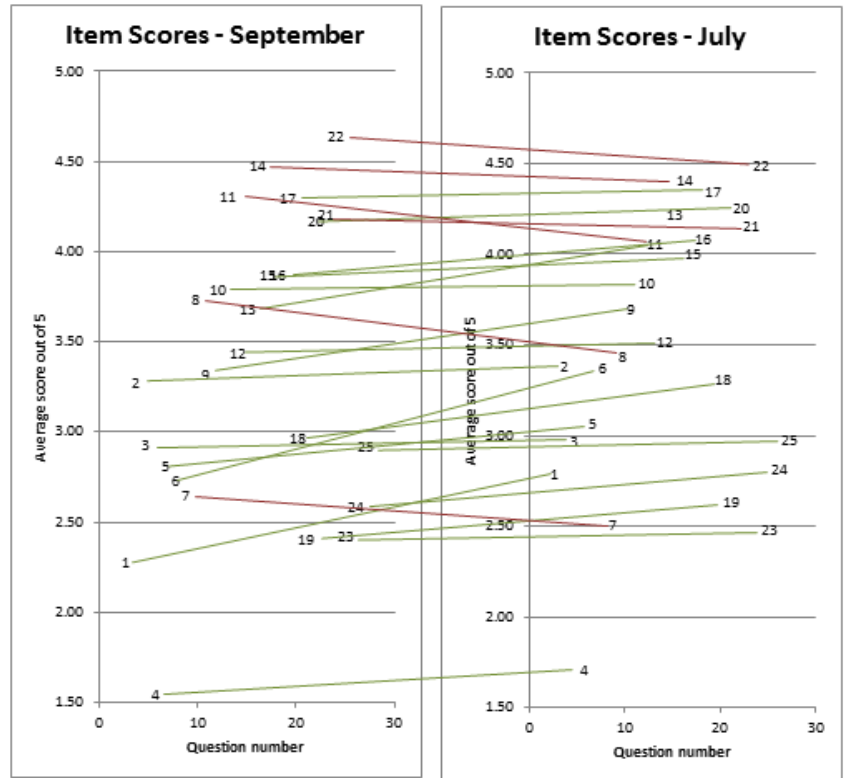


Figure 4xiv: Item shifts from September to July – all cohorts

What this shows (see Figures 4xv and 4xvi, below and over, for more detail) is that, when combining the comparative data from all cohorts, the overall trend for the average answer to each question (Figure 4xv) was a slight positive change, representing an encouraging change *in general* (Figure 4xvi) towards a less didactic approach to teaching.

Figure 4xv

Q:	1	2	3	4	5	6	7	8	9	10	11	12	13
Sept	2.27	3.27	2.93	1.54	2.81	2.73	2.64	3.73	3.32	3.78	4.31	3.43	3.68
July	2.78	3.38	2.96	1.71	3.06	3.37	2.51	3.43	3.69	3.84	4.05	3.51	4.22
Diff:	0.51	0.11	0.04	0.16	0.25	0.64	-0.14	-0.30	0.37	0.05	-0.25	0.08	0.54
Q:	14	15	16	17	18	19	20	21	22	23	24	25	
Sept	4.47	3.87	3.87	4.30	2.96	2.41	4.17	4.20	4.63	2.42	2.58	2.91	
July	4.41	4.00	4.08	4.34	3.31	2.63	4.25	4.15	4.49	2.48	2.82	2.97	
Diff:	-0.06	0.13	0.21	0.04	0.34	0.23	0.08	-0.05	-0.15	0.06	0.23	0.06	

Figure 4xv: Changes in the item scores from September to July

Figure 4xv (previous page) describes that there were negative shifts in response to only six of the 25 questions when averaged across the 117 respondents. Figure 4xv (below) shows how many places each item moved when ranked in average order. Of the six negative shifts described in 4xv, four (Qs 11, 14, 21 and 22) were downshifts from extremely high starting positions, and all remain above 4.0, i.e. in the top eight most positive responses including the top two, and, to some extent, can be explained by a regression to the mean. Of the three remaining, Q7 (“I believe I should avoid learners making mistakes by explaining things to them carefully first”) lost three places with a regression of -0.28, although it was already in the bottom quarter, and Q8 (“I believe learners should mostly work on their own, consulting a neighbour from time to time”) made the most surprising and dramatic downshift, losing three places in a regression of -0.30. All of the responses in July are based on a year’s exposure to centre-based theory and authentic school-based practice and the pressures and contingencies of the realities of working with children have clearly led the average trainee to expect children to work independently more often than they first espoused in September. These two Qs, 7 and 8, are key questions that I followed up in the final qualitative dialogic sessions I ran with trainees.

Figure 4xvi

Sept order	July order	Difference
22	22	=
14	14	=
11	17	+1
17	20	+2
21	13	+6
20	21	-1
16	16	=
15	11	-5
10	15	-1
8	10	-1
13	9	+2
12	12	=
9	8	-3
2	2	=
18	6	+4
3	18	-1
25	5	+1
5	25	-1

6	3	-3
7	24	+1
24	1	+3
23	19	+1
19	7	-3
1	23	-2
4	4	=

Table 4xvi: Item shifts in average rank orders: September to July

Table 4xvi also tells us at a glance that the most positive shifts were for Q13 (“I believe I should follow the textbook, or worksheets, closely”) and Q6 (“I believe I should try to cover *everything* in a topic”), and that there were some questions that moved significantly in rank order, such as Q3 (“I believe I should teach the whole group all at once”) which lost three places, but still shifted positively toward a more learner-centric average response. This, and much else, will be focused on and discussed in Chapter 5.

When I interrogated the matched data in depth, I was able to create table 4xvii (below), showing the difference in all matched responses, September – July.

Table 4xvii

Difference	No. of responses	%age of responses
-4	3	0.10%
-3	34	1.17%
-2	136	4.68%
-1	568	19.54%
0	1229	42.28%
1	626	21.53%
2	228	7.84%
3	72	2.48%
4	11	0.38%

NO CHANGE: 42.3%
 POSITIVE RESPONSES: 32.2%
 NEGATIVE RESPONSES: 25.5%

Table 4xvii: Differences in response from September to July

There were 2907 possible changes in belief (117 students x 25 statements [one survey was missing eight responses, one missed seven and one missed four]) involved in this study. 1229 responses (42.3%) were zero representing no change in beliefs. Of those responses which represented a change in belief, 937 (32.2%) were positive changes representing a change towards a less didactic approach to teaching and 741 (25.5%) were negative changes representing a change towards a more didactic approach to teaching. Adding this to the previously described average shift of +0.14 on the continuum between timepoints gives further evidence at a basic level that leads me to state that participation in this PGCE course, and hence exposure to a variety of teaching approaches, has changed the 'beliefs' of pre-ITE students concerning the way in which **they** think children should be taught. Overall, the beliefs of the participants appear to have changed away from more didactic teaching approaches during the duration of the PGCE course towards more learner-centric, experiential teaching approaches.

Again the matched data was inputted into SPSS and a Wilcoxon signed ranks test was performed. The evidence of a significant shift for almost all item scores (figure 4xviii, below) provides further clear corroboration that being on the PGCE course effects a change on the espoused pedagogical stance of trainees.

Figure 4xviii

	Z	Asymp. Sig. (2-tailed)
J1 - S1	-5.713 ^b	0.000
J2 - S2	-1.740 ^b	0.082
J3 - S3	-.741 ^b	0.459
J4 - S4	-1.817 ^b	0.069
J5 - S5	-3.514 ^b	0.000
J6 - S6	-5.101 ^b	0.000
J6 - S7	-6.144 ^b	0.000
J8 - S8	-3.003 ^c	0.003
J9 - S9	-3.253 ^b	0.001
J10 - S10	-.404 ^b	0.686
J11 - S11	-3.157 ^c	0.002
J12 - S12	-1.060 ^b	0.289

J13 - S13	-6.994 ^b	0.000
J14 - S14	-1.132 ^c	0.257
J15 - S15	-1.154 ^b	0.248
J16 - S16	-2.886 ^b	0.004
J17 - S17	-1.010 ^b	0.313
J18 - S18	-3.140 ^b	0.002
J19 - S19	-1.653 ^b	0.098
J20 - S20	-1.540 ^b	0.124
J21 - S21	-1.305 ^c	0.192
J22 - S22	-2.291 ^c	0.022
J23 - S23	-.921 ^b	0.357
J24 - S24	-2.812 ^b	0.005
J25 - S25	-.891 ^b	0.373

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

c. Based on positive ranks.

Figure 4xviii: Wilcoxon signed ranks test: all item shifts, September - July

I will move on to a discussion of these findings in Chapter 5, but first I will examine the results I have attained through my qualitative methods of data collection.

4.2 QUALITATIVE RESULTS

I was aiming for an in-depth exploration (Oppenheim, 1992) of the principles that trainees encounter in order for the trajectories of their developing espoused pedagogies along the created continuum to assume positive or negative paths. In order to do so, I had to assign labels to the received comments in order to have any hope of making coherent sense of them, e.g. to code them (Strauss & Corbin, 1998; Gilbert, 2008). I began undecided as to whether to be led by the data and adopt a grounded approach with no *a priori* codes, or a template approach with the four-way framework of social and personal barriers and enablers (see, e.g. Douglas *et al.*, 2007): in this case what are, and were, the barriers, social or personal, to becoming a more learner-centric teacher, and what were/are the enabling factors, social or personal, that would allow a trainee to become more learner-centric in their pedagogical outlook and practice. As the data were inputted, it became obvious that

Douglas *et al.*'s four-way framework would not capture the complexity of the received comments. I decided to follow Barbour's (2007) recommendation in seeking out patterns within the data, for example how certain interpretations can be associated with particular individual or group circumstances. In order to gain wider validity and relevance, I decided to use two separate focus groups to seek out intra- or inter-group patterns.

A fuller description and analysis of the qualitative data I have amassed is given in Chapter 5, but I give here a list of key observations.

QUANTITATIVE DATA: KEY FINDINGS

In my data entry (see Appendix 2) on the 99 written sets of responses, where it has been possible to map shifts in the position of respondents longitudinally, they are identified by this shift (green or red cells in the second column). All the other respondents (white cells in the second column) are identified by the July scores, as this represents their most recent espoused position on their pedagogical understanding. In those 99 responses:

- Only one respondent replied NO, their view of teaching English had not changed across the year.
- Of 98 respondents who said their understanding of and approach to teaching English had changed, 82 thought it was in relation to children's learning, whereas only 9 said that it was more about the role of the teacher, three thought that it was both equally, and four agreed it changed but did not qualify which aspect they meant.

No matter what the matched quantitative data states about a trainee's shift along the continuum in either direction, most comments reveal some aspect of child-centred practice and belief. For example, one trainer trainee who scored -0.40 (a much larger than average shift towards a teacher centric position) stated, "I have learnt teaching skills, but these are only important insofar as they affect children's learning". Another (-0.32) said, "children are better learners when they are in control of their own learning, although input and modelling needs to take place". Again (-0.44):

“...children learn when they are challenged through new and exciting activities” and (0.31): “...I should...adapt my teaching to respond to the children's prior learning, misconceptions and interests within the lesson”.

This brings up some interesting points that I will pursue further in Chapter 5 – that although the answers to the survey questions give a simple statistical data, the qualitative responses behind these bald statements are much richer and expose a much more learner-oriented view than can be captured by them.

Responses to the second free-text question around specific teacher- or learner-centrism in English teaching, demonstrate some clear themes in the understanding of trainees. I give here bald numerical facts, all of which will be further deconstructed and explored in Chapter 5:

- 39 responses can be categorised as understanding that primary English specifically needs teacher-led elements
- 37 responses identify a need for child-led elements in primary English sessions
- 24 specify that both teacher- and child-led approaches are necessary, or at least desirable
- 10 show an understanding of the requirement for the use of the pedagogical practices of modelling and scaffolding for effective teaching and learning in English
- 21 give example ways that teaching and learning in English can be more child-centric. The most common words used are ‘practical’ (an identification of child-centred with doing rather than being told – 10 responses used this word), ‘drama’ and ‘roleplay’, ‘exploring’, ‘investigation’, ‘collaboration’, ‘performance’, ‘Speaking and Listening’ and ‘experiential’.

Figure 4xix (over) demonstrates the percentage of student teachers that responded who felt that different experiences altered their beliefs, and to what extent.

Figure 4xix

Question	Hugely		To a large extent		To some extent		Barely		Not at all	
	Count	Percentage	Count	Percentage	Count	Percentage	Count	Percentage	Count	Percentage
To what extent has being on a PGCE course altered your beliefs about teaching English?	49	17%	142	49%	98	34%	1	0%	0	0%
To what extent has being taught in University altered your beliefs about teaching English?	49	17%	144	50%	94	32%	3	1%	0	0%
To what extent has being in classrooms altered your beliefs about teaching English?	90	31%	139	48%	45	16%	16	6%	0	0%
To what extent has being explicitly taught to 'facilitate learning' rather than to 'teach' altered your beliefs about teaching English?	71	24%	138	48%	73	25%	8	3%	0	0%

(290 responses).

Figure 4xix: Extent to which being on a PGCE course has altered the pedagogical beliefs of trainees about how they should teach English.

It is evident from this that not a single respondent felt that their beliefs about teaching English had stayed the same, and at least three quarters felt that these pedagogical beliefs had changed to a large extent or even 'hugely'. Between centre- and school-based experience, the biggest influence on these changes (attested to by 79% of respondents) was classroom experience – the confluence of the practical events, incidents and occurrences faced and undergone, alongside the maturation as a practitioner in a variety of roles and settings, although this also had the highest percentage (6%) of respondents who claimed obversely that this had 'barely' any influence on the changes they acknowledge they underwent. Centre-based tuition at the University had a lower response rate (67%) but can still be seen as influential in shaping and guiding the understanding of trainees. This is supported by the fact that no respondent answered that it had not affected them in some way. The direct influence of lecturers, including myself, on the understanding of student teachers through taught input on what we see as the value of child-centred, facilitative teaching was agreed with by 72% of respondents. This is in line with my earlier hypothesis that we, as insiders, add directly to the changing beliefs and practices of trainees on the PGCE course.

As for the Community of Inquiry sessions that I held, I will use statements and arguments from these throughout my analysis and discussions in Chapter 5, but suffice it to say here that they were broadly in agreement with the statistics, except that they were more effusive about, and indicative of, student teachers' beliefs that they had become more child-centric in their pedagogical outlook and practice than the unembellished statistics revealed above.

Finally, in order to add as much detail as possible to my answers, I asked the final cohort (not included in the statistical data) a series of questions that I had created following my initial analyses, and received 74 sets of written responses to questions that had been thrown up during my researches. These have been added to Chapter 5 in order to give further syncretic validity to my findings and analysis.

5.1 INITIAL REMARKS

Before moving on to discuss the results obtained, I first state that I have confidence in the ability of the quantitative test to accurately measure both teachers' pedagogic beliefs and their longitudinal developments, pointing to the overwhelmingly significant scores obtained on the Wilcoxon sign-rank test (figure 4xvii) to demonstrate this. My initial conclusion following the quantitative stage was that being on an ITE course at my Higher Education Institution is more likely to result in trainees espousing a more learner-centric pedagogic approach. This instrument makes it possible to measure teachers on a continuum of teacher- to learner-centrism with a high level of accuracy, although further validation through calibration against different and wider populations of teachers would be preferable before generalisation to the wider population can be made with any validity.

Ethnographic data was entered into Excel and SPSS and used to create charts for age, gender and ethnicity of respondents. However, these charts were statistically irrelevant as they work with such small numbers of matched respondents: males, for example, show an average shift of +0.05 but represent only 23 out of the 117 matched responses (19.7%).

Trainees in the age range 22-29 made an average shift of +0.16; those in the age range 30-39 shifted an average of +0.07; and those in the age range 40+ made an average shift of +0.04, but the latter two scores are based on the averages of 20 and 6 respondents respectively, and cannot be generalised from with any validity. Inasmuch as they *can* be interpreted, it shows an increasing reluctance to move towards a more learner-centric position in teaching English the older a trainee on the PGCE course is, but further iterations of the study, and on a larger scale, would be necessary before I would commit to this preliminary conclusion, and before any generalisations could be extrapolated and used to describe populations.

With these limitations identified, I move on to a further discussion of the findings that I feel can be accepted and learned from. It will be remembered that I describe myself as a practitioner who is, in deliberate collusion with my colleagues, aiming to enculturate the trainees at my HEI into the same social constructivist, learner-centric pedagogical mindset that we espouse in order that they themselves propagate (in a Foucauldian practice: e.g. in a capillary manner) the practices and cultural systems that we preach as a sovereign institution. However, I was interested in the levers for this working, and my research has been around the levers for changing personal epistemologies and espoused pedagogies. Although I can identify trends in these changes through a quantitative reading of the data (e.g. that trainees either make rather more radical shifts towards child-centeredness [an average shift of +0.28] or more slight shifts towards a more teacher-centred orientation [an average shift of -0.18]), I discovered perceptions of these levers for change through observing and analysing the dialogues of focus groups of participants on the course who were undergoing these profound changes. This task was made easier by asking the trainees to engage in double-loop learning as they participated in sustained communication with each other so as to arrive at a collaborative-constructivist understanding of their responses to authentic experiences in situated learning environments. Adapting Becker's (1970) metaphor, I believe that using both quantitative analysis of the statistical data and qualitative interpretation of the comments is additive in the sense in which the pieces of a mosaic are additive – the different elements came together to produce a composite picture: the findings of each were not just added together as corroborative evidence; but any elements that made a genuine contribution changed the emerging theory and conclusions.

Over the next few pages I present a series of tables that collectively tell the story of the quantitative research I completed. The first shows all questions in the order they were asked, with the differences between their averages from September to July shown; the second is arranged in the order of differences, with the questions that made the biggest jump from didactic → learner-centric first; and the third is arranged to show all the items in order from most to least learner-centric based on the cumulative July scores. Where necessary, the tables are followed by further discussion, and illuminated by the thoughts of the participants at my Community of Inquiry sessions.

Figure 5i

Q	Question text	Sept	July	Diff.
1	I believe learners should start with easy questions and work up to harder questions.	2.27	2.78	0.51
2	I believe I should tell learners which questions to tackle.	3.27	3.38	0.11
3	I believe I should teach the whole group all at once.	2.93	2.96	0.04
4	I believe I should know exactly what each lesson will contain.	1.54	1.71	0.16
5	I believe learners learn through doing repeated exercises.	2.81	3.06	0.25
6	I believe I should try to cover <i>everything</i> in a topic.	2.73	3.37	0.64
7	I believe I should avoid learners making mistakes by explaining things to them carefully first.	2.64	2.51	-0.14
8	I believe learners should mostly work on their own, consulting a neighbour from time to time.	3.73	3.43	-0.30
9	I believe I should teach each topic from the beginning, assuming they know nothing.	3.32	3.69	0.37
10	I believe I need to teach each element of a topic independently.	3.78	3.84	0.05
11	I believe learners should use only the methods which I teach them.	4.31	4.05	-0.25
12	I believe I should draw links between topics and move back and forth between several topics.	3.43	3.51	0.08
13	I believe I should follow the textbook, or worksheets, closely.	3.68	4.22	0.54
14	I believe I should only go through one method for doing each type of question.	4.47	4.41	-0.06
15	I believe I should encourage learners to make mistakes and discuss mistakes.	3.87	4.00	0.13
16	I believe learners should be allowed to work collaboratively in pairs or small groups.	3.87	4.08	0.21
17	I believe learners should learn through discussing <i>their</i> ideas.	4.30	4.34	0.04
18	I believe I should jump between topics as the need arises.	2.96	3.31	0.34
19	I believe I should find out which parts learners already understand and don't teach those parts.	2.41	2.63	0.23
20	I believe I should teach each learner differently according to their individual needs.	4.17	4.25	0.08
21	I believe learners should compare different methods for doing questions.	4.20	4.15	-0.05
22	Even though I'll plan my lessons thoroughly, I believe I'll be constantly surprised by the ideas that come up during my lessons.	4.63	4.49	-0.15
23	I believe I should encourage learners to work more slowly.	2.42	2.48	0.06
24	I believe learners themselves should choose which questions they are to tackle.	2.58	2.82	0.23
25	I believe learners should be allowed to invent their own methods.	2.91	2.97	0.06

Figure 5i – all questions in order, with Sept and July responses.

Figure 5i demonstrates each of the questions on the survey with their averaged September and July scores when aggregated across all cohorts, and the difference between them (final column). It will be remembered that I reverse-coded some questions – this is inherent within the table so that a higher score always corresponds to a more learner-centric position, and a shift to a higher score means a positive shift towards this position. I have added a final layer of explanation in that

differences identified as green correspond to a positive shift – i.e. to a more facilitative student-centred position from September to July, and those in red represent a ‘negative’ shift towards a more instructionist pedagogical belief. In order to make more sense of these findings, I rearranged the table into figure 5ii, below:

Figure 5ii

Q	Question text	Sept	July	Diff.
6	I believe I should try to cover <i>everything</i> in a topic.	2.73	3.37	0.64
13	I believe I should follow the textbook, or worksheets, closely.	3.68	4.22	0.54
1	I believe learners should start with easy questions and work up to harder questions.	2.27	2.78	0.51
9	I believe I should teach each topic from the beginning, assuming they know nothing.	3.32	3.69	0.37
18	I believe I should jump between topics as the need arises.	2.96	3.31	0.34
5	I believe learners learn through doing repeated exercises.	2.81	3.06	0.25
19	I believe I should find out which parts learners already understand and don't teach those parts.	2.41	2.63	0.23
24	I believe learners themselves should choose which questions they are to tackle.	2.58	2.82	0.23
16	I believe learners should be allowed to work collaboratively in pairs or small groups.	3.87	4.08	0.21
4	I believe I should know exactly what each lesson will contain.	1.54	1.71	0.16
15	I believe I should encourage learners to make mistakes and discuss mistakes.	3.87	4.00	0.13
2	I believe I should tell learners which questions to tackle.	3.27	3.38	0.11
12	I believe I should draw links between topics and move back and forth between several topics.	3.43	3.51	0.08
20	I believe I should teach each learner differently according to their individual needs.	4.17	4.25	0.08
23	I believe I should encourage learners to work more slowly.	2.42	2.48	0.06
25	I believe learners should be allowed to invent their own methods.	2.91	2.97	0.06
10	I believe I need to teach each element of a topic independently.	3.78	3.84	0.05
3	I believe I should teach the whole group all at once.	2.93	2.96	0.04
17	I believe learners should learn through discussing <i>their</i> ideas.	4.30	4.34	0.04
21	I believe learners should compare different methods for doing questions.	4.20	4.15	-0.05
14	I believe I should only go through one method for doing each type of question.	4.47	4.41	-0.06
7	I believe I should avoid learners making mistakes by explaining things to them carefully first.	2.64	2.51	-0.14
22	Even though I'll plan my lessons thoroughly, I believe I'll be constantly surprised by the ideas that come up during my lessons.	4.63	4.49	-0.15
11	I believe learners should use only the methods which I teach them.	4.31	4.05	-0.25
8	I believe learners should mostly work on their own, consulting a neighbour from time to time.	3.73	3.43	-0.30

Figure 5ii – All Qs in order of differences Sept-July, all cohorts.

5.2 NEGATIVE SHIFTS TOWARDS TEACHER-CENTRISM

Figure 5ii demonstrates those items that made shifts on the continuum in order from largest positive move to largest negative shift. We can also now see more clearly that, as was briefly identified in Chapter 4, six items run counter to what I see as desirable: Questions 7, 8, 11, 14, 21 and 22 (see Figure 5ii[a]):

Figure 5ii(a)

7	I believe I should avoid learners making mistakes by explaining things to them carefully first.	2.51
8	I believe learners should mostly work on their own, consulting a neighbour from time to time.	3.43
11	I believe learners should use only the methods which I teach them.	4.05
14	I believe I should only go through one method for doing each type of question.	4.41
21	I believe learners should compare different methods for doing questions.	4.15
22	Even though I'll plan my lessons thoroughly, I believe I'll be constantly surprised by the ideas that come up during my lessons.	4.49

Figure 5ii(a) – items running counter to the general shift towards learner-centrism.

Four of these are in the top six most learner-centric positions of all items with average July scores over 4.0, and can be understood – to some degree – as regressing to the mean. However, questions 7 and 8 are anomalies that needed further exploration. As noted earlier, Q7 (“I believe I should avoid learners making mistakes by explaining things to them carefully first”) regressed by -0.28, although it was already in the bottom quartile of results, and Q8 (“I believe learners should mostly work on their own, consulting a neighbour from time to time”) made the most surprising and dramatic downshift in a regression of -0.30. As all of the responses in July are based on a year’s exposure to centre-based theory and authentic school-based practice, it can plainly be seen that the average trainee believes children should work independently more often than they first espoused in September, which is counter to the collaborative, guided, situated, active, creative and cooperative pedagogies previously discussed.

These two Qs, 7 and 8, are key questions that I followed up in the final qualitative dialogic sessions I ran with trainees. Question 8 is an anomaly. The original September averaged score was 2.27, which was then reverse coded to 3.73, putting it more towards the child-centric end of the continuum, but this question was

understood very differently by trainees in September from how it was understood at the end of their courses. Melissa (please note: all given names are pseudonyms, but have been chosen to reflect gender and ethnicity) said that she had answered it in September believing then that it was better that children did not talk too much in class “in case it distracted others or they were off target”, but that this was no longer her belief. John agreed, quoting his English lecturer at University (me, in fact) who states that, “If children are not talking they're not learning,” and going on to remark, “and I agree. If they're just doing, rather than discussing, they're not learning; merely regurgitating what they've been shown.” The consensus of both CoI groups was that it was more in line with learner-centric thinking to have scored this question highly, which would not have been their understanding at the start of their course. In this case, the shift from 2.27 → 2.57 (the original average scores) may be indicative of a significant 0.30 positive movement towards learner-centrism rather than, as described in the findings, a negative shift in the reverse coding from 3.73 → 3.43. This is clear evidence that the qualitative methods used have added a significantly greater depth of perspective and understanding to the quantitative data.

Similarly, Q7 “I believe I should avoid learners making mistakes by explaining things to them carefully first” was discussed by trainees as describing a shift that was influenced by the contingencies of classroom practice rather than personal preference: the need to “look good” (Jamal), to “make sure I get the Teacher Standards signed off – especially the ones about pupil progress” (Melissa) and to “teach to the SATs, and the phonics screening test” (Ling-Li).

The first two points can be considered together: the need for the hoops in teacher training to be jumped through on demand, and the desirability to do so effectively enough to earn the coveted “Outstanding” demarcation from school-based tutors. Lunn and Bishop wrote fourteen years ago that, “the futility of the whole exercise was summarised in the frustration of one trainee teacher who felt (that) ‘ticking the boxes and dating has been a waste of time, a ticked box does not prove anything,’” (Lunn and Bishop, 2003 p200) proving that the intervening decade and a half, and successive changes of government, educational policy and National Curriculum, have rather reified the process of satisfying bureaucratic administrative requirements

rather than actually achieving the goal of creating teachers who can think rather than do.

There was general unanimity that this box-ticking to ensure they passed their placement modules was the first and overriding concern of trainees. Making sure that every child met their learning objectives and success criteria (differentiated where possible) regardless of the strategies used was what student teachers expected to be judged on. Many of them sympathised with Anne when she confessed to pace having been one of her earliest targets, and one that she had struggled most with, acknowledging that this was common amongst them, mainly through what Q7 was investigating: over-coaching to a desired end rather than giving minimal input and allowing children to try, to fail and to learn: “our tutors were right: it is much more effective for a child to learn from a mistake than just to copy – there’s no deep learning” (Anne). Jamal agreed: “I used to tell them everything and then they only had fifteen minutes’ independent work – so even trying to make sure they got it didn’t work. In my own classroom, I want to allow for much more playing with texts and testing ideas than learning”. When challenged by his peers, however, he accepted that this was contingent on the school, the Headteacher, the testing climate and the demographics, amongst much else.

Ling-Li’s point around teaching to the test has been contentious for as long as tests have existed, and plenty of excellent writers have commented (see e.g. Callahan, 1962; Wiggins, 1989). A full discussion is beyond the scope of this thesis, but the CoI groups agreed that this was a major consideration for understanding teacher-centric pedagogical practices on a wider basis: that there are specific facts to be learnt and tested for (examples for English given by them included how to use a fronted adverbial, modal verbs, the past progressive, and the tenets of encoding and decoding, and blending and segmenting in systematic synthetic phonics) that need direct instruction. Both CoI groups attempted to unpick how learner-centric pedagogies could be employed within the tight parameters of these curriculum objectives and the compulsory testing regimes mandated upon children, but the general consensus was that, especially at their early-career stage, ensuring that the facts were transmitted was paramount, irrespective of their recognition that “actually,

I'd much rather they were able to write properly than name all the constituent parts of a sentence" (Ling-Li).

In a discussion on the other points that made negative shifts, mainly around teaching children to do one thing or to be given choices, the general feeling was in line with my own: that children should be able to personalise their approach to learning where possible, and that it is incumbent upon teachers to have a broad base of understanding, and the ability to share a range of pedagogical tools so that children can approach challenges in a number of ways – increasing the likelihood of their meeting these challenges.

Brian: "If your knowledge base is inherently method poor you've only – you only know two or three methods or are only confident in delivering two or three methods..."

Claire: "Yeah!"

Brian: "You're gonna be... restricting it, aren't you?"

Claire: "You're also restricting their thinking as well, so the next point, er... that learners, um... learners should only use one method for doing each question... but sometimes you have to think outside the box, you can't always use one method in life, you've got to try different things and you've got to be prepared to try and fail and try something else, and I feel with that one you are refusing to allow them to fail – you're not going to teach them the wrong method, are you, so you're only going to teach them the right method so you're expecting the child to get it right all the time..."

Dave: "But that becomes very mechanistic. Where does innovation come in?"

Brian: "The use of different methods!"

This demonstrates a burgeoning understanding of the principles of personalisation – that it is not differentiation for each child (an impossibility for the greatest teacher) but exposure to a variety of methods and skills for learning and the freedom for each child to select the method they feel most comfortable with to tackle the challenge set. The student teachers, then, are here revealing at least an intellectual and theoretical understanding of the learner-centric position, but as the conversation continued, it soon encountered a salient point for understanding why these items made a negative shift:

Melissa: "The best job a teacher can do is to teach a range of strategies and the child learns to pick the most appropriate way. There is not one way of solving a problem, providing it is

actually solved. Inspiration to learn independently is important, and not to be afraid of making mistakes.”

Brian: “This produces the obvious discussion on selection of methods versus correctness of the response to the question. To what extent does this go when considering the correctness of the answer?”

Claire: “Allowing children to make mistakes could lead to issues. Although I believe it is acceptable in many circumstances – people learn from them – the observer may be concerned that misconceptions are condoned in the classroom.”

Jane: “But I think you... that children need to make mistakes. You learn more from getting it wrong and then putting it right than just... just...um... regurgitating what you've been told to put.”

Me: “I absolutely agree. So if that’s what you think, why have these scores shifted backwards along my continuum from September to July?”

Dave: “I think it’s a dose of realism.”

Me: “In what way?”

Dave: “Because of the limits of the curriculum...the time constraints and...er...the need for teachers to get through the curr... the material in each year group.”

Claire: “Yes, I think it’s an...um...tacit recognition that – although we’d like to be more – what did you call it? Learner...learner-oriented?”

Me: “Learner-centric.”

Claire: “Yes, that – although we’d like to be like that, it’s also true that we have to work within these limits.”

From these discussions, it can be seen that there may be a desire to be more investigative and facilitative (as articulated by both groups) but a realism and practicality overrides this, leading to the statistical downshift described in the answers to Q7. This also provides further evidence of the qualitative research adding greatly to the quantitative data collated.

Supplementary written comments (see Appendix 8) from the final cohort gave further insights into the thinking of PGCE trainees about this:

“Pressure on progress in school has negatively affected some of these beliefs. In theory it works but in practice, management (School/OFSTED) need children to be at a certain point so you rush the learning and there is no time to explore, you just need to fill gaps.”

“The pressure on teachers to deliver outstanding lessons where all children have learnt change the beliefs of the teacher. When you are an NQT you feel incompetent and feel obliged to deliver lessons where they learn from you rather than themselves and from peers.”

The students who comprised this Col group also discussed the following as potential reasons for the negative shifts recorded in the statistics: placement influence; prior life experiences; the difficulty of showing individuals’ progress within collaborative work; the fear that some teachers may believe that children talking are not always ‘on-task’; and the methods of classroom management used. These fit entirely into the narrative that has been constructed above through trainee feedback and double-loop analysis (Argyris & Schön, 1978).

As was also discussed briefly in Chapter 4, where individuals can be tracked as having made a negative shift through their responses to the September and July questionnaires, their free text answers and their responses and participation in Col sessions help give a very different picture. Figure 5iii (below) gives a flavour of some of the free text comments and (left-hand column) the statistical shift made by the respondents (*italics mine*). It is noticeable how even those who made much larger than average negative shifts (it will be remembered that the average shift overall was +0.13, and of all those that made a negative move the average was -0.18) can still espouse radically child-centred beliefs.

Figure 5iii

-0.40	My understanding of how children learn has improved because of the course. <i>I have learnt teaching skills but these are only important insofar as they affect children’s learning. English can be, should be, more creative than maths and science subjects.</i>
-0.08	<i>I feel that English is a creative subject and should be taught as such. Children should be allowed to express their ideas through the written word by choosing their own topics etc.</i>
-0.12	<i>I would rather be learner-centric and allow children to learn because if children are being taught, how do you know if they fully understand?</i>
-0.24	English sessions are more independent, with <i>elements of a more creative approach to work</i> than maths or science.
-0.32	I feel both some topics need a child-led approach and others need more input to encourage better outcomes. <i>I think maths and science are more teacher-led than English, though. I have learnt that English can be taught in many diverse and interesting</i>

	ways, which I did not expect.
-0.32	<i>Children are better learners when they are in control of their own learning.</i> Although, input and modelling needs to take place.
-0.12	This course has consolidated the understandings I gained at university about teaching English. I think I'm often leading, either because of children's ability levels/age, but <i>I much prefer a child-led approach</i> – I'm working on it in my planning!
-0.44	I have learnt that there are a range of different methods to teach English and that <i>using a variety of methods is the best way to meet learners' needs</i> . My time in school has shown me that children learn when they are challenged through new and exciting activities. I would say that aspects of English are more teacher-led than other subjects, for example spelling and grammar (and that these aspects need to be – they are what they are). However, other <i>aspects can be more creative and child-led</i> , i.e. exploring genres, the inclusion of drama, role play, peer assessment etc.
-0.32	I think that <i>English is just as experimental and experiential</i> when taught in a practical manner. Children should be allowed time to experiment with using language.
-0.08	I have learnt that <i>children effectively learn through peer discussion</i> , and my time in school has shown me that the <i>teacher's role is to facilitate this</i> .
-0.16	English is mostly more teacher-led; however, there are <i>many opportunities to counter this</i> – i.e. drama, investigation. Core English teaching is teacher-led but teachers have a duty to <i>give pupils ownership of learning and opportunities to be creative/expressive</i> .

Figure 5iii – qualitative comments by participants who made a negative shift quantitatively.

I asked the CoI groups to discuss this phenomenon: to furnish me with their own explanation for the seemingly oxymoronic nature of these findings. Their 'syncretic' (Kipzinger, 1994) explanation was that respondents were putting the answers that best reflected their pedagogical practice rather than their beliefs. On reflection, despite the 'beliefs' being the object under study and in the survey title, I tend to agree that this is what has happened. This makes it even more heartening – that even where practice is considered, almost all the items either stayed very highly learner-centric or moved towards it.

5.3 POSITIVE SHIFTS TOWARDS LEARNER-CENTRISM

Figures 5ii(b-d) (below) show the items that made a positive shift towards the espousal of a more learner-centric set of pedagogic beliefs, separated as to whether they made a large (≥ 0.25), medium (< 0.25 and ≥ 0.10) or small (≤ 0.09) shift:

Figures 5ii(b-d)

6	I believe I should try to cover <i>everything</i> in a topic.	0.64
13	I believe I should follow the textbook, or worksheets, closely.	0.54
1	I believe learners should start with easy questions and work up to harder questions.	0.51
9	I believe I should teach each topic from the beginning, assuming they know nothing.	0.37
18	I believe I should jump between topics as the need arises.	0.34
5	I believe learners learn through doing repeated exercises.	0.25

Figure 5ii(b) – items that made a large positive shift (≥ 0.25) towards learner-centrism.

19	I believe I should find out which parts learners already understand and don't teach those parts.	0.23
24	I believe learners themselves should choose which questions they are to tackle.	0.23
16	I believe learners should be allowed to work collaboratively in pairs or small groups.	0.21
4	I believe I should know exactly what each lesson will contain.	0.16
15	I believe I should encourage learners to make mistakes and discuss mistakes.	0.13
2	I believe I should tell learners which questions to tackle.	0.11

Figure 5ii(c) – items that made a medium positive shift (< 0.25 and ≥ 0.10) towards learner-centrism.

12	I believe I should draw links between topics and move back and forth between several topics.	0.08
20	I believe I should teach each learner differently according to their individual needs.	0.08
23	I believe I should encourage learners to work more slowly.	0.06
25	I believe learners should be allowed to invent their own methods.	0.06
10	I believe I need to teach each element of a topic independently.	0.05
3	I believe I should teach the whole group all at once.	0.04
17	I believe learners should learn through discussing <i>their</i> ideas.	0.04

Figure 5ii(d) – items that made a small positive shift (≤ 0.09) towards learner-centrism.

I presented my Col groups with these tables and asked them to discuss whether they recognised them as representative of their own understanding, and to see if they could explain my findings – in effect, asking everybody present to collaboratively analyse the data and come to group decisions about the reasons behind the shifts in that data, which adds verisimilitude to the analysis (Bryman, 2012). This brings me back full circle to an idea previously discussed: the greater plausibility and authenticity granted by a syncretic consensus of many, especially when it is remembered that my methodological and ontological stance is towards the idea that each participant can only view the discussion through the prisms of their individual understanding and epistemology.

The discussion of the first group of items, those that made the largest positive movements (see Appendix 5 for the written responses), brought up comments such as:

“It's not possible to teach children everything, so working with their interests and what is deemed to be important should help inform the teaching.”

“You need to know their prior knowledge so you know where to start. It can help them explore and deepen their understanding.”

“As long as it doesn't cause confusion or disparity in the learning, I think that Teaching should follow children's interests. If they help to make connections and deepen understanding, and joins should be made (within reason – as long as learning is still taking place, and the children are engaged!).”

As is evident here, and throughout Appendix 5, the responses were both closely aligned with the statements and indicative of a movement towards them over the time spent in University. This is generally the same for Appendices 6-8 as the Col groups discussed each of these groups of statements.

The second group, noted in Figure 5ii(c), were also agreed with by the Col groups (Appendix 6) as indicative of their understanding both of pedagogy and of their changing beliefs during their postgraduate course.

However, there was one large discrepancy. Item 24, which was joint seventh in terms of the size of its positive shift, was generally disagreed with by the students who

comprised the Col group that discussed it. Discussing whether children should have the freedom to choose their own level of challenge within their work (which made a shift of +0.23 towards a belief in this pedagogical principle), trainees stated that: “Choice has to be prioritised and differentiated or children will definitely pick the easiest subject, obviously not being challenged and therefore giving extra credit to children who don't progress as much in a lesson due to their sheer idleness.”

“Choice has to be parameterised and differentiated. If choice is too free, children might (in my experience most children would) pick work they know they can do. It was a policy in school to allow choice – with such a large range of abilities the children quite often tried to pick work that was too easy. One boy always tried work that he struggled with as it was too hard for him.”

My belief is that these comments display a naïve misunderstanding of children's ability and willingness to know, and to challenge, themselves that is at odds with the statistical data. This is the only example of this throughout my research, and it forms one of the recommendations that I make: that this be investigated further.

Some students showed some deeper understanding:

“Choosing own questions would limit learning as they won't be pushing themselves. They need different questions to encourage further learning.”

“I disagree with this as children need some guidance on the questions that should be tackled. However sometimes children should be encouraged to tackle questions they would like to do.”

“Yes, individual needs can be met and they can move on to a deeper understanding faster. But – will they still have this understanding the following year?”

“Going to choose which questions they are able to tackle but some facilitating needs to take place on the teacher. Teacher needs to provide questions in a range.”

But even these comments fail to demonstrate the same level of positive pedagogical shift found in the statistics.

The final set of comments in Figure 5ii(d) are compiled in Appendix 7. The commentators noted their reasons for the small size of the shifts:

“I believe that the small jumps are observed due to the range of questions already aligning with teachers’ beliefs. I think that for these questions, the shifts that we observe would match my expectations.”

“The statement saw the smallest jumps in my opinion as most students that start the course already told them highly in their beliefs. This was not indicated on the table, as the small jumps could have made either high beliefs with change or no beliefs with little change.”

“Strongly believe that children should discuss their ideas – teachers should act as facilitator. Mix of group discussion and whole class teaching is most effective. Teaching the latter differently according to their individual needs made a small shift because most students already had the understanding that teaching should alter to individual needs.”

I feel that this reasoning is sound as far as those questions that started at a high level (12, 20, 10 and 17), but is a bit more troubling for Qs 23, 25 and 3, which did not reach an average of 3 on the July survey. For these, the following comment seems correct:

“Preliminary understanding of statements was already accurate to current philosophies. Only fine-tuned changes to understanding.”

However, these are still lower than I would expect. I looked for a greater shift on these items.

I finish this section with Figure 5iv (below), in which I give all the items in their July order, from most learner-centric to least:

Figure 5iv

Q	Question text	Sept	July	Diff.
22	Even though I’ll plan my lessons thoroughly, I believe I’ll be constantly surprised by the ideas that come up during my lessons.	4.63	4.49	-0.15
14	I believe I should only go through one method for doing each type of question.	4.47	4.41	-0.06
17	I believe learners should learn through discussing <i>their</i> ideas.	4.30	4.34	0.04
20	I believe I should teach each learner differently according to their individual needs.	4.17	4.25	0.08
13	I believe I should follow the textbook, or worksheets, closely.	3.68	4.22	0.54
21	I believe learners should compare different methods for doing questions.	4.20	4.15	-0.05
16	I believe learners should be allowed to work collaboratively in pairs or small groups.	3.87	4.08	0.21
11	I believe learners should use only the methods which I teach	4.31	4.05	-0.25

	them.			
15	I believe I should encourage learners to make mistakes and discuss mistakes.	3.87	4.00	0.13
10	I believe I need to teach each element of a topic independently.	3.78	3.84	0.05
9	I believe I should teach each topic from the beginning, assuming they know nothing.	3.32	3.69	0.37
12	I believe I should draw links between topics and move back and forth between several topics.	3.43	3.51	0.08
8	I believe learners should mostly work on their own, consulting a neighbour from time to time.	3.73	3.43	-0.30
2	I believe I should tell learners which questions to tackle.	3.27	3.38	0.11
6	I believe I should try to cover <i>everything</i> in a topic.	2.73	3.37	0.64
18	I believe I should jump between topics as the need arises.	2.96	3.31	0.34
5	I believe learners learn through doing repeated exercises.	2.81	3.06	0.25
25	I believe learners should be allowed to invent their own methods.	2.91	2.97	0.06
3	I believe I should teach the whole group all at once.	2.93	2.96	0.04
24	I believe learners themselves should choose which questions they are to tackle.	2.58	2.82	0.23
1	I believe learners should start with easy questions and work up to harder questions.	2.27	2.78	0.51
19	I believe I should find out which parts learners already understand and don't teach those parts.	2.41	2.63	0.23
7	I believe I should avoid learners making mistakes by explaining things to them carefully first.	2.64	2.51	-0.14
23	I believe I should encourage learners to work more slowly.	2.42	2.48	0.06
4	I believe I should know exactly what each lesson will contain.	1.54	1.71	0.16

Figure 5iv – All Qs in final (July) rank order, most learner-centric first.

As previously noted, the reverse-coding inherent in some questions means that, for every item, the higher the score the more learner-centric the beliefs espoused, so that for example Item 13 “I believe I should follow the textbook, or worksheets, closely” – to which I would hope for a low answer (“almost never” or “occasionally”) on the survey would be reverse-coded to a high score. It can be noticed that Item 13 indeed scored relatively high in September (3.68) and made a significant shift of 0.54 to 4.22 in July – which meant that it was scored as “almost never” or “occasionally” by almost every respondent.

5.4 RESPONSES TO RESEARCH QUESTIONS

I recap here the key questions I aimed to answer, and the supplementary ones that became important through my ongoing research:

1. How do PGCE trainees arrive thinking English should be taught in Primary schools, how do they think English should be taught after they have completed the course, and what, if any, differences are there in these beliefs?
2. What influences are there that cause trainees to 'shift' along the created teacher-centric $\leftarrow \rightarrow$ learner-centric continuum?
3. Which specific elements of pedagogy experience significant shifts in belief?
4. Does a trainee's understanding of their own epistemological standpoint have a bearing on the teaching?
5. Are trainees acculturated into following the precepts of the Institution, or do they actively seek deeper participation in the practices of teachers?

In exploring these further I am able to draw on the previous discussions and give a wealth of corroborative detail from the large body of commentary I amassed during the Community of Inquiry sessions held. This completes the cycle of the explanatory sequential design model (Cresswell, 2013), with informed participants commenting on my completed quantitative analysis and bringing to bear their own experiences (having undergone the same cognitive and pedagogic shifts) on the patterns and findings I have described.

One question that I specifically asked all participants to the free text comments and Col sessions concerned the power relationship and insider research problem posed in Chapter 3: "How do I know you're not giving me the answers I'm looking for?" Not a single response implied that they were being false. Replies ranged from the ironic and light-hearted ("You'll have to trust me!" and "You don't – but I'm not!") to the more serious, these latter of which noted that they were responding anonymously (at least, in the written responses), that they were responding without fear of reprisal or scorn; that they were contributing to research and understood the importance of that;

and that – especially in the Col sessions – they were honestly and, at times, passionately defending their own beliefs and understandings of the situations they had experienced and the pedagogical and epistemological perspectives they had constructed. As such, I present the following research answers as true and valid for the participant groups.

Q1. HOW DO PGCE TRAINEES ARRIVE THINKING ENGLISH SHOULD BE TAUGHT IN PRIMARY SCHOOLS, HOW DO THEY THINK ENGLISH SHOULD BE TAUGHT AFTER THEY HAVE COMPLETED THE COURSE, AND WHAT, IF ANY, DIFFERENCES ARE THERE IN THESE BELIEFS?

As is evident from the discussions in Chapter 4 and following, student teachers arrive with preconceived and received notions that a more traditional, didactic approach to the teaching of English is needed. Example comments:

“I do believe that English is more teacher-led and that scaffolding and instructions need to be more precise than in other subjects.”

“I do think that other subjects can be taught as a voyage of discovery, allowing children to find out facts for themselves, whereas English need more structured teaching.”

“Teacher-led in English is much more important. Modelling is particularly important to ensure there are no grammatical or punctuational misconceptions as a result of the teacher’s modelling.”

“I believe, in English, that teacher-led instruction is a good thing. The teacher leads, yet allows the learner to participate and interact. Purpose-made mistakes when modelling to see if children can correct; assess learning.”

“Literacy is skill-based. Teacher-led instruction is a good thing.” (Underlining as given by responder.)

“I feel that modelling is more essential in English, as maths and science give children more of a choice to explore and find answers. English has a more specific way of doing things, e.g. letter format, story formats etc. and thus need to be taught.”

“I agree that English is more teacher-led than maths or science. English can be learner-centric but I would use this occasionally. The rules and irregularities of English need to be taught in my opinion.”

“I would say that aspects of English are more teacher-led than other subjects, for example spelling and grammar (and that these aspects need to be – they are what they are).”

“I do think that other subjects can be taught as a voyage of discovery, allowing children to find out facts for themselves. Whereas English need more structured teaching.”

However, by the end of the course there is a clear and significant shift towards a more learner-centric approach:

“I try to be as creative as possible in order to create a ‘learner-centric’ environment.”

“I think there needs to be some teacher input but children need to learn through experience and engagement and to make and learn from their own mistakes. Cooperative learning also helps children (as they) learn from each other.”

“I feel that English is a creative subject and should be taught as such. Children should be allowed to express their ideas through the written word by choosing their own topics etc.”

“I believe English should be taught through child-led task/teaching as I believe this is a more effective approach to making sure children make progress.”

“I feel and aim to make my English lessons more learner-centric so they are exploring areas of the English curriculum rather than being taught.”

“English can be, should be, more creative than maths and science subjects.”

“I believe English provides opportunities to explore their personal curiosity and, as a teacher, I would like to build around that, interjecting curriculum aspects where appropriate.”

“I believe learner-centric is the preferred approach building on their interests to inspire thought and imagination.”

“On the whole, more child-led – it is their ideas that make a story/poem what it is – sharing their ideas after just a few of your own is more effective.”

There were twenty-four respondents who felt that a mix of the two is necessary:

“Children need to have a balance of both for literacy. They need a teacher-led focus to develop the understanding but then an opportunity especially in speaking and listening.”

“I feel that English should have a balance of teacher- and child-led learning. In some of my lessons where activities were child-led, the learning outcome has been greater.”

“I know it is important that the teacher has input and sometimes provides a stimulus to begin with, but I have learnt that children are enquiring, and motivated to learn if given some independence.”

“In English lessons I believe it is important for children to lead their learning *with guidance from the teacher.*”

As noted in Chapter 4, however, 82 out of 99 free text respondents noted a change in belief towards children’s learning, with the majority of these leaning towards the child-

centred approach, which is corroborated by the statistical analysis. Most student teachers agree that, whatever the numerical data and the answers to free questions, and although there should be elements of both teacher- and child-led pedagogy in English teaching, they have undergone a clear epistemological and pedagogical shift towards facilitative teaching and experiential learning over the course of their PGCE year.

Ten respondents showed an understanding of the requirement for the use of the modelling and scaffolding (e.g. Vygotsky, 1978; Bruner, 1975) for effective teaching and learning in English, which are teaching pedagogies, but also indicate a growing understanding that in order to be fully effective this modelling and scaffolding needs to feed into child-led and collaborative experimentation from the input (described by Corbett and Strong as the move from *imitation* to *innovation* to *independence*, 2017): “I have learnt that the teacher needs to be more specific in modelling how to do the specific skills and that collaborative work can feed into independent work... I realise that I need to “teach, not test” in my lesson time.”

“Children are better learners when they are in control of their own learning. Although, input and modelling needs to take place.”

Finally, twenty-one respondents discussed pedagogical methods they used to ensure that teaching and learning in English were more child-centric. The most common words used were ‘practical’ (an identification of child-centred with doing rather than being told – 10 responses used this word), ‘drama’ and ‘roleplay’, ‘exploring’, ‘investigation’, ‘collaboration’, ‘performance’, ‘Speaking and Listening’ and ‘experiential’:

“I believe by including more speaking and listening (*roleplay*) then English can be very *practical* too.”

“There is a heavy element of teacher-led activities through modelling and exposing children to the variety of genres, but the placements I have worked in use a reasonable amount of child-led work through planning before writing and *practical* hands-on experiences such as group *role play*.”

“I think that English is just as *experimental* and *experiential* as Maths or Science when taught in a *practical* manner. Children should be allowed time to experiment with using language.”

“I aim to make my English lessons more learner-centric so they are *exploring* areas of the English curriculum rather than being taught.”

“Children learn better when collaboratively learning and taking ownership of their own learning.”

“I disagree that English is more teacher-led than other subjects! I believe that pupils learn in English through *performing* and *understanding by doing*. E.g. when writing a story, tell or perform the story first so they have a greater understanding.”

“I have learned that children learn in *different ways*. Children learn by being *active learners* rather than passive learners and they benefit from *social learning – learning from and collaborating with* peers. My time in schools has shown me how important child-centred learning is and how, as a teacher, providing a rich opportunity for learning can enhance their understanding and learning journey.”

Much of this is supported by the Community of Inquiry analyses (Appendices 13-15). Comments include:

“There are no best way is, just lots of strategies to ensure all children are being taught in a style that suits them.”

“Creatively: don't just get children to write – inspire a class of children to do better.”

“During university lectures regarding English I have learnt many different strategies and ideas about teaching English. However, due to placement mentors/class teachers, they are not always so keen to embrace a new approach. I have found it difficult to carry out the new approaches I want. I believe that this will be different in our own classrooms though.”

“Be creative with lessons, use different techniques to engage all children such as digital literacy.”

“Teaching should be free and not restrictive. It should be creative and inspiring.”

“Best way is, modelling, talk for writing, speaking and listening, group talks.”

“Using the stimulus can be good, also using props or drama techniques such as hot seating or role-play. I've learnt these both at school and Uni.”

“Foster creativity. Encourage and love for reading for pleasure.”

“Be creative and fun.”

It is therefore evident that there is a general shift in pedagogical understanding towards a more learner-centric position. This is particularly evident through the qualitative research, even where some of the quantitative statistics show some regressive moves towards transmissionism.

Q2. WHAT INFLUENCES ARE THERE THAT CAUSE TRAINEES TO 'SHIFT' ALONG THE CREATED TEACHER-CENTRIC ←→LEARNER-CENTRIC CONTINUUM?

I asked all trainees to respond to a questionnaire at the end of the PGCE programme. To the question "Please describe how you feel that your understanding of and approach to teaching English has changed during this year?" I received 62 written responses (Appendix 2). I coded these, as discussed in Chapter 4, and offer the following observations.

Nineteen maintained that their experiences in school actively encouraged them to be more pedagogically oriented towards child-centrism:

"I have learnt that English is now taught in a more child-initiated environment, with *less need for the teacher to stand at the front and talk to the children*. My time in school has shown me this, as the children spend more time assessing and uplevelling texts which they then use to improve *their own* writing."

"I have learnt that children can be more responsible for their own learning and my time in school has shown me that *facilitating learning is better than 'spoon-feeding'*."

However, others disagreed, stating that school was a barrier to this and that it was University that inspired these beliefs:

"I would rather that children were allowed to be central to their own learning. *I try to be a child-led practitioner but it is difficult because of the nature of what is taught and the beliefs of the school*."

"Uni encourages teaching and active learning. School was quite boring with little class discussion and children had to write for long periods of time."

"I want to teach for *experiential* learning – University has given me lots of ideas for this."

The most common position was that both time in schools and undergoing centre-based training were influential in student teachers changing their pedagogical position: this was markedly the position that came through the Community of Inquiry sessions. Very few participants took the position that one or the other was strongly more important, although the consensus was more in favour of the experiences in

school having the larger part to play: “practice is always easier to learn from than theory” (Dave). This is broadly supported by figure 4xix, part of which I repeat here:

Question	Hugely	To a large extent	To some extent	Barely
To what extent has being on a PGCE course altered your beliefs about teaching English?	17%	49%	34%	0%
To what extent has being taught in University altered your beliefs about teaching English?	17%	50%	32%	1%
To what extent has being in classrooms altered your beliefs about teaching English?	31%	48%	16%	6%
To what extent has being explicitly taught to ‘facilitate learning’ rather than to ‘teach’ altered your beliefs about teaching English?	24%	48%	25%	3%

As is evident, 100% of the 290 respondents feel that sessions and input at University has explicitly challenged and changed their pedagogical beliefs, and 100% also responded that teaching in schools had had a similar impact, although 6% (sixteen trainees) reported that their time in schools had a very small bearing on their pedagogy compared with their other responses, which is inconsistent with the other views compiled.

In response to my written questions, the final cohort (not included in the statistics) offered further valuable insights (see Appendices 4-17 for more) that support the Col findings. Of the 62 responses (Appendix 15), 25 claimed that school was more effective in changing their praxes (although of these, 13 admitted that University had played a key formative role):

“Time in school – you learn more doing actively and writing/talking about it.”

“Time in school is most vital because we can try new ideas and reflect on these ideas.”

“In school – experiences speak louder than any words the lecturer can talk.”

“School has had the most influence my beliefs and practices as it is more practical and we apply our understanding in the classroom. University however helped with the foundations.”

“School, as having the knowledge is not useful that being able to apply it to different situations.”

“I would say more in school. Not taking what I've learned in class for granted, but when you're actively they're doing it, I feel you learn more.”

“Time in school – chance to experiment and explore new strategies and points of view.”

“School. You can't learn to be a teacher through other people.”

Thirteen felt that University was the more useful:

“University, Heard lots of useful ideas to implement but some schools were restrictive over implementing ‘new’ ideas in their school.”

“University. Placement has done the opposite.”

“University had a bigger impact as it is change the way I think about English school has helped but I have to teach the way the teacher wanted me to.”

“Uni has allowed me to understand the good pedagogical practices; however, in school this has not been practised as much as I would like.”

“Definitely time at University helped us to be successful in our time in school.”

Finally, 24 of the 62 respondents felt that both had been equally important:

“Both complimented (*sic*) my teaching practices.”

“Both – placement more so as it's ongoing practice.”

“On a par; having the theory knowledge is helpful when applying it to placement and teaching.”

“Without the insights from university I wouldn't have been able to go on placement. However placement has been a big influence on my pedagogical understanding of teaching.”

“The University has impacted my beliefs and practices which I have then applied on placement.”

“I take lessons learnt at university into placement which is where I am able to test that theory from university and evaluate its usefulness in practice. This helped me to become more critical of the theory – both time at university and in school play key part in influencing my pedagogical beliefs and practices.”

“Both, using techniques taught at uni has allowed me to facilitate them into the class.”

“School is the experience but couldn't of done it without uni (motivation, strategies).”

“University gave me an understanding of the skills I need an English. Being in classrooms help me put these into practice.”

“I think they are both equally vital. I gained the knowledge and university and see the current practise in schools.”

It is evident from this that both are generally recognised as important for the development and adaptation of pedagogical beliefs, but with some strong markers on either side – some built from epistemological beliefs (“you can't learn from other people”), and some from bitter experience (“some schools were restrictive over implementing ‘new’ ideas in their school”; “Some schools do not appear to practice

what we are told at Uni – for example, excessive use of worksheets”; “good pedagogical practices... in school ...have not been practised as much as I would like”).

The written comments from the Col sessions make note of how the lectures prepare students for practice:

- The best way is to engage children. I have learned lots of methods in the English lectures.
- During university lectures regarding English I have learnt many different strategies and ideas about teaching English. However, due to placement mentors/class teachers, they are not always so keen to embrace a new approach. I have found it difficult to carry out the new approaches I want. I believe that this will be different in our own classrooms though.
- Bringing it to life. In my attachment I used the ideas I got from the lectures. I used role-play to introduce the ideas of newspaper writing.
- A lot of different strategies learnt throughout lectures and during attachment through observing teachers.
- Learnt different techniques to engage children in different aspects of English

Trotman and Kerr (2001) note that preservice teachers’ experience in schools, can act “as a filter, screening out content from academic programs that challenges their ‘observational apprenticeship’” (p. 159), which reinforces Dave’s point that some of the theory is inconsistent with what they see in practice, and it is the latter that remains at the forefront of the mind when dealing with immediacies.

In summary, I posit that taught input at University engages trainees in thinking about pedagogy and engages them in positioning themselves epistemologically, and practical experience in schools helps them to adopt and adapt these practices for the benefit of the children, which in turn helps define their pedagogical beliefs, leading to the shifts reported on through this thesis.

Q3. WHICH SPECIFIC ELEMENTS OF PEDAGOGY EXPERIENCE SIGNIFICANT SHIFTS IN BELIEF?

I present below two tables we have met before: Figure 5ii(b), those items that make the most significant positive shifts, and Figure 5ii(a), all those that make negative shifts:

6	I believe I should try to cover <i>everything</i> in a topic.
13	I believe I should follow the textbook, or worksheets, closely.
1	I believe learners should start with easy questions and work up to harder questions.
9	I believe I should teach each topic from the beginning, assuming they know nothing.
18	I believe I should jump between topics as the need arises.
5	I believe learners learn through doing repeated exercises.

Figure 5ii(b) – items that made a large positive shift (≥ 0.25) towards learner-centrism.

7	I believe I should avoid learners making mistakes by explaining things to them carefully first.
8	I believe learners should mostly work on their own, consulting a neighbour from time to time.
11	I believe learners should use <i>only</i> the methods which I teach them.
14	I believe I should only go through one method for doing each type of question.
21	I believe learners should compare different methods for doing questions.
22	Even though I'll plan my lessons thoroughly, I believe I'll be constantly surprised by the ideas that come up during my lessons.

Figure 5ii(a) – items running counter to the general shift towards learner-centrism.

Figure 5ii(b) is discussed at length in Chapter 5, and can be described as indicative of a clear shift in students' understanding both of pedagogy and of their changing beliefs during their postgraduate course, depicting as it does a move away from teacher-oriented praxes such as repeated exercises, following textbooks closely and teaching through clear steps, and towards more learner-centric pedagogies such as challenging children to choose their own levels, peer talk, collaborative and exploratory learning, and to personalise learning by allowing children to choose their own methods when presented with a challenge.

Figure 5ii(a) was again discussed at greater length above, but I briefly note that these are the only items to experience a negative shift, four of which are in the top six most learner-centric positions of all items, and the other two (Q7+8) were discussed fully

above. The understanding arrived at by the Community of Inquiry groups was that most of them were fully cognisant of the power of the situated, facilitative and investigative pedagogies that have been discussed throughout this thesis, and of oracy within socially constructive environments, but that the exigencies of practice, the pressures of Ofsted, the necessities of 'teaching to the test' (especially SATs), the demands of headteachers and other external constraints, and the requirements of ensuring progress against the new age-related expectations (DfE, 2014) all take a toll on the ability of preservice teachers in particular to provide these experiences for children.

Q4. DOES A TRAINEE'S UNDERSTANDING OF THEIR OWN EPISTEMOLOGICAL POSITION HAVE A BEARING ON THE TEACHING?

I started this research with no fixed notion on this, but very quickly discovered a wealth of literature attesting to it, starting with the Swan (2006) article that lay behind the practices scale I have used throughout. He notes, drawing on Schoenfeld (1992), that "beliefs underpin personal thought and behaviour. They underlie dispositions to engage in certain practices and not others. They help people to understand themselves, to understand their environment and to form social groupings around shared values, thus reducing discord" (Swan, 2006 p59). As I wrote in Chapter 2, the majority of studies of the personal epistemologies of preservice teachers conclude with a key recommendation for teacher education programmes that the development of a sophisticated personal epistemology should be an explicit focus on those courses and that students should be encouraged to engage with specific reflection on their beliefs; indeed, I created a diagram to present the relationship between the development of a sophisticated personal epistemology and espousal of constructivist teaching practices. A logical extension to this, then, is that attempts to develop teaching practices must therefore focus on beliefs, which are the "best indicators of the decisions individuals make throughout their lives" (Pajares, 1992 p307), and self-concept (Paulick et al., 2016), and documented changes in these beliefs and reported changes in self-concept may well be the simplest and most lucid measures of a teacher's professional growth (see e.g. Kagan, 1992).

When trainees were given a chance to answer this question, forty-seven out of the fifty responses (94% - see Appendix 16) answered that yes, one's own epistemological standpoint directly impacts the pedagogical approaches used:

"Yes. If I didn't have an understanding of learning I wouldn't be able to teach effectively. It is important to consider different types of learners when planning, delivering and adapting lessons. I can use my understanding of learning to help me provide effective learning opportunities for children."

"My teaching is based on understanding of learning – always have thought about this. Work out how to teach working backwards from what need to do and how to achieve this."

"Yes because without understanding how children learn we can't impact on this during time in school."

"I can change my teaching to suit different learners/children."

"You can adapt things you want to use."

"Theory gives understanding of what children should be doing at a certain age."

"Children learn in different ways I can plan for each style."

"When I understand things I teach it better and can remove misconceptions."

Q5. ARE TRAINEES ACCULTURATED INTO FOLLOWING THE PRECEPTS OF THE INSTITUTION, OR DO THEY ACTIVELY SEEK DEEPER PARTICIPATION IN THE PRACTICES OF TEACHERS?

To reiterate my own views briefly, I am convinced that it is an active quest to accumulate the understanding and practices of the community of practice of teachers that we as staff expect, and see, from our students. All fifty-one student respondents were of the same opinion (see Appendix 17). When asked if we have forced them, or they have actually sought, to adopt any specific praxes, they answered:

"I feel that we received good advice from the university but ultimately I have taken my teaching practices from what I have observed on placements and personalised them to my class."

"Matt has always been a very keen believer of the fact that every child/every teacher must be allowed to be creative/innovative in their own way. He has never stressed one particular way a teacher must teach; rather he strongly supports criticality in learning as important."

"I have taken ideas and adapted to my own."

"Haven't felt forced to teach but I've actively taken on board some of the practices."

“It has encouraged me to magpie other ideas from others.”

“I do not feel forced, I have taken on board advice.”

“There has been a variety of strategies that I'm able to implement to best suit the learners.”

“No – lectures/tutors provided knowledge and experience and I have adapted and adopted certain ways as I feel appropriate.”

“No you have provided options for us to choose from and make up our mind”

“I've done my own thing but listened to and taken on the advice that I felt would improve my teaching.”

“We are allowed and fully supported to have our own teaching style.”

“I feel we have been given excellent examples of how to teach and I have used is in my practice which I feel have developed me.”

This I find heartening, and true to my own experiences of becoming a teacher. There was one point of view I did not expect:

“Neither at uni or school. Been given ideas and suggestions. I like this, but regret there seem to be no surefire methods.”

There are two surprises here: firstly that the student feels neither free to have chosen nor forced to choose; and secondly that they were expecting – and still seem to! – some sort of magic button or pedagogical panacea that will allow them to teach any child regardless of the social, cultural or educational contexts within which they are embedded.

This is an isolated case, however, and none of my other findings – not in the written comments, the Community of Inquiry sessions, or survey answers – are indicative of this being anything more. Generally it can be seen and posited that PGCE trainees develop their personal epistemologies – and their pedagogical beliefs – throughout their time on the course through a combination of directly-taught input, practical experience on placement in classrooms, and make important shifts in their beliefs (as shown through statistical investigation and an analysis of qualitative statements) towards an understanding that the student-centred philosophies of teaching and learning discussed throughout this thesis are the most effective pedagogical practices.

CHAPTER SIX: CONCLUSIONS

6.1 SUMMARY OF MAIN POINTS

This thesis has sought to uncover changes in Post Graduate Certificate in Education (PGCE) trainees' epistemological understanding through the year that they are on the course, and what the levers for any changes thus identified are. A brief summary is that there is a significant shift amongst primary student teachers across the year away from transmissionist, didactic pedagogical practices towards more learner-centric, exploratory and facilitative teaching styles, and that taught sessions at University (including theoretical underpinnings and the direct influence of the tutors) are complicit with the practical experiences in authentic school situations in helping shape the pedagogical beliefs of students as they negotiate the year and construct their burgeoning understanding of their role as teachers. It is also noteworthy that the numerical and statistical shifts identified and discussed, whilst clearly indicative of a shift towards a more learner-centric mindset, in and of themselves do not tell the full story. The Community of Inquiry sessions and the written comments received reveal a much greater affiliation for the facilitative, exploratory pedagogical approach that I have advocated throughout this thesis.

This summary is made possible through the quantitative analysis of hundreds of participant responses to surveys at the beginning and end of the academic course, through syncretic conclusions to Community of Inquiry dialogic sessions, and through the written free-text responses of PGCE students to questions on this theme, the mixed methodological nature of which research allows me the confidence of polyocularity and of multiple operationalisation in ascribing validity to it. I would add that I have a large data set and a wealth of corroborative material, and feel that my analysis and conclusions are written from a position of strength. I am proud of having had sections of this thesis published, particularly the quantitative analysis, as this both adds authority to my submission and validates my decision to attempt a quantitative study when this was out of my comfort zone at the start of my studies.

6.2 CONCLUDING STATEMENT

Much of what has been discussed in this thesis is to do with the building and inhabiting of a new identity: student journeys from aspirant to peripheral novice, and further: to an embedded participant in the praxes of the community of practice of teachers, equipped with the skills, knowledge and language in order to practise as capillary agents the distributed codes and competencies of teachers within the phase space (c.f. Stewart and Cohen, 1997) of the possible. Meierdirk writes eloquently about the journey of becoming: “The construction of the student teacher’s professional identity is developed during the PGCE year, but this journey is full of complexities” (Meierdirk, 2016 p19). He explains that the beliefs and experiences that students have – specifically those with which they arrive – may lead to what he calls “serious tension” (p19) if, or more likely when, these “collide with the professional expectations” (p19) put upon them. These tensions were classified by Pillen, Beijaard and Den Brok (2013) as the change in role the student undergoes as they deepen their participation in the community of practice of teachers, becoming increasingly ‘expert’; the conflict between the support wished for, and that given, to the student during their year; and the conflict between teaching and learning.

“The tension between the student’s own personal beliefs and knowledge, and the professional identity, is not always a disadvantage. The tension experienced during the student teacher’s journey may make them stronger and more reflexive. The reflexivity is needed to enable the student teacher to decide which of their own values and beliefs they can hold onto and which ones do not fit with the prescribed professional identity of the teacher” Meierdirk (2016 p20).

This was the focus of my qualitative research – investigating the outcomes from these tensions: the beliefs and, by extension, practices of student teachers as they graduate and embark of the construction yet another identity: that of the Newly-Qualified, but professionally-accredited, teacher.

To return to complicity: innovation in practice leads to a redirection in the trajectory of belief or understanding; new understandings encourage further innovations: pedagogic experience and understanding recursively modify each other, leading to better teaching, a deeper participation in the community of practice of teachers and –

in the cases I have followed – on average, a greater understanding of the benefits of child-centred, collaborative, discursive and facilitative teaching, and, at least as espoused in dialogic Community of Inquiry sessions, a concomitant change in pedagogic practice in the authentic realities of the classrooms that student teachers inhabit during their school placement experiences and, by extension, into their nascent careers.

This journey of ‘becoming’ – of legitimate peripheral participation, leading to a deeper acculturation into the practices of teaching – is needed to establish each student’s teaching identity (Coldron & Smith, 1999). “They do not start the course with their teaching identity; it is developed during the PGCE year and beyond” (Meierdirk, 2016 p21). We as teacher educators are part of the framing of that becoming, as are the classroom experiences they undergo. This research shows that both are complicit in helping student teachers develop a personal epistemology, in shaping their beliefs and – ultimately – in moulding the pedagogic practitioners that emerge from the PGCE course and begin careers in teaching.

Although I can only state with confidence that the findings are true for the participants and not for the whole student body, I believe that they are indicative of a direction of travel that would be replicated whenever or wherever this study was repeated. The identified move from didactic to more learner-centric pedagogical beliefs, as described in the quantitative statistical data and the qualitative comments and Community of Inquiry sessions, is personally satisfying, as this is what I would have wished to see at the outset of the research. This leads me on to the next section.

6.3 PERSONAL STATEMENT

The Hadow-chaired Board of Education report on *The Primary School* in 1930 stated that “the curriculum of the primary school is to be thought of in terms of activity and experience, rather than knowledge to be acquired and facts to be stored” (Board of Education, 1931 p.141). Nearly a century later, these words stand in stark reproach to the instrumentalist, narrow, knowledge-based curriculum under which we currently labour.

As an educationalist, a primary teacher and someone with a direct influence on the teachers of the future, I believe it to be an important element of my job to widen the philosophical and epistemological lenses of understanding that student teachers are exposed to: to allow them to see that there are alternative perspectives on teaching and its practices; that we do not necessarily need to operate within the confining and enframing modes of transmitting the National Curriculum that we get from technicist readings of what teaching is. Just as I have spoken of the dichotomy between the brutally instrumentalist interpretation on the one hand of schools as paradigm institutions that parameterise bodies in order to enable the individual to achieve economic prosperity and be a useful economic unit within society, and the conception on the other hand of schools as immense opportunities for self-realisation and empowerment, there is here also a much more optimistic construction of what teaching is. In having some of these concepts and theories revealed to them, I believe that student teachers can change their perceptions and their beliefs and, through putting these ideas into practice, can 'calibrate' their developing personal epistemologies with their pedagogical practices, which in turn gives them a developed justification for their personal stances, greater empathy and comprehension, a more evaluative and reflective position and a more well-developed use of higher-order thinking, leading to more effective, socially-constructive approaches to learning and teaching.

Student teachers look to inhabit the role of teachers, and seek to absorb the culture, traits and rituals of teaching and incorporate them into their own practices based on what they receive (as capillary agents) from us as lecturers in theoretical and ideological transfers at University, and from empirical experience in authentic classroom-based realities, which leads to an individualisation of approach within the parameters of what is culturally acceptable. In this, I have suggested that they demonstrate the acquisition of competences, rather than personal transformation (cf. Hiebert, Morris and Glass, 2003, who suggest that Universities exist to support student teachers to "acquire the tools they will need to learn to teach rather than finished competencies of effective teaching" [p202]).

This enculturation into the community of practice of teachers can be seen as “the personal process by which, through engagement in an activity, individuals change and handle a later situation in ways prepared by their own participation in the previous situation. This is a process of becoming, rather than acquisition” (Rogoff, 1995, in Odden and Rochat, 2004 p40). This is not just a transfer of ideology; it is each trainee ‘becoming’ an individual teacher, able to personalise their approach to each encountered situation and to teach ‘their’ way. They do not have just content knowledge, as Shulman pointed out, but pedagogical content knowledge – not just the what but the how of getting it across to children in the most effective ways, based on their theoretical frameworks and their individual experiences and situations.

I have argued throughout that the development of a sophisticated personal epistemology and the twin exposure to what has been taught at University and how this works practically in different classrooms, rather than being a forced acculturation is a journey of self-actualisation: of transition from peripheral participation to active membership. My colleagues and I enable our trainees to assimilate the knowledge and culture of teachers, but also to individualise their approach to this adoption of identity and to their enaction of these interpretations in the different and individualised situations they encounter in schools. We have allowed them to become what they set out to be: a teacher.

6.4 LIMITATIONS OF THE STUDY

Whilst I have confidence in the methodology and the instruments, and in the conclusions I have drawn, I nevertheless accept that there are limitations to this study. I have tried to eradicate many of the potential limitations through my research design (e.g. sample size, prior research, self-reporting) or have discussed thoroughly so as to ‘warrant’ my conclusions in the light of my methodological, epistemological and ontological perspectives (e.g. biases, access, insider research).

I state at the outset of this section that I recognise that this study is neither generalisable from, nor transferable to any other situation, with any validity. The research would need to be repeated in other PGCE-awarding Higher Education

Institutions and on a larger scale before any such tentative generalised suggestions or conclusions could be reached.

A key limitation of this study could be seen as the lower rate of matched responses (117, compared with the 328 responses in September and 239 in July). However, any comparable study would also be subject to the loss of participants through failure of the course, non-attendance on a key date, withdrawal from the course, failure to give the student ID number at either timepoint etc. This is the reason for my doing two sets of analysis: one on the combined September as against the combined July data; and a second focusing on the matched datasets, so as to try and get as broad a picture as possible, and to use the matched data as a random sample of responses that give a more precise understanding of the whole, as there was no selection process: those that gave data that could be matched became my *de facto* blind-assigned group. I have made it clear throughout that this investigation and the conclusions I have reached are true and valid for the participants under study, and not for the whole student body.

Another potential limitation is that I have not continued the study into participants' newly qualified teacher year, nor beyond, so cannot comment on their pedagogical praxes. However, this study was conceived and executed with a specific focus on student teachers, not qualified ones, and on espoused beliefs rather than physical practices.

6.5 RECOMMENDATIONS

Recommendations for my personal and professional development:

In order to bridge the gap between epistemic espousal and pedagogical practice, it would be very interesting to follow identified participants for a longer timescale and both conduct supplementary longitudinal research into the further development of their pedagogical beliefs, and to design a study that examined their pedagogical practices and analysed whether these tallied with the approaches they espouse.

There are some responses to items that I feel warrant further study. For example, Q24, “I believe learners themselves should choose which questions they are to tackle” made a significant statistical shift to a more learner-centric position, but there was a negative discrepancy between the statistic and the Community of Inquiry comments which would bear further investigation.

A labour-intensive, but potentially worthwhile recommendation may be to repeat the study using undergraduates on the three-year Bachelor of Education route, which would enable a longer-term study, with longitudinal reference points at the end of each of three years, possibly giving greater insight into the developing understanding of trainees.

Finally, I plan to continue to share my findings and conclusions with colleagues and at national conferences, and to move forward into research as a more formalised part of my role within my HEI rather than continue working full time in a teaching-focused role. I also intend to continue working with a mixed methods approach, using both qualitative and quantitative research to give me a fuller picture on each investigation that I undertake.

Recommendations for my Higher Education Institution in its work with schools:

As a key finding from the qualitative investigation was that students felt that the pedagogical theory they are exposed to in lectures is inconsistent with what they see in practice, and it is the latter that remains at the forefront of the mind when dealing with immediacies in the classroom, I feel that it would be valuable to adopt two key strategies in our work with schools.

The first is that we should study the contexts that trainees work in when on placement in order to more fully understand their experiences. This should allow us to remodel our input to better prepare students for the realities they will encounter, whilst sharpening and honing our own understanding of the pedagogical beliefs that we espouse as a team. I also posit that we should engage our student body as a key

partner in this investigation of context, which will grant us the benefits of polyocularity described above.

The second recommendation is that we should share our findings with the mentors from our partnership schools. Without pejorative language, or the singling out of specific locations, we could engage our partnership schools in looking at their own practices and environments and challenge them to give an account of their own pedagogical beliefs, and then work with us on developing models of mentorship that support the pedagogical growth of our students in ways that both nurture and enhance the progress of children, and more fully scaffold the students in the use of our desired pedagogical approaches.

Recommendations at a national level:

As noted at the start of this concluding chapter, the qualitative statements and Col sessions revealed a much greater assimilation and adoption of the pedagogies we want than the purely statistical average shift delineated. Consequently, I would propose that quantitative studies of any social or sociological phenomena should, as a matter of course, include some element of qualitative and perspectival analysis of the results, preferably using participants, in order to get a richer and thicker descriptive understanding that more fully explains the numerical results.

One of the areas I have written about is that of students developing a sophisticated personal epistemology. Yeung, Craven, and Kaur (2014) have described teachers' self-concept as an excellent predictor of pedagogical approaches. Their study notes that teacher self-concept is a strong forecaster of learner- or teacher-centric pedagogical approaches. Their conclusion was that teacher education programmes, such as ours, should have the enhancement of students' self-concept as a specific aim. This is an area that would bear further study as a follow-on and addition to my research presented here.

Following this, and returning to my earlier discussion of epistemology, I offer two potential interventions that I propose would give teacher training institutions a greater

likelihood of promoting sophisticated personal epistemologies amongst their trainees which will, as described above, lead to better outcomes for teaching and learning.

The first is double-barrelled, and follows Schraw *et al.* (2010): firstly, to specifically allow preservice teachers to develop a greater understanding of their own views on knowledge and learning by introducing them to theories that enable them to think ontologically and epistemologically and to investigate the links between their worldview, their developing understanding of learning and teaching, and their pedagogical practices; and secondly, to initiate and sustain reflective and discursive practices throughout the length of teacher training courses. Where my own B.Ed. Y2 and PGCE trainees have been required to complete individual reflective portfolios on collaborative learning group tasks that specifically insist on their discussing, describing, and reflecting on, the processes that they have been through and the pedagogical choices made rather than merely the outcomes of the tasks, they have exhibited three key outcomes (Smith, 2016a).

- Better performance in tests on the material: pedagogically-contextualised learning being recognised as having a clearer effect on understanding than discrete information for trainee teachers – see e.g. Guerra-Ramos *et al.* (2010) who state that a more sophisticated and nuanced understanding is elicited in response to questions that are grounded in pedagogically-relevant contexts rather than discrete ones;
- Better outcomes on teaching practice, as they were able to draw on a more sophisticated personal epistemology in order to create better learning in the classrooms, as exemplified by Figure 2iii; and
- Greater enjoyment: trainees have stated that they have enjoyed and gained more from this reflective and process-driven technique than from more standard task-based learning. The module feedback was overwhelmingly positive (98% Outstanding or Good).

A clear implication of this is that this model of socially-constructive, collaborative, facilitated, exploratory and reflective practice that has worked well in the context of primary initial teacher education through investigating processes as well as outcomes and has had a demonstrably successful track record in allowing trainee teachers to

explore and develop their personal epistemological viewpoints, leading to better outcomes for themselves and for children's learning should be instigated, developed and sustained on teacher education courses.

The second intervention that I propose is that HEIs need to retain relative control over the contextual, environmental and experiential circumstances that trainees will encounter. Teaching attachments should be accurately mapped so that trainees are given an opportunity to develop by working with mentors with different teaching styles in order to force them to face conflicting messages and to decide on their own epistemological, and therefore pedagogical, stances when working in ill-defined contexts (cf. Yadav & Koehler, 2007). Likewise, opportunities should be mapped through the length of teacher education courses that promote the growth and development of personal epistemologies through the provision of the reflective, collaborative and constructivist experiences and tasks described above.

Taking these two interventions together will, I believe, allow for the development of sophisticated personal epistemologies which will lead to socially-constructive and effective teaching practices through a 'calibration' of epistemological beliefs with pedagogical practices. 'Tis a consummation devoutly to be wish'd!

REFERENCES

- Adair, J. G. (1984) The Hawthorne effect: A reconsideration of the methodological artefact. *Journal of applied psychology*, **69**:2, 334.
- Akkerman, S. & Bakker, A. (2011) Boundary Crossing and Boundary Objects. *Review of Educational Research*, **81**:2 132-169
- Alexander, R. (2012). Improving oracy and classroom talk in English schools: Achievements and challenges. *Paper for DfE*, http://www.primaryreview.org.uk/downloads/news/2012/02/2012_02_20DfE_oracy_Alexander.pdf.
- Alexander, R. (2016) *What is Education For?* <www.cprtrust.org.uk/wp-content/uploads/2016/01/HoC-Purposes-Inquiry-CPRT-logo-1.pdf> [Accessed 11/10/16].
- Alexander, R. & Wolfe, S. (2008) *Argumentation and dialogic teaching: alternative pedagogies for a changing world*. Available from: < <http://www.robinalexander.org.uk/wp-content/uploads/2012/05/wolfealexander.pdf>> [Accessed 12.7.16].
- Angrosino, M. V. (2005) Recontextualizing observation: Ethnography, pedagogy, and the prospects for a progressive political agenda. In N. K. Denzin & Y. S. Lincoln (Eds.), *The Sage handbook of qualitative research* (3rd ed., pp. 729-745) Thousand Oaks, CA: Sage.
- Aronson, E. and Carlsmith, J.M. (1969) Experimentation in social psychology. In G. Lindzey and E. Aronson (eds) *The Handbook of Social Psychology, Vol 2.1 Reading, MA: Addison-Wesley, 1-79*.
- Argyris, C. and Schön, D. (1978) *Organizational Learning: A Theory of Action Perspective*. London: Addison-Wesley.
- Aydede, M., & Robbins, P. (Eds.). (2009). *The Cambridge handbook of situated cognition*. New York: Cambridge University Press.
- Ball, D.L., Thames, M. H., & Phelps, G. (2008). Content knowledge for teaching: What makes it special? *Journal of Teacher Education*, **59**:5, 389-407.
- Barbour, R. (2007) *Doing Focus Groups*. London: Sage.
- Barthes, R. (1970) *Mythologies*. Paris: Seuil.
- Baxter Magolda, M. (2004) Evolution of a constructivist conceptualisation of epistemological reflection. *Educational Psychologist*, **39**:1, 31–42.
- Bechhofer, F. and Paterson, L. (2000) *Principles of Research Design in the Social Sciences*. London: Routledge.
- Becker, H.S. (1970) *Field work evidence*. In H. Becker, *Sociological work: Method and substance* (pp. 39-62) New Brunswick, NJ: Transaction Books.
- Bell, J. (2005) *Doing your research project*. 4th ed. Berkshire: Open University Press.
- Ben-Peretz, M. (2011) Teacher knowledge: What is it? How do we uncover it? What are its implications for schooling? *Teaching and Teacher Education*, **27**:1, 3–9.
- Bendixen, L. and Rule, D. (2004) An integrative approach to personal epistemology: A guiding model. *Educational Psychologist*, **39**:1, 69–80.
- Bentham, J. (1843) *The Works of Jeremy Bentham, vol. 4 (Panopticon, Constitution, Colonies, Codification)* Available from: < <http://oll.libertyfund.org/titles/bentham-the-works-of-jeremy-bentham-vol-4>> [Accessed 12.7.16].
- Bereiter, C. (2002) *Education and mind in the knowledge age*. Hillsdale, NJ: Erlbaum
- Bernstein, B. (1999) Vertical and horizontal discourse: An essay. *British Journal of Sociology of Education*; **20**, 2.
- Bernstein, R. J. (2011). *Beyond objectivism and relativism: Science, hermeneutics, and praxis*. Penn: University of Pennsylvania Press.
- Beswick, K. (2011) Teachers' beliefs about school mathematics and mathematicians' mathematics and their relationship to practice, *Educational Studies in Mathematics: An International Journal*, **1**:1, 1–21.
- Beswick, K., Callingham, R. and Watson, J. (2011) The nature and development of middle school mathematics teachers' knowledge, *Journal of Mathematics Teacher Education*. [Accessed 25.10.11]. Available from: <<http://www.springerlink.com/content/th22781265818125/fulltext.pdf>>.
- Biggs, J. (2003). *Aligning teaching and assessment to curriculum objectives*. Imaginative Curriculum Project, LTSN Generic Centre, 12.
- Blaschke, L. (2012) Heutagogy and lifelong learning: A review of heutagogical practice and self-determined learning. *The International Review of Research in Open and Distance Learning*, **13**:1, 56-71.
- Board of Education. Consultative Committee. (1931). *Report of the Consultative Committee on the Primary School*. HM Stationery Office. Available from: <<http://www.educationengland.org.uk/documents/hadow1931/hadow1931.html>> [Accessed 23.8.14].

- Bondy, E., Ross, D., Adams, A., Nowak, R., Brownell, M., Hoppey, D. et al. (2007) Personal epistemologies and learning to teach. *Teacher Education and Special Education: The Journal of the Teacher Education Division of the Council for Exceptional Children*, **30**:1, 67–82.
- Boote, D. and Beile, P. (2005) Scholars before researchers: On the centrality of the dissertation literature review in research preparation. *Educational Researcher*, **34**:6, 3–15
- Bourdieu, P. (1988) *Homo Academicus*. Cambridge: Polity Press
- Bourdieu, P. (1990) *The Logic of Practice*. Cambridge: Cambridge University Press.
- Bråten, I. & Strømsø, H. (2006a) Effects of personal epistemology on the understanding of multiple texts. *Reading Psychology*, **27**, 457–484.
- Bråten, I. & Strømsø, H. (2006b) Epistemological beliefs, interest and gender as predictors of internet-based learning activities. *Computers in Human Behaviour*, **22**, 1027–1042.
- Bråten, I., Strømsø, H. and Samuelstuen, M. (2008) Are sophisticated students always better? The role of topic-specific personal epistemology in the understanding of multiple expository texts. *Contemporary Educational Psychology*, **33**, 814–840.
- Brogaard, B. (2007) Moral Contextualism and Moral Relativism. *The Philosophical Quarterly* **58**:232, 385–409.
- Brown, J. S., Collins, A., & Duguid, P. (1989) Situated cognition and the culture of learning. *Educational researcher*, **18**:1, 32-42.
- Brownlee, J. and Berthelsen, D. (2006) Personal epistemology and relational pedagogy in early childhood teacher education programs. *Early Years*, **26**:1, 17–29.
- Brownlee, J., Purdie, N. & Boulton-Lewis, G. (2001) Changing epistemological beliefs in pre-service teaching education students. *Teaching in Higher Education*, **6** 247-268.
- Brownlee, J., Schraw, G. & Berthelsen, D. (2011) *Personal Epistemology and Teacher Education*. London: Routledge.
- Bruner, J.S. (1967) *On knowing: Essays for the left hand*. Cambridge, Mass: Harvard University Press.
- Bruner, J. S. (1975). From communication to language: A psychological perspective. *Cognition*, **3**, 255–287.
- Bryman, A. (2013) Quality Issues in Mixed Methods Research. Available from: <<http://wrtdc.ac.uk/wp-content/uploads/2013/05/Bryman-mixed-methods-workshop.pdf>> [Accessed 16.6.17].
- Bryman, A. (2015) *Social Research Methods*. (4th Ed.) Berkshire: Oxford University Press.
- Buitink, J. (2009) What and How do Student Teachers Learn During School-Based Teacher Education. *Teaching and Teacher Education*, **25**:1, 118–127.
- Bullock, A. (1975) *The Bullock Report: A language for life- Report of the Committee of Enquiry appointed by the Secretary of State for Education and Science*. London: Her Majesty's Stationery Office.
- Burgess, R.G., ed. (1985) *Strategies of Educational Research*. Lewes: Falmer Press.
- Burgess, T. (2010) The Teaching of English in Schools 1900–1970. *English in Education*, **44**:2, 164-168.
- Burton, D., & Bartlett, S. (2009). *Key issues for education researchers*. London: SAGE.
- Cady, J., Meier, S. and Lubinski, C. (2006) Developing mathematics teachers: The transition from preservice to experienced teacher. *The Journal of Educational Research*, **99**:5, 295–305.
- Calderhead, J. (1988) *The development of knowledge structures in learning to teach*. In J. Calderhead (Ed.), *Teachers' professional learning* (pp. 51–64) London: Falmer Press.
- Callahan, R. (1962). *Education and the Cult of Efficiency*. Chicago: University of Chicago Press.
- Callingham, R. & Bond, T. (2006) Research in Mathematics Education and Rasch Measurement, *Mathematics Education Research Journal*, **18**:2, 1-10
- Cambridge Primary Review (2009). *An Introduction to the Cambridge Primary Review*. Available from: <[file:///pr-store2.unv.wlv.ac.uk/home0\\$/in1273/home/Profile/Downloads/CPR-booklet_low-res.pdf](file:///pr-store2.unv.wlv.ac.uk/home0$/in1273/home/Profile/Downloads/CPR-booklet_low-res.pdf)> [Accessed 11/10/16].
- Campbell, D. T. & Stanley, J.C. (1963). Experimental and quasi-experimental designs for research. In N.L. Gage (Ed.) *Handbook of research on teaching*, (pp171-246).
- Central Advisory Council for Education (England) (CACE) (1967) *Children and Their Primary Schools: a report of the Central Advisory Council for Education (England)* (the Plowden Report). London: HMSO.
- Chai, C., Khine, M. and Teo, T. (2006) Epistemological beliefs on teaching and learning: A survey among pre-service teachers in Singapore. *Educational Media International*, **43**:4, 285–298.
- Chan, K. (2004) Preservice teachers' epistemological beliefs on teaching and conceptions about teaching and learning: Cultural implications for research in teacher education. *Australian Journal of Teacher Education*, **29**:1, 1–13.
- Chickering, A. W., & Gamson, Z. F. (1987). *Seven principles for good practice in undergraduate education*. AAHE bulletin, **3**:7.
- Children, Schools and Families Committee, *National Curriculum*, 11 March 2009, HC 344-I 2008-09, para 24.

- Cheng, M., Chan, K., Tang, S. and Cheng, A. (2009) Pre-service teacher education students' epistemological beliefs and their conceptions of teaching. *Teaching and Teacher Education*, **25**, 319–327.
- Clarke, J. (2008), 'Research into pedagogical 'belief statements' held by pre-ITE students on a Mathematics Enhancement Course' in *Informal Proceedings of the British Society for Research into Learning Mathematics (BSRLM)*, **28**:3, 13-17.
- Cohen, L., Mannion, L. & Morrison, K. (2011) *Research Methods in Education*, 7th edition. London: Routledge.
- Coldron, J. & Smith, R. (1999). Active location in teachers' construction of their professional identities. *Journal of curriculum studies*, **31**:6, 711-726.
- Cole, M., Engestrom, Y. and Vasquez, O. (Eds) (1997) *Mind, Culture and Activity: Seminal papers from the Laboratory of Comparative Human Cognition*. Cambridge: Cambridge University Press.
- Connaway, L. S., & Powell, R. R. (2010). *Basic research methods for librarians*. Santa Barbara, California: ABC-CLIO.
- Corbett, P. & Strong, J. (2017) *Talk4Writing*. Available from: <http://www.talk4writing.co.uk/> [Accessed 7.2.17]
- Coulthard, M. (1977) *An introduction to discourse analysis*. London: Longman
- Cox, B. (1991) *Cox on Cox: An English curriculum for the 1990's*. London: Hodder and Stoughton.
- Crano, W.D., Brewer, M.B. and Lac, A. (2015) *Principles and Methods of Social Research*. (3rd Ed.) London: Routledge.
- Creswell, J. W. & Clark, V. L. P. (2011) *Designing and conducting mixed methods research*. London: SAGE.
- Cresswell, J. (2013) Steps in Conducting a Scholarly Mixed Methods Study. Available from: <http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1047&context=dberspeakers> [Accessed 16.6.17].
- Cunningham, A., Perry, K., Stanovich, K., & Stanovich, P. (2004) Disciplinary knowledge of K-3 teachers and their knowledge calibration in the domain of early literacy. *Annals of Dyslexia*, **54**:1, 139–167.
- Dadds, M. (2014) Continuing professional development: Nurturing the expert within. *Professional development in education*. **40**:1, 9-16.
- Davies, M. B., & Hughes, N. (2014). *Doing a successful research project: Using qualitative or quantitative methods*. London: Palgrave Macmillan.
- Davies, P. (1999) What is Evidence-based Education? *British Journal of Educational Studies*, **47**: 2, 108–121.
- Dawkins, R. (1978) *The Selfish Gene*. Oxford: Oxford University Press.
- Department for Education (2014). *Beyond Levels: alternative assessment approaches developed by teaching schools*. Available from: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/349266/beyond-levels-alternative-assessment-approaches-developed-by-teaching-schools.pdf [Accessed 16.3.17]
- De Vaus, D. (2001) *Research Design in Social Research*. London: SAGE.
- Douglas, G., Corcoran, C. & Pavey, S. (2007) The role of the WHO ICF as a framework to interpret barriers and to inclusion: visually impaired people's views and experiences of personal computers. *British Journal of Visual Impairment* **25**, 32.
- Derrida, J. (1978/2001) *Writing and difference*. Trans. A. Bass. London: Routledge & Kegan Paul.
- Diener, E. and Crandall, R. (1978) *Ethics in Social and Behavioral Research*. Chicago: University of Chicago Press.
- Dixon, J. (1991) A Schooling in English. *English in Education*, **25**:3, 10-17.
- Drake, P. (2010) Grasping at methodological understanding: a cautionary tale from insider research. *International Journal of Research & Method in Education*. **33**:1, 85–99.
- Duffy, T. M., & Jonassen, D. H. (Eds.). (2013). *Constructivism and the technology of instruction: A conversation*. London: Routledge.
- Eberle, J. and Childress, M. (2009) *Using Heutagogy to Address the Needs of Online Learners*. Available from: <http://www.igi-global.com/chapter/using-heutagogy-address-needs-online/12375> [Accessed 3.6.12]
- Economic and Social Research Council. (2016) *Core Principles*. Available from: <http://www.esrc.ac.uk/funding/guidance-for-applicants/research-ethics/our-core-principles/> [Accessed 17.3.16]
- Edwards, A., and Ogden, L. (1998) Constructing Curriculum Subject Knowledge in Primary School Teacher Training. *Teaching and Teacher Education*, **14**:7, 735–747.
- Elen, G, and Clarebout, G. (2001) An Invasion in the classroom: Influence of an ill-structured innovation on instructional and epistemological beliefs. *Learning Environments Research*, **4**, 87–105.
- Elliott, A. C., & Woodward, W. A. (2007) *Statistical analysis quick reference guidebook: With SPSS examples*. Sage.
- Engeström, Y. (1987) *Learning by expanding: An activity-theoretical approach to developmental research*. Helsinki: Orienta-Konsultit.

- Epler, C. (2011) *The relationship between implicit theories of intelligence, epistemological Beliefs, and the Teaching Practices of In-service Teachers: A Mixed Methods Study*. Available from <<http://scholar.lib.vt.edu/theses/available/etd-04082011-154026/>> [Accessed 25.2.15].
- Eraut, M. (1994) *Developing professional knowledge and competence*. London: Falmer Press.
- Feiman-Nemser, S., McDiarmid, G., Melnick, S. and Parker, M. (1987) *Changing beginning teachers' conceptions: A description of an introductory teacher education course*. Available from: <<http://ncrtl.msu.edu/http/rreports/html/pdf/rr891.pdf>> [Accessed 20.10.11].
- Feucht, F. (2009) The epistemic influence of elementary school teacher beliefs, instruction and educational materials on reading lessons in elementary classrooms. EARLI Symposium 2009, University of Toledo, Ohio.
- Feucht, F. (2011) The epistemic underpinnings of Mrs M.'s reading lesson on drawing conclusions: A classroom-based research study. In Brownlee, J., Schraw, G. & Berthelsen, D. (Eds) *Personal Epistemology and Teacher Education*. London: Routledge.
- Fife-Schaw, C. (2000) Surveys and sampling issues. *Research methods in psychology*, 88-104.
- Fine, G.A. and Sandstrom, K.L. (1988) *Knowing Children: Participant Observation with Minors* (Vol. 15) Sage Publications, Inc.
- Fleming, N. & Mills, C. (1987) Not Another Inventory, Rather a Catalyst for Reflection. *To Improve the Academy*, **11**, 137.
- Frankfort-Nachmias, C., and Nachmias, D. (1992) *Research methods in the Social Sciences*. London: Edward Arnold.
- Foucault, M. (1975) *Discipline and Punish: the birth of the prison*. London: Penguin.
- Foucault, M. (1977) Truth and Power. In Calhoun, C. (Ed.), *Contemporary Sociological Theory*. Oxford: Blackwell.
- Foucault, M. (1982) The Subject and Power. *Critical Inquiry*, **8**:4, 777-795.
- Fosnot, C. (1989) *Enquiring teachers, enquiring learners: A constructivist approach for teaching*. New York: Teachers College Press.
- Gardner, H. (1993) *Multiple Intelligences: the theory in practice*. New York: Basic Books.
- Gardner, H. (2003) 'Multiple intelligences after twenty years', *Invited address to the American Educational Research Association* (April 2003), www.pz.harvard.edu/PIs/HG.htm.
- Garrison, D. R., Anderson, T., & Archer, W. (2000) Critical inquiry in a text-based environment: Computer conferencing in higher education. *The Internet and Higher Education*, **2**, 87-105.
- Garrison, D. R., Anderson, T., & Archer, W. (2001) Critical thinking and computer conferencing: A model and tool to assess cognitive presence. *American Journal of Distance Education*, **15**, 7-23.
- Garrison, D. R., Cleveland-Innes, M., Koole, M., & Kappelman, J. (2006) Revisiting methodological issues in the analysis of transcripts: Negotiated coding and reliability. *The Internet and Higher Education*, **9**:1, 1-8.
- Garrison, D. R. & Vaughan, N. D. (2008) *Blended learning in higher education: Framework, principles, and guidelines*. San Francisco: Jossey-Bass.
- Geertz, C. (1973) *The interpretation of cultures: Selected essays* (Vol. 5019) New York: Basic books.
- Gibbs, G. R (2008) *Analysing Qualitative Data*. London: Sage
- Gilbert, N. (Ed.) (2008) *Researching Social Life*, 3rd ed., London: SAGE.
- Gillard, D. (2011) *Education in England: a brief history* Available from: <www.educationengland.org.uk/history> [Accessed 11/10/16].
- Glaserfeld, E. V. (1989). Constructivism in education. *The international encyclopedia of education, supplement*, **1**, 162-163.
- Gorard, S. (2002): Fostering Scepticism: The Importance of Warranting Claims, *Evaluation & Research in Education*, **16**:3,136-149
- Gorard, S. with Taylor, C. (2004) *Combining Methods in Educational and Social Research*, Maidenhead: Open University Press/McGraw-Hill.
- Gorard, S. (2013) *Research Design*. London: SAGE.
- Goswami, U. (2008) *Cognitive development: The learning brain*. New York: Psychology Press.
- Goswami, U. (2014) *Cognition in children*. New York: Psychology Press.
- Goswami, U. (2015) *Children's cognitive development and learning*. York: Cambridge Primary Review Trust.
- Gorsky, P., Caspi, A., Antonovsky, A., Blau, I. and Mansur, A. (2010) The Relationship between Academic Discipline and Dialogic Behavior in Open University Course Forums. Available from: <<http://www.irrod.org/index.php/irrod/article/view/820/1546>> [Accessed 25.2.13]
- Greig, A. and Taylor, J. (1999) *Doing Research with Children*. London: Sage.
- Grønkvær, M., Curtis, T., de Crespigny, C. and Delmar, C. (2011) Analysing group interaction in focus group research: Impact on content and the role of the moderator. *Qualitative Studies*, **2**:1, 16-30.

- Guerra-Ramos, M. T., Ryder, J., & Leach, J. (2010) Ideas about the nature of science in pedagogically relevant contexts: Insights from a situated perspective of primary teachers' knowledge. *Science Education*, **94**:2, 282-307.
- Gunter, H. (2014) "Thinking about Research in Dark Times". Presentation to doctoral research conference, University of Birmingham, 29/11/14.
- Hacking, I. (1982) Language, Truth and Reason, in Hollis & Lukes (Eds.) 1982, 48–66.
- Hakim, C. (2000) *Research Design*. London: Routledge.
- Hales, S.D. (1997) *Motivations for Relativism as a Solution to Disagreements*. *Philosophy*, **89** :1, 63–82.
- Hammer, D. & Elby, A. (2002) On the form of a personal epistemology. In B. Hofer & P. Pintrich (Eds.), *Personal Epistemology: The psychology of beliefs about knowledge and knowing*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Harlen, W. (2014) *Assessment Standards and Quality of Learning in Primary Education*. York: Cambridge Primary Review Trust.
- Harel, I. & Papert, S. (Eds.) (1991) *Constructionism*. Norwood, NJ: Ablex Publishing Corporation.
- Henke, R.R., Chen, X. & Goldman, G. (1999). *What Happens in Classrooms? Instructional Practices in Elementary and Secondary Schools, 1994–95*. Washington DC: U.S. Department of Education, National Center for Education Statistics. Document Number: NCES 1999–348.
- Higher Education Academy (2013). *Flexible Pedagogies: preparing for the future*. Available from: <https://www.heacademy.ac.uk/sites/default/files/resources/npi_report.pdf> [Accessed 8.3.16].
- Henke, R.R., Chen, X. & Goldman, G. (1999) *What Happens in Classrooms? Instructional Practices in Elementary and Secondary Schools, 1994–95*. Washington DC: U.S. Department of Education, National Center for Education Statistics. Document Number: NCES 1999–348.
- Hiebert, J., Morris, A. K., & Glass, B. (2003). Learning to learn to teach: An "experiment" model for teaching and teacher preparation in mathematics. *Journal of Mathematics Teacher Education*, **6**:3, 201-222.
- Hill, D. & Robertson, L.H. (2009) *Equality in the Primary School: Promoting Good Practice Across the Curriculum*. London: A&C Black.
- Hobson, A., Malderez, A., Tracey, L., Giannakaki, M., Pell, G. and Tomlinson, P. (2008) Student teachers' experiences of initial teacher preparation in England: core themes and variation, *Research Papers in Education*, **23**:4, 407-433.
- Hofer, B. (2001) Personal epistemology research: Implications for learning and teaching. *Educational Psychology Review*, **13** 354-384.
- Hofer, B. (2004) Exploring the dimensions of personal epistemology in differing classroom contexts: Student interpretations during the first year of college. *Contemporary Educational Psychology*, **29** 129-163.
- Hollis, M. & Lukes, S. (Eds.) (1982) *Rationality and Relativism*. Oxford: Basil Blackwell.
- Hammersley, M. (2010) 'On 'Systematic' Reviews of Research Literatures: A 'narrative' response to Evans & Benefield'. *British Educational Research Journal*, **27**:5, 543–554.
- Harel, I. and Papert, S. (Eds.) (1991) *Constructionism*. Norwood, NJ: Ablex Publishing Corporation.
- Hase, S. and Kenyon, K. (2001) *From andragogy to heutagogy*. Available from: http://www.avetra.org.au/abstracts_and_papers_2001/Hase-Kenyon_full.pdf [Accessed 2.6.12]
- Herrington, A. and Herrington, J. (2006) *Authentic Learning Environments in Higher Education*. Available from: https://tojde.anadolu.edu.tr/tojde21/pdf/review_1.pdf [Accessed 11.6.12].
- Higher Education Authority (HEA) (2013) *Flexible Pedagogies: new pedagogical ideas*. York: HEA
- Higher Education Authority (HEA) (2016) *The impact of pedagogies of partnership on the student learning experience in UK higher education*. York: HEA
- Johnson, M.H., & De Haan, M. (2011) *Developmental Cognitive Neuroscience* (3rd Edition). Oxford: Wiley-Blackwell.
- Johnson, R.B. and Onwuegbuzie, A.J. (2004) Mixed methods research: A research paradigm whose time has come. *Educational Researcher*, **33**:7, 14-26.
- Johnston, P., Woodside-Jiron, H. and Day, J. (2001) Teaching and learning literate epistemologies. *Journal of Educational Psychology*, **93**:1, 223–233.
- Jones, K. (2003) *Education in Britain: 1944 to the present*. Cambridge: Polity Press.
- Jordan, A. and Stanovich, P. (2003) Teachers' personal epistemological beliefs about students with disabilities as indicators of effective teaching practices. *Journal of Research in Special Educational Needs* **3**:1, 1-14.
- Kagan, D. (1992). Implications of research on teacher belief. *Educational Psychologist*, **27**:1, 65–90.
- Kamberelis, G. & Dimitriadis, G. (2013) *Focus Groups: From Structured Interviews to Collective Conversations*. Abingdon: Routledge.
- Kanes, C., & Nisbet, S. (1996). Mathematics-teachers' Knowledge Bases: implications for teacher education. *Asia-Pacific journal of teacher education*, **24**:2, 159-171.

- Kang, N. (2008) Learning to teach science: Personal epistemologies, teaching goals and practices of teaching. *Teaching and Teacher Education*, **24**, 478–498.
- Kang, N. and Wallace, C. (2005) Secondary science teachers' use of laboratory activities: Linking epistemological beliefs, goals and practices. *Science Education*, **89**:1, 140–165.
- Kitchener, R. (2002) Folk epistemology An introduction. *New Ideas in Psychology*, **20**, 89–105.
- Kay, P. & Kempton, W. (1984) What is the Sapir-Whorf hypothesis? *American Anthropologist*, **86**:1, 65-79.
- Kienhues, D., Bromme, R. & Stahl, E. (2008) Changing epistemological beliefs: The unexpected impact of a short-term intervention. *British Journal of Educational Psychology*, **78** 545-565.
- Kincheloe, J. L. (2008). *Critical pedagogy primer (Vol. 1)*. New York: Peter Lang.
- King, P. & Kitchener, K. (1994) *Developing Reflective Judgment*. San Francisco: Jossey-Bass.
- Kitzinger, J. (1994) The methodology of Focus Groups: the importance of interaction between research participants. *Sociology of Health & Illness* **16**:1, 103–121.
- Knorr-Cetina, K. (1981) *The Manufacture of Knowledge*. Oxford: Pergamon Press.
- Knowles, M. (1975). *Self-directed learning: A guide for learners and teachers*. Englewood Cliffs: Prentice Hall/Cambridge.
- Knowles, M. (1984). *The adult learner: a neglected species* (3rd edition). Houston, TX: Gulf Publishing.
- Kolb, D.A. (1976) *Learning styles inventory*. Boston: .
- Kölbel, M. (2004) "Indexical Relativism Versus Genuine Relativism", *International Journal of Philosophical Studies*, **12**:3, 297–313.
- Krohn, M., Lizotte, A. and Hall, G. (eds) (2009) *Handbook on Crime and Deviance* (Handbooks of Sociology and Social Research. London: Springer.
- Kuhn, D., & Weinstock, M. (2002) *What is epistemological thinking and why does it matter?* Lawrence Erlbaum Associates Publishers.
- Lacan, J. (1977) The function and field of speech and language in psychoanalysis. *Écrits: A selection*, 1977: 30-113.
- Latour, B. (1993) *We Have Never Been Modern*. Harvard: Harvard University Press.
- Laurillard, D. (1993) Balancing the media. *Journal of Educational Television*. **19**:2, 81-93
- Lave, J. and Wenger, E. (1991) *Situated learning: Legitimate peripheral participation*. Cambridge: Cambridge University Press.
- Leont'ev, A. (1974) The Problem of Activity in Psychology. *Journal of Russian and East European Psychology*, **13**:2, 4-33.
- Lessof, C. (2006) Ethical issues in longitudinal surveys. In: P. Lynn, (ed.) *Methodology of Longitudinal Surveys*. Sussex: Wiley, pp. 35-54.
- Lincoln, Y.S. and Guba, E.G. (1985) *Naturalistic inquiry*. Newbury Park, CA: Sage.
- Lichtman, M. (2011) *Qualitative Research in Education*. Thousand Oaks, CA: Sage.
- Liljedahl, P. (2008) Teachers' insights into the relationship between beliefs and practice. In Maab, D. and Schloglmann, W. (Eds.), *Beliefs and attitudes in mathematics education: New research results*. Rotterdam, NL: Sense Publishers.
- Lim, C. P., & Chai, C. S. (2008) Teachers' pedagogical beliefs and their planning and conduct of computer-mediated classroom lessons. *British Journal of Educational Technology*, **39**:5, 807-828.
- Ling, L. (2007) Community of Inquiry in an Online Undergraduate Information Technology Course. *Journal of Information Technology Education*, Volume 6
- Liu, S. H. (2011) Factors related to pedagogical beliefs of teachers and technology integration. *Computers & Education*, **56**:4, 1012-1022.
- Lofland, J., Snow, D., Anderson, L., & Lofland, L. H. (2006) *Analyzing Social Settings: A Guide to Qualitative Observation and Analysis*. Belmont, CA: Wadsworth/Thomson Learning.
- Louca, L., Elby, A., Hammer, D. and Kagey, T. (2004) Epistemological resources: Applying a new epistemological framework to science instruction. *Educational Psychologist*, **39**:1 57-68.
- Lunn, P. & Bishop, A. (2003). 'To Touch a Life Forever': A discourse on trainee teachers' perceptions of what it means to be an effective teacher in the primary school. *Educational Studies*, **29**:2-3, 195-206.
- MacLure, M. (2003) *Discourse in educational and social research*. Buckingham: Open University Press.
- Macken-Horarik, M. (2014) Making Productive Use of Four Models of School English: A Case Study Revisited, *English in Australia*. **49**:3, 7-20.
- Maggioni, L. & Parkinson, M. (2008) The role of teacher epistemic cognition, epistemic beliefs, and calibration in instruction. *Educational Psychology Review*, **20**:4 445-461.
- Many, J., Howard, F. and Hoge, P. (2002) Epistemology and preservice teacher education: How do beliefs about knowledge affect our students' experiences? *English Education* **34**:4 445-461.

- Marra, R. (2005) Teacher beliefs: The impact of the design of constructivist learning environments on instructor epistemologies. *Learning Environments Research*, **8** 135-155.
- Maruyama, M. (1981) Endogenous Research: Rationale. In P. Reason & J. Rowan (eds) *Human Inquiry: A sourcebook for new paradigm research*. Chichester: John Wiley & Sons pp. 227-238.
- Mason, L. (2002) Developing epistemological thinking to foster conceptual change in different domains. In *Reconsidering conceptual change: Issues in theory and practice* (pp. 301-335) Springer Netherlands.
- Mason, M. K. (2016) *Foucault and His Panopticon*. Available from: <http://www.moyak.com/papers/michel-foucault-power.html> [Accessed 15.7.16].
- McAuliffe, M., Hargreaves, D., Winter, A. and Chadwick, G. (2008) *Does pedagogy still rule?* Available from: <http://eprints.qut.edu.au/20502/1/c20502.pdf> [Accessed 11.6.12]
- McCaffrey, D. F., Hamilton, L. S., Stecher, B. M., Klein, S. P., Bugliari, D., & Robyn, A. (2001). Interactions among instructional practices, curriculum, and student achievement: The case of standards-based high school mathematics. *Journal for Research in Mathematics Education*, 493-517.
- McKay, S. (2013) *Longitudinal Research Design*, lecture notes distributed in Research Design 08 21876 at The University of Birmingham on 2 March 2013.
- McNamara, O., Murray, J., and Phillips, R. (2017) *Policy and Research Evidence in the 'Reform' of Primary Initial Teacher Education in England*. York: Cambridge Primary Review Trust.
- Meierdirk, C. E. (2016). The changing identity of the student teacher. *International Journal of Education Teaching and Learning*. **1**:1, 17-35.
- Menard, S. (Ed.) (2007) *Handbook of Longitudinal Research: Design, Measurement, and Analysis*. Ney York: Elsevier.
- Mezirow, J. (1997) *Transformative Learning: Theory to Practice*. In Cranton, P., *Transformative Learning in Action: insights from practice. New directions for adult and continuing education no. 74*. San Francisco, CA: Jossey-Bass.
- Miller, T., Mauthner, M., Birch, M. & Jessop, J. (2012) *Ethics in Qualitative Research*. (2nd Ed.) London: Sage.
- Morgan, N. (2015) Why Knowledge Matters. [Online]. 27 Jan 2015, Carton Club, London. Available from: <https://www.gov.uk/government/speeches/nicky-morgan-why-knowledge-matters> [Accessed 9/10/16].
- Muis, K. (2004) Personal epistemology and mathematics: A critical review and synthesis of research. *Review of Educational Research*, **74**:3 317-377.
- Munn, P. & Drever, E. (2004). *Using Questionnaires in Small-scale Research: A Beginner's Guide*. Glasgow: SCRE Publication.
- National College for School Leadership. (2012) *Great pedagogy: nine claims from research*. Available from: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/329746/what-makes-great-pedagogy-nine-claims-from-research.pdf [Accessed 7.9.14].
- Nevill, A.M, Lane, A. M., Kilgour, L. J., Bowes, N., & Whyte, G. P. (2001) Stability of psychometric questionnaires. *Journal of Sports Sciences*, **19**:4, 273-278.
- Newbolt, H. (1921) *The Teaching of English in England*. London: HMSO. Available from: <http://www.educationengland.org.uk/documents/newbolt/newbolt1921.html> [Accessed 10.10.16].
- Nonaka, I. & Takeuchi, H. (1995) *The knowledge-creating company: how Japanese companies create the dynamics of innovation*. New York: Oxford University Press.
- Olafson, L. & Schraw, G. (2006) Teachers' beliefs and practices within and across domains. *International Journal of Educational Research*, **45** 71-84.
- Olafson, L., Schraw, G. & VanderVeldt, M. (2010) Consistency and development of teachers' epistemological and ontological worldviews. *Learning Environments Research*, **13** 243-266.
- Oliver, P. (2010) *The Student's Guide to Research Ethics*. (2nd Ed.) Maidenhead: Open University Press Publications.
- Oppenheim, A. (1992) *Questionnaire Design, Interviewing and Attitude Measurement*. London: Pinter.
- Ozgun-Koca, S. & Sen, A. (2006) The beliefs and perceptions of pre-service teachers enrolled in a subject-area dominant teacher education program about "effective education." *Teaching and Teacher Education*, **22** 946-960.
- Pajares, M. F. (1992). Teachers' beliefs and educational research: cleaning up a messy construct. *Review of Educational Research* **62**:3, 307-32.
- Pampaka, M., Williams, J., Davis, P. and Wake, G. (2008) *Measuring pedagogic practice: a measure of 'teacher-centrism'*, paper presented at AERA 2008.
- Paulick, I., Großschedl, J., Harms, U., & Möller, J. (2016). Preservice teachers' professional knowledge and its relation to academic self-concept. *Journal of Teacher Education*, **67**:3, 173-182.
- Peim, N. (1993) *Critical Theory and the English Teacher: Transforming the Subject*. London: Routledge
- Peim, N. (2005) Towards a Social Ecology of the Modern School: Reflections on Histories of the Governmental Environment of Schooling. *Paedagogica Historica*, **41**:4&5, 627-639.

- Peim, N. (2016) Email to M. Smith, 12 October 2016.
- Peng, H. and Fitzgerald, G. (2006) Relationships between teacher education students' epistemological beliefs and their learning outcomes in a case-based hypermedia learning environment. *Journal of Technology and Teacher Education*, **14**:2 255-285.
- Perry, W. (1970) *Forms of intellectual and ethical development in the college years*. New York: Holt, Rinehart and Winston.
- Piaget, J. (1961). The genetic approach to the psychology of thought. *Understanding Children*, **52**:35.
- Pike, M. (2003) *Teaching Secondary English*. London: SAGE.
- Pillen, M. T., Den Brok, P. J. & Beijaard, D. (2013). Profiles and change in beginning teachers' professional identity tensions. *Teaching and Teacher Education*, **34**, 86-97.
- Pintrich, P. (2002) Future challenges and directions for theory. In B. Hofer & P. Pintrich (Eds.), *Personal Epistemology: The psychology of beliefs about knowledge and knowing*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Polanyi, M. (1959) *Personal Knowledge*. Manchester: Manchester University Press.
- Polanyi, M. (1966) *The Tacit Dimension*. Garden City, NY: Doubleday.
- Polly, D., Neale, H., & Pugalee, D. K. (2014) How Does Ongoing Task-Focused Mathematics Professional Development Influence Elementary School Teachers' Knowledge, Beliefs and Enacted Pedagogies?. *Early Childhood Education Journal*, **42**:1, 1-10.
- Popper, K. (1979) *Objective Knowledge: An Evolutionary Approach*. Oxford: Oxford University Press.
- Poulsen, L. (1998) *English Curriculum in Schools*. London: Cassells
- Pring, R. (2000) *Philosophy of Educational Research*. (2nd Ed.) London: Continuum.
- Punch, K. F. (2013) *Introduction to social research: Quantitative and qualitative approaches*. London: Sage.
- Ravindran, B., Greene, B. A., & Debacker, T. K. (2005) Predicting preservice teachers' cognitive engagement with goals and epistemological beliefs. *The Journal of Educational Research*, **98**(4), 222-233.
- Richards, L. & Morse, J. (2012) *README FIRST for a User's Guide to Qualitative Methods*. Los Angeles, CA: SAGE.
- Richardson, J.V. (2014), *Open versus Closed Ended Questions*. Available from: <<http://polaris.gseis.ucla.edu/jrichardson/dis220/openclosed.htm>> [Accessed 9.4.14].
- Roelofs, E., Visser, J. & Terwel, J. (2003) *Preferences for Various Learning Environments: Teachers' and Parents' Perceptions*. Available from: <<http://hdl.handle.net/1871/10764>> [Accessed 24.10.11].
- Roller, M.R. and Lavrakas, P.J. (2015) *Applied qualitative research design: a total quality framework approach*. New York: Guilford Publications.
- Rooney, P. (2005) 'Researching from the inside – does it compromise validity? – A discussion', Dublin Institute of Technology. Level 3, Issue 3. Available from <<http://level3.dit.ie/html/issue3/rooney/rooney.pdf>> [Accessed 22.4.16]
- Rorty, R. (1991). *Objectivity, relativism, and truth: philosophical papers (Vol. 1)*. Cambridge: Cambridge University Press.
- Rose, P. (1985) *Writing on women: Essays in a renaissance*. Middletown, CT: Wesleyan University Press.
- Rosenfield, M. and Rosenfield, S. (2006) Understanding teacher responses to constructivist teaching environments: Challenges and resolutions. *Science Education*, **90**, 385–399.
- SAGE Research Methods (2013) Available from: <<http://srmo.sagepub.com/methodsmap#/T0-0-90/T6/T0-0-90>> [Accessed 25.5.13].
- Saldana, J. (2009) *The coding manual for qualitative researchers*. Los Angeles, CA: SAGE.
- Sandoval, W. (2005) Understanding students' practical epistemologies and their influence on learning through inquiry. *Science Education*, **89**:1, 634–656.
- Sapsford, R., & Jupp, V. (2006). *Data collection and analysis* (2nd Ed.). London: SAGE.
- Sawyer, R. K. (Ed.). (2005) *The Cambridge handbook of the learning sciences*. Cambridge: Cambridge University Press.
- Sawyer, R. K. (2007) *Group Genius: The Creative Power of Collaboration*. New York: Basic Books.
- Sawyer, R.K. (2008) Optimising learning implications of learning sciences research. *Innovating to learn, learning to innovate*. **3**:45.
- Sawyer, R.K. (2012) *Structure and Improvisation in Creative Teaching*. Available from: <https://teachingcenter.wustl.edu/wp-content/uploads/2015/05/iteach2012_Plenary_Sawyer.pdf> [Accessed 18.10.16].
- Schostak, J.F. (2002) *Understanding, designing and conducting qualitative research in education: Framing the project*. Buckingham: Open University Press.

- Schommer, M. (1990) Effects of beliefs about the nature of knowledge on comprehension. *Journal of Educational Psychology*, **82** 498-504.
- Schommer-Aikens, M. (2004) Explaining the epistemological belief system: Introducing the embedded systemic model and coordinated research approach. *Educational Psychologist*, **39**:1 19-29.
- Schraw, G. & Olafson, L. (2008) Assessing teachers' epistemological and ontological worldviews. In M. Khine (Ed.), *Knowing, knowledge and beliefs: Epistemological studies across diverse cultures*. Amsterdam: Springer.
- Schraw, G., Olafson, L. J., & Vanderveldt, M. (2010) Fostering critical awareness of teachers; epistemological and ontological beliefs. *Personal epistemology and teacher education*, 149-164.
- Schraw, G. & Sinatra, G. (2004) Epistemological development and its impact on cognition in academic domains. *Contemporary Educational Psychology*, **29**:2, 95–102.
- Schuh, K. (2004) Learner-centred principles in teacher-centred practices? *Teaching and Teacher Education*, **20**:8, 833–846.
- Seedhouse, D. (1998) *Ethics: the Heart of Healthcare*. Chichester: Wiley.
- Senteni, A. & Taurisson, A. (2005) *Innovative Learning & Knowledge Communities*, UNESCO-IFIP publication.
- Shayer, D. (1970) *The Teaching of English in Schools 1900–1970*. London: Routledge.
- Shulman, L. (2004) *Signature pedagogies in the professions*. *Daedalus* 134:3, 52-59.
- Silverman, J. (2007) Epistemological beliefs and attitudes toward inclusion in pre-service teachers. *Teacher Education and Special Education: The Journal of the Teacher Education Division of the Council for Exceptional Children*, **30**:1, 42–51.
- Simons, H. and Usher, R. (2000) *Situated Ethics in Educational Research*. London: Routledge Falmer.
- Singh, M. (2009). *Collaborative Learning and Technology: Moving from Instructionism to Constructionism*. Available from <http://www.allacademic.com/meta/p14409_index.html> [Accessed 15.5.14].
- Slater, A.M., & Quinn, P.C. (2012). *Developmental Psychology: Revisiting the Classic Studies*. London: Sage.
- Smith, F., Hardman, F., Wall, K., & Mroz, M. (2004). Interactive whole class teaching in the National Literacy and Numeracy Strategies. *British Educational Research Journal*, **30**:3, 395-411.
- Smith, M. (2016a). Examining the Relationship between a Sophisticated Personal Epistemology and Desired Pedagogical Practices in Trainee Teachers. *Journal of Education & Social Policy* **3**:3, 48-59.
- Smith, M. (2016b). An Investigation into the Pedagogical Trajectories of PGCE Trainees Using Espoused 'Beliefs'. *Journal of Education & Social Policy* **3**:5, 16-29.
- Smith, M. (2017). Using andragogy to teach pedagogy: expecting heutagogy – using against-the-grain teaching practices for desired outcomes. *Research in Teacher Education* **7**:1, 13-18.
- Sperry, R.W. (1975) Left-brain, right-brain. *Saturday Review*, **2**:23, 30-32.
- Stahl, E., Pieschl, S. and Bromme, R. (2006) Task complexity, epistemological beliefs and metacognitive calibration: An exploratory study. *Journal of Educational Computing Research*, **35**:4, 319–338.
- Stecher, B., Le, V. N., Hamilton, L., Ryan, G., Robyn, A., & Lockwood, J. R. (2006). Using structured classroom vignettes to measure instructional practices in mathematics. *Educational Evaluation and Policy Analysis*, **28**:2, 101-130.
- Stewart, I. & Cohen, J. (1997) *Figments of reality: The Evolution of the Curious Mind*. Cambridge: Cambridge University Press.
- Stewart, K. & Williams, M. (2007) Researching online populations: The use of online focus groups for social research. *Qualitative Research*, **5**:4, 395-416.
- Strauss, A. & Corbin, J. (1998) *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory*. London: SAGE.
- Strike, K.A. (1990) The ethics of educational evaluation. In J. Millman and L. Darling-Hammond (eds) *A new handbook of teacher evaluation*. CA: Corwin Press, 356-373.
- Swan, M. (2006) Designing and using research instruments to describe the beliefs and practices of mathematics teachers, *Research in Education* **75**: 58-70.
- Tashakorri, A. & Teddlie, C. (2003) *Handbook of Mixed Methods in Social and Behavioural Research*. Los Angeles: SAGE.
- Tabak, I. and Weinstock, M. (2005) (2005) Knowledge is knowledge is knowledge? The relationship between personal and scientific epistemology. *Canadian Journal of Science*, **5**:3, 307–328.
- Thompson, G., Pilgrim, A. and Oliver, K. (2005) Self-assessment and reflective learning for first year geography students: A simple guide or simply misguided? *Journal of Geography in Higher Education*, **29**:3, 403–420.
- Trotman, J. & Kerr, T. (2001). Making the personal professional: Pre-service teacher education and personal histories. *Teachers and teaching*, **7**:2, 157-171.
- Trowler, P. (2011) Researching your own institution, British Educational Research Association on-line resource (available at <<https://www.bera.ac.uk/wp-content/uploads/2014/03/Researching-your-own-institution-Higher-Education.pdf>> [Accessed 21.4.16]

- Tsai, C. and Liang, J. (2009) The development of science activities via on-line peer assessment: The role of scientific epistemological views. *Instructional Science*, **37**, 293–310.
- Tuckel, P. & Wood, M. (2009) Respondent cooperation in focus groups: a field study using moderator ratings. *International Journal of Market Research*, **43**:3, 391-408.
- University of Birmingham (2015) Code of Practice for Research (available at <http://www.as.bham.ac.uk/legislation/docs/COP_Research.pdf> [Accessed 16.3.16]
- Upton, P.R. (2005) *Re-Positioning the Subject: Trainee English Teachers' Constructions of Grammar and English*. PhD thesis, University of Nottingham. Available from: <http://eprints.nottingham.ac.uk/10168/1/Microsoft_Word_-_Re-positioning_the_Subject.pdf> [Accessed 14.10.16].
- Vacc, N., and Bright, G. (1999) Elementary preservice teachers changing beliefs and instructional use of children's mathematical thinking. *Journal for Research in Mathematics Education*, **30**:1, 89–211.
- Valanides, N. and Angeli, C. (2005) Effects of instruction on changes in epistemological beliefs. *Contemporary Educational Psychology*, **30**, 314–330.
- Vygotsky, L. (1978) *Mind in Society*. Cambridge, MA: Harvard University Press.
- Wallen, N. E., & Fraenkel, J. R. (2001). *Educational research: A guide to the process*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Walsh, S. (2006). *Investigating classroom discourse*. London: Routledge.
- Watson, J. & Beswick, K. (2011) School pupil change associated with a continuing professional development programme for teachers, *Journal of Education for Teaching*, **37**:1, 63–75
- Wax, M.L. (1982) Research reciprocity rather than informed consent in fieldwork. In: Seiber, J. ed. *The ethics of social research*. New York: Springer, pp. 33-48.
- Webb, E. J., Campbell, D. T., Schwartz, R. D., & Sechrest, L. (1966). *Unobtrusive measures: Nonreactive research in the social sciences* (Vol. 111). Chicago: Rand McNally.
- Wells, G. (in press). *Thinking with Vygotsky*. Cambridge: Cambridge University Press.
- Weinstock, M. and Roth, G. (2011) Teachers' personal epistemologies as predictors of support for their students' autonomy. In Brownlee, J., Schraw, G. & Berthelsen, D. (Eds) *Personal Epistemology and Teacher Education*. London: Routledge.
- Wellman, H.M. and Gelman, S.A. (1998) 'Knowledge acquisition in foundational domains', in W. Damon, D. Kuhn and R. Siegler (eds) *Handbook of Child Psychology, 5th Ed., Volume 2, Cognition, Perception and Language*: 523-73. New York: Wiley.
- Wiggins, G. (1989). Teaching to the (Authentic) Test. *Educational Leadership*, **46**:7 121-127.
- Williams, B. (1985) *Ethics and the Limits of Philosophy*. Cambridge, MA: Harvard University Press.
- Wilson, S. and Cooney, T. (2002) Mathematics teacher change and development: The role of beliefs. In Leder, G., Pehkonen, E. and Törner, G. (Eds.) *Beliefs: A hidden variable in mathematics education*. Dordrecht: Kluwer.
- Windschitl, M. (2002) Framing constructivism in practice as the negotiation of dilemmas: An analysis of the conceptual, pedagogical, cultural and political challenges facing teachers. *Review of Educational Research*, **72**, 131–175.
- Withy, K. (2014), Situation and Limitation: Making Sense of Heidegger on Thrownness. *European Journal of Philosophy*, **22** 61–81.
- White, C. (2000) Pre-service teachers' epistemology viewed through perspectives on problematic classroom situations. *Journal of Educational for Teaching*, **26** 279-305.
- Wood, D., Bruner, J. S., & Ross, G. (1976) The role of tutoring in problem solving. *Journal of Child Psychology & Psychiatry & Allied Disciplines*, **17**:2, 89–100.
- Yadav, A. and Koehler, M. (2007) The role of epistemological beliefs in preservice teachers' interpretation of video cases of early-grade literacy instruction. *Journal of Technology and Teacher Education*, **15**:3 335-361.
- Yang, F. Chang, C. and Hsu, Y. (2008) Teacher views about constructivist instruction and personal epistemology: a national study in Taiwan. *Educational Studies*, **34**:5 527-542.
- Yeung, A. S., Craven, R. G., & Kaur, G. (2014). Teachers' self-concept and valuing of learning: relations with teaching approaches and beliefs about students. *Asia-Pacific Journal of Teacher Education*, **42**:3, 305–320.
- Yilman-Tuzun, O. and Topcu, M. (2008) Relationships among preservice science teachers' epistemological beliefs, epistemological world views and self-efficacy beliefs. *International Journal of Science Educational*, **30**:1, 65–85.
- Yin, R.K. (2015) *Qualitative research from start to finish*. New York: Guilford Publications.

GLOSSARY OF TERMS

Acculturation The process of learning another culture

Andragogy The method and practice of teaching adult learners; adult education.

Community of Inquiry A theoretical framework which represents a process of creating a deep and meaningful (collaborative-constructivist) learning experience through the development of three interdependent elements – social, cognitive and teaching presence.

Community of practice (Lave and Wenger, 1991) – a group of people who share a concern or a passion for something they do, and learn how to do it better as they interact regularly. For the purposes of this thesis, the community of practice is that of teachers.

Constructivism The theory that people construct their own understanding and knowledge of the world, through experiencing things and reflecting on those experiences.

Enculturation The process of learning one's own culture

Epistemology The theory of knowledge, especially with regard to its methods, validity, and scope, and the distinction between justified belief and opinion.

Explanatory Sequential Design A longitudinal method of data collection over a period of time in two consecutive phases. Thus, a researcher first collects and analyses the quantitative data. Qualitative data are collected in the second phase of the study and are related to the outcomes from the first, quantitative, phase.

Heutagogy The method and practice of teaching oneself; self-education; lifelong learning.

Interpretivism An approach to social science that opposes the positivism of natural science.

Item score The average point score of all responses to a question on the survey

Learner-centric Pedagogical approaches which can be described as *facilitative, exploratory, constructivist, problem-solving and reflective*, with children as *active participants* in learning.

Legitimate peripheral participation The authentic but initial practices of novices as they enter a community of practice, as they begin to take on the role they seek to inhabit, and begin using the language and praxes of those deeper enculturated into these communities. For this thesis, this can be seen as student teachers beginning to inhabit the role of teachers and 'legitimately' exploring the pedagogies and competencies of teachers.

Mixed methods research "A research approach, popular in the social, behavioural, and health sciences, in which researchers collect, analyse, and integrate both quantitative and qualitative data in a single study or in a sustained long-term program of inquiry to address their research questions" (Cresswell, 2013).

Ontology The branch of metaphysics dealing with the nature of being and the nature of reality.

Pedagogy The method and practice of teaching children.

Person score The individual average score of each participant to the survey questions

Phase Space A concept created by the mathematician Henri Poincaré, a phase space of a dynamical system is a space in which all possible states of a system are represented, with each possible state corresponding to one unique point in the phase space. This can be simply understood as all the possible things that could happen. I have parameterised this with “within the bounds of the Teacher guidelines” and mean it to represent the wider set of possibilities within teaching than can be represented by, or experienced on, any teacher training course or educational setting.

Positivism A philosophical system recognizing only that which can be scientifically verified or which is capable of logical or mathematical proof, and therefore rejecting metaphysics and theism.

Praxis The process by which a theory, lesson, or skill is enacted, embodied, or realised, or the act of engaging, applying, exercising, realising, or practising ideas.

Relativism The doctrine that knowledge, truth, and morality exist in relation to culture, society, or historical context, and are not absolute.

Social constructivism The sociological theory of knowledge according to which human development is socially situated and knowledge is constructed through interaction with others.

Teacher-centric Pedagogical approaches which can be described as *transmissionist*, *didactic* and *teacher-led*, with children as more passive ‘receivers’ of learning.

LIST OF APPENDICES:

Appendix number and title:	Page
1 Blank Survey example	174
2 Free text written responses to survey questions	180
3 Screengrab of the first 33 responses to the survey, with anonymised users randomised from across all cohorts.	186
4 Free text comments documenting trainees' pedagogical understanding post-course.	187
5 Community of Inquiry comments on those items that made the largest positive shifts toward learner-centrism.	189
6 Community of Inquiry comments on those items that made mid-range shifts toward learner-centrism.	192
7 Community of Inquiry comments on those items that made the smallest positive shifts toward learner-centrism.	194
8 Community of Inquiry notes on items that made a negative shift away from learner-centrism.	195
9 Example transcript from Community of Inquiry session.	197
10 Community of Inquiry comments on those items were the highest (most indicative of learner-centrism) in July.	199
11 Community of Inquiry comments on those items were the lowest in July.	200
12 Free text comments: Q1	202
13 Free text comments: Q2	204
14 Free text comments: Q3	206
15 Free text comments: Q5	208
16 Free text comments: Q6	210
17 Free text comments: Q7	212
18 the core principles of the Economic and Social Research Council, 2016.	214

Appendix 1 – Blank Survey example

Research into pedagogical ‘belief statements’ held by ITE students on a PGCE Course

Student ID number: _____ PGCE cohort 2015-16

- Thank you for taking part in this research. The information which you give will only be used in the context of my research and your privacy will be respected.
- Please take a few moments to reflect on how **you** were taught Literacy at school and how **you** think it should be taught.
- Grade the following 25 ‘belief statements’ using **your** currently held beliefs on how children should be taught Literacy in primary schools.
- Please use the scale of 1–5 on the statements below defined as:

1 = This should **almost never** be used in teaching Literacy to primary children.

2 = This should be used **occasionally** in teaching Literacy to primary children.

3 = This should be used about **half of the time** in teaching Literacy to primary children.

4 = This should be used **most of the time** in teaching Literacy to primary children.

5 = This should be used **almost always** in teaching Literacy to primary children.

- Please place a tick in the box below the number that best represents **your** currently held beliefs on how children should be taught in primary schools :

almost never

Occasionally

half of the time

most of the time

almost always

- I believe learners should start with easy questions and work up to harder questions.

1

2

3

4

5

- I believe I should tell learners which questions to tackle.

1

2

3

4

5

almost never	occasionally	half of the time	most of the time	almost always
---------------------	---------------------	-------------------------	-------------------------	----------------------

- I believe I should teach the whole group all at once.

1	2	3	4	5
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- I believe I should know exactly what each lesson will contain.

1	2	3	4	5
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- I believe learners learn through doing repeated exercises.

1	2	3	4	5
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- I believe I should try to cover *everything* in a topic.

1	2	3	4	5
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- I believe I should avoid learners making mistakes by explaining things to them carefully first.

1	2	3	4	5
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- I believe learners should mostly work on their own, consulting a neighbour from time to time.

1	2	3	4	5
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- I believe I should teach each topic from the beginning, assuming they know nothing.

1	2	3	4	5
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

almost never **occasionally** **half of the time** **most of the time** **almost always**

- I believe I need to teach each element of a topic independently.

1 **2** **3** **4** **5**

- I believe learners should use only the methods which I teach them.

1 **2** **3** **4** **5**

- I believe I should draw links between topics and move back and forth between several topics.

1 **2** **3** **4** **5**

- I believe I should follow the textbook, or worksheets, closely.

1 **2** **3** **4** **5**

- I believe I should only go through one method for doing each type of question.

1 **2** **3** **4** **5**

- I believe I should encourage learners to make mistakes and discuss mistakes.

1 **2** **3** **4** **5**

- I believe learners should be allowed to work collaboratively in pairs or small groups.

1 **2** **3** **4** **5**



almost never

occasionally

half of the time

most of the time

almost always

- I believe learners should learn through discussing their ideas.

1

2

3

4

5

-
- I believe I should jump between topics as the need arises.

1

2

3

4

5

-
- I believe I should find out which parts learners already understand and don't teach those parts.

1

2

3

4

5

-
- I believe I should teach each learner differently according to their individual needs.

1

2

3

4

5

-
- I believe learners should compare different methods for doing questions.

1

2

3

4

5

-
- Even though I'll plan my lessons thoroughly, I believe I'll be constantly surprised by the ideas that come up during my lessons.

1

2

3

4

5

almost never

occasionally

half of the time

most of the time

almost always

- I believe I should encourage learners to work more slowly.

1

2

3

4

5

-
- I believe learners themselves should choose which questions they are to tackle.

1

2

3

4

5

-
- I believe learners should be allowed to invent their own methods.

1

2

3

4

5

Please turn over for the final page

Further questions

Once again I'd like to reassure you that the information which you give on this form will only be used in the context of my research and your privacy will be respected. Please answer the following questions.

Do you feel that your understanding of and approach to teaching English has changed during this year?

YES NO (please delete as necessary)

If yes, do you feel it has become more focused on the child's learning or more on the role of the teacher?

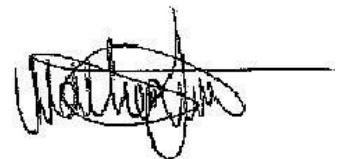
CHILD TEACHER (please delete as necessary)

Can you give a brief discussion as to why it has or hasn't changed?

Sample answer:

I have learnt that X, and my time in school has shown me that Y.

Thanks for taking the time and effort to complete this survey for me.



Matt Smith
Senior Lecturer in Primary Initial Teacher Education
University of Wolverhampton

Appendix 2: free text written responses to survey questions.

Shift	Y/N	C/T	Free text answer:
	YES	BOTH	I think that demands on children are way too high for their age group and also this impacts on teachers as there is more pressure on teachers gaining successful results.
0.28	YES	CHILD	I have learnt to adapt my teaching to focus on the learning styles and preferences of individual pupils. I have endeavoured to seek out and deploy different strategies for engaging children and ensuring their progress and engagement in the learning process.
	YES	CHILD	In my time in school this year it has made me realise that each school has different tactics and policies but, more importantly, every child learns completely differently.
	YES	CHILD	My time at University and at school has highlighted different models of teaching and learning that focus on the children that includes more child involvement than teacher teaching. The child's voice should be heard far more to enable a full understanding and as a measure for assessment.
	YES	CHILD	I have learned that children learn in different ways. Children learn by being active learners rather than passive learners and that they benefit from social learning – learning from and collaborating with peers. My time in schools has shown me how important child-centred learning is and how, as a teacher, providing a rich opportunity for learning can enhance their understanding and learning journey.
0.28	YES		In my view, teaching should always be child-led, taking into account different learning styles and approaches to learning. Children should be allowed the opportunity to explore within the lesson.
-0.4	YES	CHILD	My understanding of how children learn has improved because of the course. I have learnt teaching skills but these are only important insofar as they affect children's learning.
	YES	CHILD	During my time in school I have learnt that you take a child's idea and build the modelling around it.
	YES	CHILD	
0.16	YES	CHILD	I have learnt to incorporate more practical activities.
0.32	YES	CHILD	I have learnt that it is vitally important to focus on each child's learning differently within English.
0.24	YES	CHILD	Child talk and collaborative learning with talk partners and group work has become more important to me in my planning and teaching. I have seen how this can develop and improve children's understanding. In my school placements I have also learnt that children can act as the teacher with a lower ability peer.
-0.08	YES	CHILD	I have learnt that it is important to have a full understanding of the complexities of English. My time in school has shown me that schools follow many different schemes and that these can be very rigid (RWI).
	YES	BOTH	I have learnt that when teaching English to any Year group it needs to be broken down and every aspect covered, not just the topic that is being taught. English is a subject that is constantly used and taught across all subjects without the children even realising.
	YES	CHILD	I have learnt that that the teacher must model appropriately in order for children to understand what is expected of them in the task. Focus should be placed on what is being assessed. Successful modelling allows the children to 'magpie' ideas as well as add their own ideas. It

			will prevent children going off on a tangent.
	YES	T	
0.48	YES	CHILD	Children learn better when collaboratively learning and taking ownership of their own learning.
	YES	CHILD	I have learnt that teaching English is more focused on the children rather than what the teacher's outcome is. Ensuring that the child has understood the objective and progress is being made. My time in school has shown me this.
0.12	YES	CHILD	Children respond well to other children's ideas. Sharing ideas before and after writing is effective to give ideas and to give two stars and a wish type peer assessment and plenary – they can see what they might change in their own work.
	YES	CHILD	The English lectures have been brilliant, perfectly suited to empowering students to teach literacy in the primary setting. I have learnt that phonics matter, and my time in school has shown me that phonics bloody well matter!
0.28	YES	CHILD	Yes, I have learned that the children are very inventive and imaginative so the learning should suit them and, as a teacher, I need to adapt my lessons to suit this.
	YES	CHILD	I have learned that you have to model further and get ideas from the children rather than telling them what you expect. Also, pupils learning through talking and performing first helps.
	YES	CHILD	I have learnt that lessons need to be focussed on the child and be continuously changing to adapt to the children's need. Being in school has shown me that English can be an enjoyable and interactive lesson, which is vital to engage the children.
0	YES	CHILD	I have learnt that Year 5 are able to take control of what they learn more than Year 2 could.
	YES	CHILD	I have learnt that literacy is used in a wide range of subjects and not just in those specific lessons. My time in school has shown me that children will complete a better standard of work when it is discussed first so that they can share and use other ideas.
-0.16	YES		I have learnt the importance of modelling during English lessons and how if this done effectively it can completely change the outcome of the children's learning.
0.24	YES	CHILD	During my time, I have noticed that I have adapted my planning to follow the emerging needs and interests of the children. I have still included and met unit/curriculum expectations but in a way that is tangible for children.
0.2	YES	CHILD	The main thing I have learnt is that all children learn in completely different ways and that teaching should be catered to the needs of the individual child.
	YES	CHILD	Children are better learners when they are in control of their own learning.
	YES	BOTH	Teaching and learning coincide. Teaching needs to motivate, inspire and challenge children's learning while children need to build on their own experiences and skills.
-0.08	YES	CHILD	I have learnt through practice how to differentiate in a variety of ways rather than just x,y,z for every lesson. I have learnt to incorporate a variety of resources and activities into the lessons.
	YES	CHILD	Children don't have a set method to work things out and I need to be open to their methods. Children can see things I don't always.
0.12	YES	CHILD	I have learnt that I should constantly recap over previous learning to

			ensure children remember the key concepts and information. This keeps the children more engaged with the use of quick-fire questions.
	YES	CHILD	
	YES	CHILD	I have learnt that pupils want to learn English in the most interactive way.
	YES	CHILD	I have learnt that lessons need to be more child-centred and (teachers) are there to facilitate their learning. My time in school has shown me that English can be very interactive and enjoyable if taught in the correct way.
	YES	CHILD	That prescriptive programmes do not cover all the needs of the pupils and need to be differentiated.
-0.12	YES	CHILD	I have learnt that lessons cannot be 100% controlled by the teacher's planning and my time in school has shown me that lessons need to respond to pupils; understanding and progress.
0.68	YES	CHILD	I have learnt that children are enquiring, and motivated to learn if given some independence. I know it is important that the teacher has input and sometimes provides a stimulus to begin with. My time in school has shown me that from Y2 to Y4 children have brilliant imaginations that should be encouraged.
	YES	CHILD	I have learnt that English is now taught in a more child-initiated environment, with less need for the teacher to stand at the front and talk to the children. My time in school has shown me this, as the children spend more time assessing and uplevelling texts which they then use to improve their own writing.
	YES	CHILD	
-0.12	YES	CHILD	As a teacher I have found and understood more approaches to children. However, the approach used depends on how the children respond.
	YES	CHILD	I have learnt that concepts that interest the child result in the child (being) more engaged and work is more creative.
	YES	CHILD	I have learnt that English is taught in a more child-focussed creative way where children do not just sit and read/write. Strategies such as redrafting/editing work is encouraged in schools to further children's writing themselves. Creative methods are also used to enhance writing and reading as opposed to just reading a story.
	YES	CHILD	English allows children to explore their ideas in a context that suits them.
0.12	YES	CHILD	
-0.24	YES	CHILD	I have learnt that English is not just a discrete subject but in every subject there are cross-curricular links.
	YES	CHILD	
-0.32	YES	T	I have learnt that English can be taught in many diverse and interesting ways, which I did not expect.
	YES	CHILD	
0.48	YES	CHILD	My time working in schools, with different methods of teaching and learning, has allowed me to discover what children respond well to and promotes understanding in the long term. Child-centred learning is best in a classroom in which discussion and questioning is encouraged.
	YES	CHILD	English is about encouraging children to look further.
	YES	T	I have learned that it appears to be more important to teach everything on the curriculum whether the children need it or not. So it is up to the teacher to make learning enjoyable for the child.
	YES	CHILD	My time in University and school has taught me to focus more on the needs of the individual. Teaching of differing learning styles and barriers to learning has helped highlight this.

-0.32	YES	CHILD	Children are better learners when they are in control of their own learning. Although, input and modelling needs to take place.
0.24	YES	CHILD	I have learnt that children are more engaged if they take control of their own learning but children do need some structure in terms of what they need to know.
0.28	YES	CHILD	It has changed because I know how children learn to read example through phonics programmes.
	YES	CHILD	To put it simply, I believe the lesson can be taught more fluidly. Plenary doesn't just have to be at the end.
0.4	YES	CHILD	I have learnt that it is paramount to the success of a lesson not to stick too rigidly to a lesson plan – importance of children taking the learning in a new direction if necessary and appropriate.
0.48	YES	BOTH	I feel I have developed as a teacher by gaining an increased understanding of the mechanics of English (including SSP). However, the lectures have all focused on the child's learning (different strategies, catering for different needs etc.).
	YES	CHILD	I have learnt that children easily lose focus if lessons aren't engaging enough. My time in school has shown me that there are always misunderstandings and as a teacher it is my job to address these misunderstandings as soon as possible.
-0.12	YES		No because this course has consolidated the understandings I gained at university about teaching English.
-0.44	YES	CHILD	I have learnt that there are a range of different methods to teach English and that using a variety of methods is the best way to learners' needs. My time in school has shown me that children learn when they are challenged through new and exciting activities.
0.2	YES	CHILD	I have learnt lots of engaging lesson ideas and have seen the difference these methods made to how engaged the children are in lessons.
-0.32	YES	CHILD	I have learnt that I shouldn't stick rigidly to a lesson plan but adapt my teaching to respond to the children's prior learning, misconceptions and interests within the lesson.
0.56	YES	CHILD	I have learnt that you can really be creative in English and my time in school has shown me that you should try to keep lessons fresh and new and interesting to engage children.
	YES	T	I have learned that modelling effectively is essential for children to learn the concepts of English and then the children should be given the opportunity to "express" themselves.
	YES	CHILD	I have learnt that children can be more responsible for their own learning and my time in school has shown me that facilitating learning is better than 'spoon-feeding'.
	YES	CHILD	I have learnt the importance of children having sufficient vocabulary combined with the strategies for independent learning help children to achieve and progress with a deeper understanding.
	YES	CHILD	I have learnt that English shouldn't be restricted to writing and grammatical compliance, but should encourage creativity and love of learning. In the school I am in, this is restricted.
0.72	YES	CHILD	I have learnt that teaching English and my time in both placement schools has shown that approaches can vary from school to school and class to class. There is not one clear method across one school or even one year group.
-0.08	YES	CHILD	I have learnt that children effectively learn through peer discussion, and my time in school has shown me that the teacher's role is to facilitate this.

0.12	YES	CHILD	I have learnt the value of social learning and peer support. My school has taught me the value of mixed ability groups to raise students' confidence and progression in English.
-0.28	YES	T	I have learnt about the different techniques and ways of teaching. My time in school has shown me what things work well. It has shown me how important it is to model writing.
-0.16	YES	T	I have learnt that the teacher needs to be more specific in modelling how to do the specific skills and that collaborative work can feed into independent work. Before starting placement I didn't want to give too much away but now realise that need to "teach, not test" in my lesson time.
-0.12	YES	T	I feel that my approach has changed to allow pupils to engage fully with how they can be successful. For example, asking for success criteria, allowing them to self-assess, sharing examples of work during the lesson, praising when a success criterion is achieved. My role (I think) is to allow them to do this (and not be afraid to make mistakes) – it's all about progress.
	YES	CHILD	I have learnt that it is imperative to establish the children's previous knowledge prior to teaching lessons.
	NO		I always believed that Literacy should be taught creatively. Alongside the direct teaching time, learners should develop inquisitiveness through questioning, discussion, paired work and group work. This perspective has been actualised in class practice and worked great (sic) in class. Making mistakes is a step in learning and mistakes in class should be openly discussed, my view has not changed.
	YES	CHILD	I have found that, in KS2, things are more teacher-led due to the amount of information needed to pass on, although KS1 is more child-led and learning-focused. Often the children make such fantastic suggestions and are so creative it is not possible to stick to the lesson plan completely.
	YES	T	My lack of experience in the teaching role is what made the learning teacher-centric. While I have learned much about how children learn, how this affects me as a teacher is much more predominant.
-0.16	YES	CHILD	Sessions have focused my attention on how to teach English, giving clear pedagogy strategies to teach effectively. School experience shows need to understand child – their strengths/ weaknesses and abilities – to target and focus teaching towards pushing them forward.
	YES	CHILD	Importance of phonics. Techniques to use in the classroom to inspire pupils and keep their focus and motivation.
	YES	CHILD	School placement showed me that cross-curricular with drama works well with KS1/YR children.
	YES	CHILD	I have learned that chn will often surprise you, in my placement one child in a lower ability grp went from writing simple sentences to a page and half of A4 retelling the beginning of Little Red Riding Hood.
	YES	CHILD	I have learned lot about creativity in English, and how not to teach without passion to always persuade.
	YES	CHILD	That in fact the best writing comes from child-initiated ideas and topics they can connect to.
	YES	CHILD	I have learned that English can be taught creatively and (to) incorporate children's ideas into planning.
	YES	T	Teacher knowledge is vital – lack of knowledge can hinder.
	YES	CHILD	I have learnt that you can be creative and make lessons engaging in all

			topics in English and my time in school has gave (sic) me the confidence to implement fun and excitement into English lessons.
	YES	CHILD	I have learnt how you can teach different ability children the same topic. My time in school has allowed me to understand that some children will need challenging more than others.
	YES	CHILD	I have learnt that it is important to teach children basic principles in English and repeat them over time so that they gain a greater understanding.
	YES		Because I am a qualified teacher and a learner of English as an additional language, I feel I know how to approach teaching the language in an engaged and inspiring way.
	YES	CHILD	I have learnt to adapt lessons to suit the child with EAL. This became a key focus as I was in a school with a high EAL population.
	YES	CHILD	I have learnt that teaching simple concepts allow children to gain a good understanding of how they work, being able to master and then reapply them.
	YES	CHILD	I have learnt that a way of engaging all is by using topic or other subjects to form a link and context.
	YES	CHILD	I have learnt that effective learning in English is most effective when the learning is child-led. This contrasts to how I was taught English in primary school.
	YES	CHILD	I believe the teaching is more focused on the pupils' learning than the role of the teacher. During my time on Att1 I noticed the focus was strongly on how to cater for the children in my class. How to differentiate the lesson to cater for all children's needs. Talk for Writing as an approach to teaching English is excellent, but I don't think I would have seen anything like this in previous years.
	YES	CHILD	University encourages teaching and active learning. School was quite boring with little class discussion and children had to write for long periods of time. I want to teach for experiential learning – University has given me lots of ideas for this.

Appendix 4: free text comments documenting trainees' pedagogical understanding post-course

I have learned that English can be taught creatively and (to) incorporate children's ideas into planning.

I have learnt that effective learning in English is most effective when the learning is child-led. This contrasts to how I was taught English in primary school.

I believe the teaching is more focused on the pupils' learning than the role of the teacher. During my time on Att1 I noticed the focus was strongly on how to cater for the children in my class: how to differentiate the lesson to cater for all children's needs. Talk for Writing as an approach to teaching English is excellent, but I don't think I would have seen anything like this in previous years.

Uni encourages teaching and active learning. School was quite boring with little class discussion and children had to write for long periods of time. I want to teach for experiential learning – University has given me lots of ideas for this. I have learnt that you can be creative and make lessons engaging in all topics in English and my time in school has gave (sic) me the confidence to implement fun and excitement into English lessons.

I have learnt how you can teach different ability children the same topic. My time in school has allowed me to understand that some children will need challenging more than others.

I have learnt that teaching simple concepts allow children to gain a good understanding of how they work, being able to master and then reapply them.

I have learned that children learn in different ways. Children learn by being active learners rather than passive learners and that they benefit from social learning – learning from and collaborating with peers. My time in schools has shown me how important child-centred learning is and how, as a teacher, providing a rich opportunity for learning can enhance their understanding and learning journey.

I have learnt that lessons need to be more child-centred and (teachers) are there to facilitate their learning. My time in school has shown me that English can be very interactive and enjoyable if taught in the correct way.

I have learnt that literacy is used in a wide range of subjects and not just in those specific lessons. My time in school has shown me that children will complete a better standard of work when it is discussed first so that they can share and use other ideas.

Yes, I have learned that the children are very inventive and imaginative so the learning should suit them and, as a teacher, I need to adapt my lessons to suit this.

I have learnt that children effectively learn through peer discussion, and my time in school has shown me that the teacher's role is to facilitate this.

My time in University and school has taught me to focus more on the needs of the individual. Teaching of differing learning styles and understanding of barriers to learning has helped highlight this.

I have learned that you have to model further and get ideas from the children rather than telling them what you expect. Also, pupils learning through talking and performing first helps.

I have learnt that teaching English is more focused on the children rather than what the teacher's outcome is. Ensuring that the child has understood the objective and progress is being made.

English is about encouraging children to look further.

My time working in schools, with different methods of teaching and learning, has allowed me to discover what children respond well to and promotes understanding in the long term. Child-centred learning is best in a classroom in which discussion and questioning is encouraged.

I feel I have developed as a teacher by gaining an increased understanding of the mechanics of English (including SSP). However, the lectures have all focused on the child's learning (different strategies, catering for different needs etc.).

I have learnt that the teacher must model appropriately in order for children to understand what is expected of them in the task. Focus should be placed on what is being assessed. Successful modelling allows the children to 'magpie' ideas as well as add their own ideas. It will prevent children going off on a tangent.

My lack of experience in the teaching role is what made the learning teacher-centric. While I have learned much about how children learn, how this affects me as a teacher is much more predominant.

I have learnt that pupils want to learn English in the most interactive way.

I feel that my approach has changed to allow pupils to engage fully with how they can be successful. For example, asking them for their own success criteria, allowing them to self-assess, sharing examples of work during the lesson, praising when a success criterion is achieved. My role (I think) is to allow them to do this (and not be afraid to make mistakes) – it's all about progress.

I have found that, in KS2, things are more teacher-led due to the amount of information needed to pass on, although KS1 is more child-led and learning-focused. Often the children make such fantastic suggestions and are so creative it is not possible to stick to the lesson plan completely.

I have learned that modelling effectively is essential for children to learn the concepts of English and then the children should be given the opportunity to "express" themselves.

I have learnt that the teacher needs to be more specific in modelling how to do the specific skills and that collaborative work can feed into independent work. Before starting placement I didn't want to give too much away but now realise that I need to "teach, not test" in my lesson time.

Children respond well to other children's ideas. Sharing ideas before and after writing is effective to give ideas and to give 'two stars and a wish' type peer assessment and plenary – they can see what they might change in their own work.

I have learnt that lessons need to be focussed on the child and be continuously changing to adapt to the children's need. Being in school has shown me that English can be an enjoyable and interactive lesson, which is vital to engage the children.

I have learnt that it is imperative to establish the children's previous knowledge prior to teaching lessons.

The main thing I have learnt is that all children learn in completely different ways and that teaching should be catered to the needs of the individual child.

During my time, I have noticed that I have adapted my planning to follow the emerging needs and interests of the children. I have still included and met unit/curriculum expectations but in a way that is tangible for children.

I have learnt that children are enquiring, and motivated to learn if given some independence. I know it is important that the teacher has input and sometimes provides a stimulus to begin with. My time in school has shown me that from Y2 to Y4 children have brilliant imaginations that should be encouraged.

My understanding of how children learn has improved because of the course. I have learnt teaching skills but these are only important insofar as they affect children's learning.

In my time in school this year it has made me realise that each school has different tactics and policies but, more importantly, every child learns completely differently.

I have learnt that it is vitally important to focus on each child's learning differently within English.

I have learnt that English shouldn't be restricted to writing and grammatical compliance, but should encourage creativity and love of learning. In the school I am in, this is restricted.

I have learnt that English is taught in a more child-focussed creative way where children do not just sit and read/write. Strategies such as redrafting/editing work is encouraged in schools to further children's writing themselves. Creative methods are also used to enhance writing and reading as opposed to just reading a story.

I have learnt to incorporate more practical activities.

I have learnt that it is paramount to the success of a lesson not to stick too rigidly to a lesson plan – importance of children taking the learning in a new direction if necessary and appropriate.

I have learnt that children are more engaged if they take control of their own learning but children do need some structure in terms of what they need to know.

I have learnt the importance of children being given the strategies for independent learning help children to achieve and progress with a deeper understanding.

Children learn better when collaboratively learning and taking ownership of their own learning.

Children are better learners when they are in control of their own learning. Although, input and modelling needs to take place.

I have learnt that I shouldn't stick rigidly to a lesson plan but adapt my teaching to respond to the children's prior learning, misconceptions and interests within the lesson.

School placement showed me that cross-curricular with drama works well with KS1/YR children.

That in fact the best writing comes from child-initiated ideas and topics they can connect to.

APPENDIX 5: Community of Inquiry comments on those items that made the largest positive shifts toward learner-centrism.

Q6. I believe I should try to cover *everything* in a topic.

We feel there is not enough time to teach everything and children may already have prior knowledge of some areas of the topic

Need to cover what is necessary and what the children want to learn but everything else is not needed

It's not possible to teach everything, so working with the children's interests and what is deemed to be important should help inform the teaching whilst there might not be enough time to cover everything, it should be the necessities and should incorporate children's interests

Q13. I believe I should follow the textbook, or worksheets, closely.

No because death by worksheets!

No, it is boring and doesn't let the children be creative or work to their strengths/interests

No. Lacks creativity and excitement for the children. Will remove their enthusiasm for the subject.

No. May not engage students.

(This was commented on before I clarified that although the score was high, that is because it was answered mainly in the negative, being reverse coded.)

Q1. I believe learners should start with easy questions and work up to harder questions.

Yes, but it can be dependent on their ability and knowledge. It also depends on her questions are differentiated.

Yes, but you need to know their prior knowledge so you know where to start. It can help them explore bloom and deepen their understanding.

Yes, as they can build a solid foundation and then move on to a challenge.

Yes, dependent on the starting level. Blooms taxonomy.

Q9. I believe I should teach each topic from the beginning, assuming they know nothing.

No, because within a diverse classroom pupils may know things that others don't and will allow children to explore responsibility and the use of pupil as teacher.

Assessment for learning should inform where to start – you can't teach things they already know as it is not fair and dull

No, children may have prior knowledge. Teaching what they already know again will not be beneficial to the children and waste learning time and hinder progress.

No children will not engage and become bored.

(This was commented on before I clarified that although the score was high, that is because it was answered mainly in the negative, being reverse coded.)

Q18. I believe I should jump between topics as the need arises.

This could cause confusion; however if it is a necessity, I would agree.

Not jump between big topics that the children are focus on. If children are learning Romans one day you can't just jump to something else and then come back to Romans.

As long as it doesn't cause confusion or disparity in the learning, I think that teaching should follow children's interests. If they help to make connections and deepen understanding, and joins should be made (within reason – as long as learning is still taking place, and the children are engaged!).

I believe that this may be required as long as the need is age-appropriate and the cohort could react appropriately for example the real live issues such as current news and politics.

Q5. I believe learners learn through doing repeated exercises.

Repetition is proven to work within areas of the curriculum but this could become excessive quickly.

This is very dependent upon the activity. I think the more children read and answer questions on the comprehension in discussions they will begin to increase the comprehension scale but I don't think repeating spelling worksheets is of any benefit. The activities need to be exciting and interesting.

In some areas of the curriculum that is needed and it is a proven method. However, it should not be used to become excessive and take away from the experience of learning.

This depends on what exercises are being carried out and if it is appropriate for the class group in certain situations as may be necessary.

APPENDIX 6: Community of Inquiry comments on those items that made mid-range positive shifts toward learner-centrism.

Q19. I believe I should find out which parts learners already understand and don't teach those parts.

Prior knowledge being built, highlighting mastery. Maths is great!

Use of the prior knowledge box highlights importance. The maths lectures highlighting importance of mastery requiring prior knowledge of children's learning.

It is good to recap on prior knowledge of children as there may be certain gaps in their knowledge which they are unsure about and it is useful to recap and link the learning to what I already know.

It is important to reflect prior knowledge briefly in order to build upon it.

Prior knowledge being built upon, still reviewing basics.

Need to promote mastery.

Q24. I believe learners themselves should choose which questions they are to tackle.

Relatively increased due to experience is based on children picking easier work would limit willing. However some may be willing to pick challenges.

I disagree with this as children need some guidance on the questions that should be tackled. However sometimes children should be encouraged to tackle questions they would like to do. Going to choose which questions they are able to tackle but some facilitating needs to take place on the teacher. Teacher provides questions in a range.

Choosing own questions would limit learning as they won't be pushing themselves. They need different questions to encourage further learning.

Individual needs can be met. Move on to a deeper understanding faster. Will they still have this understanding the following year?

Teacher to provide questions do with the flexibility to choose – exploring, curiosity. Working in groups answering questions, putting together knowledge, creating fact files for example. Choice has to be prioritised and differentiated so children will definitely pick the easiest subject, obviously not being challenged and therefore giving extra credit to children who don't progress as much in a lesson due to their sheer idleness.

Choice has to be parameterised and differentiated. If choice is too free, children might (in my experience most children would) pick work they know they can do. It was a policy in school to allow choice – with such a large range of abilities the children quite often tried to pick work that was too easy. One boy always tried work that he struggled with as it was too hard for him.

Q16. I believe learners should be allowed to work collaboratively in pairs or small groups.

Yes, it would work as children would not then follow the teacher around the class.

Prevents the child spoke? (illegible)

Yes collaborative learning and working in groups is important.

Q4. I believe I should know exactly what each lesson will contain.

Yes, because then the teacher wouldn't know what to do in the lesson – what's the point of a lesson without the subject knowledge?

Teach should know what they are teaching to feel confident when teaching and discourage bad behaviour.

You should know what you're going to teach or how you are going to teach it.

Q15. I believe I should encourage learners to make mistakes and discuss mistakes.

Children learn from their mistakes. If they are not allowed to do so that they are not exploring a life for themselves.

Encouraging mistakes is okay, and everyone makes them. As long as they learn from them and know how to accept them.

Encourage children that mistakes are fine as long as misconceptions are addressed.

Exploring; experiencing; need to facilitate learning for both, learning from their experiences.

All this came through the idea of learning through play.

Q2. I believe I should tell learners which questions to tackle.

No we don't make that decision. DFE, testing agencies. Children should have some choice – like where to start work wise – easy, medium, hard levels.

Planning is key in English! Complexity. Drama. More choice is a more modern idea.

Should be a mixture of our own and given.

I believe that this is true, however the teacher should make sure the lesson is labelled actually on the theme they're supposed to be teaching, rather than students being left to own devices.

APPENDIX 7: Community of Inquiry comments on those items that made the smallest positive shifts toward learner-centrism.

I believe that the small jumps are observed due to the range of questions already aligning with teachers beliefs. I think that for these questions, the shifts that we observe would match my expectations.

Strongly believe that children should discuss their ideas – teachers should act as facilitator. Mix of group discussion and whole class teaching is most effective. Teaching the latter differently according to their individual needs made a small shift because my students had already had the understanding that Teaching should alter to individual needs.

Preliminary understanding of statements already accurate to current philosophies. Only fine-tuned changes to understanding.

The statement saw the smallest jumps in my opinion as most students that start the course already told them highly in their beliefs. This was not indicated on the table, as the small jumps could have made either high beliefs with change or no beliefs with little change.

APPENDIX 8: Community of Inquiry notes on items that made a negative shift.

Different methods are part of differentiation in the classroom

By not allowing learners to make mistakes, you are setting them up for a fall where they are in a classroom, e.g. in secondary school, when making mistakes is not necessarily avoided.

Teaching one method leads to close mindedness. You will not teach a child incorrect method, so you are only teaching children how to be successful. Children need to learn how to make mistakes and had to rethink so that they can expect that in life not everything will be right first time. They will learn that in life, there are many ways to solve the problem and that if at first you don't succeed aid, try and try again!

You need to be flexible in your teaching. You need to be able to go off topic and talk about things that come up – that's real life – not learning to pass the test. When applying for a job they always ask for exam results before deciding to discuss you as a person. Exam results are seen as more important than your ability in real life situations

Adoption of various methods of teaching is an inherent part of differentiation in the classroom.

Learners should feel able to select the most appropriate matter that they feel comfortable with to attempt a question. This produces the obvious discussion on selection of methods versus correctness of the response to the question. To what extent does this go when considering the correctness of the answer?

Allowing children to make mistakes could lead to issues. Although I believe it is acceptable in many circumstances – people learn from them – the observer may be concerned that misconceptions are condoned in the classroom.

Becomes very mechanistic teaching, for example the use of conjunctions in every sentence! In fact as this was demanded in every lesson, the pupils' use of conjunctions got worse!

Could be due to pressure applied by school/OFSTED in order to show progress.

To achieve good presentation.

To cover gaps in curriculum towards end of the year.

To avoid child-led progression that links to the following year's syllabus.

Limitations in regard to resources and children's ideas being relevant to the topic.

More learning will be done by children making a mistake then correcting it.

Why did they go backwards?

- Placement influence
- Assessment for Learning
- Research
- Life experiences
- University
- Allow chn to make mistakes as it is more beneficial than repeating what a teacher has said
- Professionals
- Pupil progression!
- Partner work is very beneficial
- Hard to show individuals' progress with partner work
- Sometimes teachers believe that children talking are not always 'on-task'
- Class atmosphere
- Classroom management
- Fear of a blank page
- Sparking individual interests

Placements – experience; pacing/time limits; children’s engagement and behaviour

Showing progress – methods needed to meet National Curriculum concepts; depth of learning for one method, but children using different methods may not meet success criteria or concept focus

University best case never happens in classroom – need to teach all the class, cannot intervene for multiple misconceptions in lesson.

Why did the answers go backwards?

- Placements
- Assessment
- Research
- Experiences
- Better for a child to make a mistake and learn from it rather than just speak at what the teacher said with no knowledge and understanding.

No consideration of pre-assessment in English.

Gaps created in learning.

Consideration of the success criteria needed to inform children of what they're looking for

Structure

What a good one looks like

Pressure on progress

Didactically learning restricts the ability of the teacher to identify gaps in learning to enable people progress

Not being allowed to show errors in the book, i.e. crosses, forces teachers to get it right the first time Assessment for learning

Pressure on progress in school. In theory it works but in practice, management (School/OFSTED) need children to be at a certain point so you rush the learning and there is no time to explore, you just need to fill gaps.

The pressure on teachers to deliver outstanding lessons where all children have learnt change the beliefs of the teacher.

When you are an NQT you feel incompetent and feel obliged to deliver lessons where they learn from you rather than themselves and from peers.

OFSTED requirements

Progress tracking needs

Presentation

Lower gaps in the curriculum

Learners need to learn from mistakes

APPENDIX 9: Example transcript from Community of Inquiry session.

HW	We picked our targets each week – it wasn't that you had to follow it was that you had only so much time.
AZ	See we had as much time as we needed – two and a half weeks on just one year group (I was in a mixed Y2-4 class) before even teaching the others; it was... it was bizarre.
MS – to FN	Tell me yours again, about the medium term planning.
FN	Every week – no – at the start we had to follow the medium term planning and we had to follow it each week and if children for example didn't understand parenthesis we'd have to make – squeeze in time and then kind of shorten edit and proofreading or shorten narrative or er story writing and it's quite frustrating because you can't see children do a whole piece of writing – it's just like half of it. And if children don't finish off the narrative writing then they've got no time to do it.
MS	But in terms of your actual teaching strategy, when you plan to do it, do you plan to teach them exactly what they need to do – like model it on the board for them to, to copy, or is it more of the case where you want them to have a go at it and then learn through doing?
FN	Yeah, for example, they were doing diary entries and I typed *this* up -
MS	Yep
FN	And I put it on the visualiser erm and read it and um would... I asked the children "what can you notice?" or "where are the semi-colons?" or maybe I would write it on the flipchart and it would be like a model for the children and I would leave it on there and say to the children "read that as an example and write your own diary entries" so they would still have this on the visualiser. They wouldn't copy it but they'd draw out ideas from me or if they got stuck, they'd be able to return to it.
MS	So they'd have the exemplar on the board that we've always talked about as you can't write anything if you haven't read it can you, you can't write a news report if you haven't seen what they look like, so that does make sense, but it's about how much leeway you give children to get it wrong: how soon do you jump in?
HW	On Placement One we were kind of, from what I was going off, you kind of model it at the front, you tell the kids what to do, and they go away and do it, where this placement was a lot 'more talk, less teaching' and there's a lot more you let them go and find for themselves and you might have group tasks so for the newspaper article I'd give them one and I just said, they'd have, like, A3 piece of paper and they had to label it and what they thought they could see and then as a class we would then decide what we could see, so some of them spotted headlines but not everyone spotted it, so they had the chance to get, do it themselves, but then as a class we decided what was more important, or we might have 'teach me tell me' cards where you give them a card and their aim is to go round the class and tell their fact to as many people as possible and then come back... and... so, say there were seven or eight, they should have got to see/hear every fact by thing... I would have done it for the newspaper article, so headline – why do you need a headline? – I might say because it's fun, but the fact would be that it catches

	the attention of the reader so there's a lot more in this placement of 'more talk, less teaching' getting children to teach... teach themselves but then, as a teacher, you were there to confirm, like...
MS	But also you were there to teach in a fun way – you did that relay too, didn't you?
HW	Yeah – it wasn't (<i>unclear</i>)... it was... was that for maths or?
FN	Was that throughout? For Year 5s as well or was it just for Year 3s?
HW	This was for Year 3 but I think they do it the whole way through the school.
FN	Because Year 5 is more independent – it's more like, there is more, like, model, teach, then they write.
HW	Like, say, for maths, well, they-we did it in quite a lot, they did it a lot in science in the last week – but they have table races, so for each table it was differentiated, but they would have had a question about a 3D shape so it would have been like "Name a shape with one vertice (sic)", then they would have a couple of minutes to go and answer this list of questions, so they'd do that, and then it'd get marked um with their table on it, er then by – at the end of the lesson they would come back and do it again so that they can then have a go at the questions again and, pretty much always, they would answer more questions correctly, yeah.
MS	One of the things that does, of course, is that impacts on your – what we've been talking about just this morning – the pupil progress, because you can see where they were, and you've got a copy of that, and where they are now and you can say "in my lesson, I have made impact on twenty-six out of thirty children 'cause they've all got better."
HW	And then it's like when we did subordinating conjunctions they had – each table had a chance to make their own sentences out of cut up sentences using the conjunctions in right places and then the kids went around the class and checked that each other had got them right rather than me going round and saying "No, that's wrong" – they did it themselves to check their own knowledge and check each other's knowledge of it as well rather than getting to the end of the lesson and me going "Oh no, that's not right".
MS	So these are really important, I think personally, these are really important pedagogies of child-led learning...
HW	Yeah.
FN	Mmm (<i>an affirmative noise and nodding</i>).
MS	...rather than just that teacher (<i>unclear</i>)
HW	From my second placement compared to my first I would definitely say ...um... that it is a lot more important to do child-led.
FN	Mm, I dunno if it was just because the children in my school were in the upper Key Stage and a lot more independent, there was a lot less practical stuff, especially for English: because there was less time the teacher wanted more out of them so she'd do a model...

APPENDIX 10: Community of Inquiry comments on those items that were the highest (most indicative of learner-centrism) in July.

22	Even though I'll plan my lessons thoroughly, I believe I'll be constantly surprised by the ideas that come up during my lessons.
14	I believe I should only go through one method for doing each type of question.
17	I believe learners should learn through discussing their ideas.
20	I believe I should teach each learner differently according to their individual needs.
13	I believe I should follow the textbook, or worksheets, closely.
21	I believe learners should compare different methods for doing questions.
16	I believe learners should be allowed to work collaboratively in pairs or small groups.
11	I believe learners should use only the methods which I teach them.
15	I believe I should encourage learners to make mistakes and discuss mistakes.

Surprising to see the mistakes and discussing mistakes so low. I believe over complicating the thought process can affect learning outcomes and learning through practice should take centre stage.

I'm surprised the discussion of mistakes is lower down, I found that letting the children find the mistakes and correct them – essentially be the teacher – is really effective.

What does it mean by comparing different methods? With the children analyse them themselves or use different methods to check their work? I'm surprised with how fly out this question is and how complex it is.

Question 8: sometimes I found that if the children do a lot of group and partner work they become reliant on it and when they come to working independently, they can't.

Sticking to textbooks religiously does not allow assessment for learning; each lesson will raise new learning goals.

Using one method to answer each type of question negates deep learning; sure, model methods, but overall you need to grasp several methods that they need to be able to work to the method that suits them.

People should be encouraged to examine and explore their mistakes. They learn more by editing and correcting their work, developing understanding and depth.

Discussion is very important and central in key stage one.

Lessons should be adapted to meet the needs of the children and not blindly follow a lesson plan.

APPENDIX 11: Community of Inquiry comments on those items that were the lowest in July.

Q1. I believe learners should start with easy questions and work up to harder questions.

Positive: confidence grows/progress

Negative: Limited/lack of differentiation There is no challenge – can argue that if they only have the time for the easy questions, is that optimising learning?

I'm surprised by this. Children who are asked to start easy and build up. Experience has taught me that higher ability children go straight to the challenge. When task with easy work – despite the grounds of "I will this is too easy" there were many gaps in learning – the children were not doing the basics. I believe you must encourage children to do the easy in order to get the base foundation secure! (This is somewhat inconsistent with this respondents following remark that all children should be encouraged to make mistakes as this is part of the learning journey!)

Agree – to deepen thinking and learning for all children

Disagree – differentiation may not be apparent as higher ability children may be held back in their learning

The respondents seem to believe that people should all be starting on an easy task, however this would avoid the Teacher Standards around differentiation.

I believe in a child-led approach which allows children to choose the activity which is best suited to their needs and abilities.

Q7. I believe I should avoid learners making mistakes by explaining things to them carefully first.

I feel learners should be able to make some mistakes. That way they will have to discuss what they've done and understand where they have gone wrong. However, I feel if a child has a whole page of writing that is incorrect it can be very disheartening to the children. Allowing learners to make mistakes teaches them that it is okay to be wrong. It gives them a chance to learn from their mistakes. Why do we have to explain first? Give learners chance to prove what they know or can learn themselves first.

I disagree. I think teaching children it is okay to make mistakes is a vital part of life. If you teach them not to make mistakes they will have an unreal perspective on life. I believe children learn more from mistakes, they absorb the information more in-depth.

Q4. I believe I should know exactly what each lesson will contain.

I disagree. Lesson never goes as planned but you should have a basic outline of the learning objective and success criteria. But if the lesson goes down the toilet, you need to change it!

Q25. I believe learners should be allowed to invent their own methods.

Learners should be allowed to invent their own methods.

Positive: child-led

Negative: misconceptions

I disagree as children need standardisation.

Children may write notes that make sense of them but the teacher can't decipher what they mean.

Q3. I believe I should teach the whole group all at once.

Positive: consistency

Negative: no differentiation

Q19. I believe I should find out which parts learners already understand and don't teach those parts.

Positive: no time constraints

Negative: may not apply to all.

Q23. I believe I should encourage learners to work more slowly.

Yes in regards to taking care of their work, but they still need to be producing work to make sure they complete all required learning.

I think that teaching when it is taught rather than facilitating learning is due to time saving issues – wanting to move on. Maybe the teacher is to set on what they want the finished writing to be.

I think teachers will be answering these kind of questions in their professional mindset. That comes from the pressure of time and progress, meeting deadlines plus OFSTED. But as an individual, I reckon in an ideal world you would let the learning be facilitated.

All pupils should be taught the same – you start removing children, you start teaching them differently, you start labelling and destroying confidence.

The statements are heavily teacher-based and focused on ticking boxes rather than developing independence and deepening learning.

APPENDIX 12: Free text comments Q1:

What have you learned about the best ways to teach English? Where did you learn these? What facilitated your understanding of how children learn best?

1. There are no best way is, just lots of strategies to ensure all children are being taught in a style that suits them.
2. English sessions, watching professionals.
3. Engaging and exciting curriculum that sparked enthusiasm. Placement and university.
4. How to making this a lot more engaging for the children. University and placement.
5. Two answers about phonics being important.
- 6.
7. Creatively: don't just get children to write – inspire a class of children to do better
8. The best way is to engage children. I have learned lots of methods to the English lectures.
9. I learnt best about creativity, it has allowed me to think about more creative ways to teach.
10. Use a combination of teaching strategies for, use relevant approaches i.e. the tree poem lectures, whole lecture discussion, table discussions to hear different viewpoints.
11. Shared write, planning, sharing ideas (placement one)
Bring in drama, talk for writing (University).
12. Be creative and fun. From school experience and lectures
13. Different strategies, using different media.
14. I love the most during time in school to build upon subject knowledge from university.
15. Loads of discussion – opportunities to write about these discussions. Learned through being in classrooms as a leader and a TA and experiencing for myself the best practices.
16. Engaging. Inspiring. Always think about it from a child's perspective. Mainly lectures. Research based practice. Challenging ideas and views.
17. Often observations have been the most (Illegible) way of understanding children's learning. University has many lectures supporting practical teaching activities for (illegible). *During university lectures regarding English I have learnt many different strategies and ideas about teaching English. However, due to placement mentors/class teachers, they are not always so keen to embrace a new approach. I have found it difficult to carry out the new approaches I want. I believe that this will be different in our own classrooms though.*
18. Lectures, being innovative and creative. Placements facilitated my understanding of how children learn.
19. Be creative with lessons, use different techniques to engage all children such as digital literacy.
20. Bringing it to life. In my attachment i used the ideas I got from the lectures. I used role-play to introduce the ideas of newspaper writing.
21. Modelling and wagoll
22. Doesn't always require writing
23. That good teaching doesn't always take place on the carpet.
24. In an active interesting way, not relying on textbooks. Learnt through school and university.
25. Teaching should be free and not restrictive. It should be creative and inspiring.
26. Let the children do the hard work! First placement told me this.
27. Making lessons fun, creative and active.
28. Make it fun and creative. I learnt this in a lecture. I learnt the understanding of how children learn best by being in the classroom and actually teaching.
29. Giving children and interesting lesson to inspire them to be engaged and learn. In uni and in placement. Children learn best when they are engaged and interested – They want to know/do more

30. Lectures which focused on subject knowledge and pedagogy helped me to gain a much deeper insight into facilitating the different needs of children in terms of their learning in English. In particular knowledge about phonics and ways of teaching phonics. Reflecting on teaching phonics after each placement was useful and also micro teach sessions which provide a safe environment to gain constructive feedback.
31. It's a bit of both really: teaching seen at uni and magpieing ideas from placement.
32. Still learning – wouldn't say there is a best way, and this is mostly from placement
33. Talk for writing – in lessons but then saw it taught in schools I was really impressed with the impact on children's writing, speech, 's bag, et cetera. In lectures, so observations, and through teaching.
34. School, practical learning – learning by trying.
35. Best way is, modelling, talk for writing, speaking and listening, group talks. A lot of different strategies throughout lectures and during attachment through observing teachers.
36. Teach English creatively and use our story map prior to a big right.
37. Talk for writing, role-play – lunch in placement, by observing other practice.
38. Talk for writing in placement. The teacher gave me an example and through seeing her teach it in this way.
39. Talk for writing on placement and at uni. Seeing the children's progress helped me understand how it worked.
40. English happens in every lesson. This was noted during my time is spent in placement.
41. I feel Uni have given me good practices to follow, plus discussions with my peers.
42. Do use more talk partner sessions, modelling expectations.
43. Questioning and engaging pupils. Learned at uni.
44. In the classroom and observation. Feedback from the tutor for all stop she told me to research specific areas.
45. University/placement. Observing professionals, gaining knowledge and understanding from the taught English sessions.
46. Teaching placement – class teachers guidance and support.
47. Lots of modelling are questioning which is furthered by group discussion of talk partners.
48. Use of drama aspects to facilitate English as it's not on the curriculum. Learnt through both drama and English lectures separately. Use of role-play and hot seating massively useful. Learn different techniques to engage children in different aspects of English
49. Linking theory to practice.
50. How children learn – some of my plans have altered to ensure children have a better learning experience and facilitate pupil progress
51. Using the stimulus can be good, also using props or drama techniques such as hot seating or role-play. I've learnt these both at school and Uni.
52. I've only experienced RWI. The lecture content has helped me hugely
53. To allow the children to creativity give them a start on your English lectures. My degree and PGCE facilitated my knowledge of children's learning.
54. I have learnt the best way is to teach English on placement. I found it more beneficial learning how to teach whilst in practice. To fully understand how children learn, I think you need to get to know your students personally. There is a concept of useful and can be brought into practice if and when they are appropriate.
55. Foster creativity. Encourage and love for reading for pleasure.
56. A mixture of being at university and being on placement has helped me learn about the best ways to teach English. I think you need to appeal to your class interests and remember that English is not just writing.
57. Be creative and fun. Learnt at uni.

APPENDIX 13: Free text comments Q2:

What do you think has changed in your thinking this year? Do you feel your pedagogical understanding has changed? What about your pedagogical practice?

1. Enhanced knowledge yes; planning has developed for children to read texts and each other's work.
2. I feel I have a deeper knowledge on what it takes to become a teacher.
3. I have a deeper pedagogical knowledge but still feel there is a lot to learn.
4. My understanding has changed as I'm more aware of what is involved in the pedagogical teaching.
5. Yes my pedagogical gender understanding has changed.
6. Spending time on my planning so I feel confident and prepared.
7. Yes.
8. Spending as little time as possible leading lessons and putting the emphasis on talk to your partner activities.
9. Yes, This has changed a lot.
10. All the different experiences (for example B a ES days) meeting different people.
11. More appreciative of teaching. Understanding children with sen D/E a L.
12. More open-minded about different approaches.
13. I am thinking more like a teacher and not so much a student anymore.
14. I have strong views developed from years' experience as a TA and nursery nurse. I still hold to these experiences. Not much has changed.
15. Do not let the boring and annoying part of being a teacher kill your ideology and excitement.
16. This year has changed myself in a lot of ways. Perspective, outlook and knowledge of the pedagogical understanding has changed for good.
17. There can be different paths to the same objectives.
18. Definitely.
19. Yes – more excitement allowed in classroom.
20. Gardner's multiple intelligences are important.
21. I have become more aware of the different ways you can teach and how lessons can be made more active and based on the children's imagination and learning.
22. My attitude to learning and my approach to life has changed this year.
23. I feel my beliefs to teaching have been continually refined throughout this course.
24. I found this year that in placement they rely so much on phonics in early years rather than letting the children choose different books styles to read. I read children's books from home they brought in (which they weren't supposed to do) but I loved it, so I will encourage this as a teacher.
25. I have found that the emphasis on pupil progress that she has encouraged me to make use of purposeful assessment I found myself evaluating different forms of assessment strategies whilst on placement.
26. I feel refreshed and in a better state of mind.
27. Mainly placement and talking firsthand about teachers' experiences.
28. There is good to know.
29. More criticality and creativity.
30. Pedagogical practice has changed. Seeing how scaffolding children's learning through use of support staff.
31. Wider understanding of the curriculum.
32. We have had more input on pedagogy this year, rather than just subject knowledge. This has changed my thinking and practice. I can link my pedagogical knowledge to my actual class teaching.
33. Various types of strategies and different ways of questioning and phrasing questions.
34. Yes I have developed the confidence to teach with the support provided.

35. Greater subject knowledge. Introduced to schemes such as talk for writing.
36. Further knowledge of how to teach curriculum concepts.
37. I have developed my understanding of modelling and marking of C.
38. Definitely, especially around active learning.
39. I feel more confident in ways to teach English.
40. Teaching Key stage 2 this year has shown me different learning styles of children.
41. I don't think it's really change this year in terms of English, maybe more so in behaviour management.
42. I want to be practical, and not have children sat in their 16 book based work.
43. All of my understanding towards teaching as a whole has changed.
44. My pedagogical thinking has developed through practice as I get more experience.
Having studied education studies at undergraduate level, I have drawn upon some of the main pedagogical theories, i.e. Piaget.
45. Time in schools.
46. I now realise that English isn't just about writing and grammar.
47. Matt's passion for teaching and learning English has changed my thinking.

APPENDIX 14: Free text comments Q3:

So is it the University or your time in school that has had the biggest influence on your pedagogical beliefs and practices? How do you know? Has the other one also had any influence at all?

1. Both complimented my teaching practices.
2. Both – placement more so as it's ongoing practice.
3. On a par; having the theory knowledge is helpful when applying it to placement and teaching.
4. Without the insights from university I wouldn't have been able to go on placement. However placement has been a big influence on my pedagogical understanding of teaching
5. Time in school and professional sessions have been very helpful.
6. The University has impacted my beliefs and practices which I have then applied on placement.
7. Both. Both have provided me with new info to reflect practice.
8. Time in school.
9. University, Heard lots of useful ideas to implement but some schools were restrictive over implementing "new" ideas in their school.
10. Time in school.
11. Practices on placement; basic principles in university.
12. Can't say – mostly school but will use some from university in later life.
13. School is the experience but couldn't of done it without uni (motivation, strategies).
14. Both being equal, school experience was mixed, pick things up from tutors and lecturers.
15. Mixture of university in school, putting theory into practice.
16. Time in school – you learn more doing actively and writing/talking about it.
17. Time in school is most vital because we can try new ideas and arrow reflect on these ideas.
18. In school – experiences speak louder than any words the lecturer can talk.
19. School has had the most influence my beliefs and practices as it is more practical and we apply our understanding in the classroom. University however helped with the foundations.
20. University. Placement has done the opposite.
21. Both university and placement of huge influence in my pedagogical beliefs and practices. However, the lecturers and tutors have immensely assisted and I will authorise our ups and downs.
22. School, as having the knowledge is not useful that being able to apply it to different situations.
23. I would say more in school. Not taking what I've learned in class for granted, but when you're actively they're doing it, I feel you learn more.
24. Time in school – chance to experiment and explore new strategies and points of view.
25. Working with adults with learning difficulties. Not solely.
26. In school as I could see and feel when a good teaching happened.

27. University of had a bigger impact as it is change the way I think about English school has helped but I have to teach the way the teacher wanted me to.
28. Time in school.
29. School, seeing her some schools are restrictive – a factory producing children for statistics has spurred me on to want to changes.
30. School. You can't learn to be a teacher through other people.
31. The time in school. Use of experience and observations of other practitioners.
32. Time in school.

33. A mixture as I have been implementing (or trying to) university based understanding and reflecting on it to use in schools.
34. Both, what works/what doesn't. What makes me think "oh I wouldn't do that" from what I've learnt at (illegible) I can decide what practices I prefer.
35. I take lessons learnt at university into placement which is where I am able to test that theory from university and evaluate its usefulness in practice. This helped me to become more critical of the theory – both time at university and in school play key part in influencing my pedagogical beliefs and practices.
36. I think it is a bit of both. More so activities that I have learnt at university that I have put into practice (e.g. Conscience Alley).
37. Placement, because what has been learnt can be applied and critically changed.
38. School and uni.
39. Both, using techniques taught at uni has allowed me to facilitate them into the class.
40. Being in school, as you make to the children and have to work out what works for them. I also learned better practically.
41. Both placements in real teaching techniques put into practice.
42. My time in schools of the biggest influence in my pedagogical practice. I have the opportunity to observe English lessons being taught and was able to plan and teach better from these. This helped me gain a greater understanding of how to teach English.
43. Time at school, more practical.
44. Time in school as it was more practical.
45. Universities of the biggest temperaments. Some schools do not appear to practice what we are told at uni. For example, excessive use of worksheets. School had a big influence though as it is the only way to experience.
46. University gave me an understanding of the skills I need an English. Being in classrooms help me put these into practice.
47. School – being able to see different teaching styles allows you to see what you like/do not like.
48. Uni has allowed me to understand the good pedagogical practices; however, in school this has not been practised as much as I would like.
49. Definitely time to university helped us to be successful in our time in school.
50. Both but mainly in school as was able to implement a lot of things taught.
51. I think they are both equally vital. I gained the knowledge at university and see the current practice in schools.
52. School due to the practical experience and seeing other teachers teach. University has contributed to the subject knowledge.
53. Yes – not practised or spoken about as an academic level at school.
54. Time in school. University too, but not as much.
55. Mix of both and it gave balance to approaches if the schools teaching English differently.
56. A good balance of both.
57. Both – reading and practice. Although reading is important, practice highlighted any misconceptions I had.
58. Time in school. I feel I do I resolve more information at school and I can reflect on it. University has had some improvements.
59. University.
60. Currently my time at university has influence the type of teacher I want to be. My school experience has taught me what I shouldn't do.
61. More school – putting theory into practice. Needed uni first.
62. Both – can put into practice what I have learnt.
63. Both – my time in school had a bigger influence though, because you are learning on the job.
64. University - school didn't have as much influence.

APPENDIX 15: Free text comments Q5:

Does your understanding of learning have a bearing on your teaching?

1. Yes
2. Yes
3. Yes, different learning strategies are different and individual.
4. Yes – different strategies for each individual
5. Yes, will help check my practice
6. Yes it makes me think about it if what is taught the children are learning
7. Different approaches to learning can be implemented as a better understanding
8. Yes, focusing on the ways children learn
9. Yes
10. Yes
11. My teaching is based on understanding of learning – always have thought about this.
Work out how to teach working backwards from what need to do and how to achieve this.
12. Definitely
13. Yes – makes you understand more
14. Yes
15. Yes because without understanding how children learn we can't impact on this during time in school
16. In some ways yes
17. Yes! It is very motivating.
18. Some but often tends to be observational notes that affect this.
19. Yes
20. Definitely. I felt, and still feel, more confident with maths. That confidence helps me (illegible).
21. Yes, using partner talk based on Vygotsky's theory of ZPD.
22. Yes.
23. Yes
24. Yes
25. Yes, I can change my teaching to suit different learners/children.
26. Yes, I've tried to look at their developmental level
27. Yes, theory gives understanding of what children should be doing at a certain age.
28. I hope so – I hope that's because children learn in different ways I can plan for each style.
29. Yes
30. Yes
31. Yes, when I understand things I teach it better and can remove misconceptions.
32. Yes you can adapt things you want to use.
33. Yes it does
34. Yes
35. Yes
36. Yes, otherwise my teaching would fail
37. Not really – I teach the way I said to be the most inspiring
38. Yes
39. Yes – supports in meeting teacher standards and helps people progress
40. Yes
41. Children also have different learning styles which we must be aware of
42. No. Subjects which I didn't like and beliefs put aside when teaching.
43. Yes – I am going to talk partners every opportunity because I know it helps to consolidate their learning
44. No I feel you are given as guidance on how to teach in our own way
45. To a certain degree, I am conscious not to

46. Yes

47. Yes

48. Yes, I believe that if you can make the lesson "feel good" – you're halfway there.

49. Definitely Yes

50. No!

Yes: 47/50 (94%)

No: 3/50 (6%)

APPENDIX 16: Free text comments Q6:

Do you feel we have forced you to teach as we would like you to, or do you feel that you have actively sought to take on board the practices of teachers?

1. Matt has always been a very keen believer of the fact that every child/every teacher must be allowed to be creative/innovative in their own way. He has never stressed one particular way of teaching, rather he strongly supports criticality in learning as important.
2. Placement – adoption actively sought
3. Both. But not forced; encouraged
4. I have taken ideas and adopted to my own
5. I've always wanted to teach
6. Haven't felt forced to teach but I've actively taken on board some of the practices
7. It has encouraged me to magpie other ideas from others
8. I do not feel forced, I have taken on board advice.
9. There has been a variety of strategies that I'm able to implement to best suit the learners
10. No given input, support and principles.
11. No. Neither at uni or school. Been given ideas and suggestions. I like this, but regret there seem to be no surefire methods.
12. Taking on board good practice I have seen
13. No – lectures/tutors provided knowledge and experience and I have adapted and adopted certain ways as I feel appropriate.
14. No you have provided options for us to choose from and make up our mind
15. Taken on board her class teachers have taught on placement
16. I have used very little from university – I'm a creative teacher at heart and it is all been fed from past experience
17. I have developed my own method of teaching which is a collection of my experiences in different classes and different mentors
18. Actively sought to take on board
19. Given different styles that we can adapt/adopt if you want
20. Slightly. Not with English but some foundation subjects.
21. Taken on board best practice for mentors/class teacher/observations of other teachers/SENDCo advice
22. No
23. No
24. No, I have seen the different ways of teaching and different practices and decided which ones I feel would work best
25. No, opinions have been shared but not forced.
26. I've done my own thing but listened to and taken on the advice that I felt would improve my teaching
27. Actively sought to take on board
28. I feel it is given options for us to decide for ourselves
29. Actively sought to take on board
30. No we have not been forced
31. No we haven't been forced to teach them the way you want
32. Actively sought
33. Practices of teachers
34. I have actively sought to take on board the purposes of teachers
35. I feel that I have actively sought to take on board the practices of teachers
36. I feel that I have been actively seeking to take on board the practice of teachers
37. I do not feel forced to teach a certain way from university as every school has different policies and ways of teaching English.
38. We are allowed and fully supported to have our own teaching style
39. Following other teachers has not given me good practices therefore I would not do that

40. I feel we have been given excellent examples of how to teach and I have used is in my practice which I feel have developed me
41. No, the teaching was according to my needs
42. Actively sought to take on board the practices of teachers
43. I think we have used our own independence and taking risks and challenges
44. Took on board teacher practice to develop own professional development
45. I feel all of my experiences (lectures/placement/AES/learning conference) have enabled me to build on the person that I am/given me the tools to teach in a range of situations.
46. Taken on board the practices
47. No. If pupil progress is not evident in some practices have been altered.
48. A bit of both, I value that the lecturers have more experience as teachers than me. But when I'm in school I pick up new ideas as their experience is more current.
49. I teach how I want to teach if I'm lucky enough to get free as rain.
50. I feel like there's been enough guidance and freedom.
51. Actively sought to take on board
52. No, what I feel was useful and homework is what I will do.

APPENDIX 17: Free text comments Q7:

Is there a best way to teach?

1. No
2. No, constantly evolving
3. No, facilitating learning is key and each class is different and requires different input
4. Each person teaches differently
5. Yes – teach in a way that insures that children learn
6. No depends on the teacher
7. No it all depends on the needs of the child
8. Children need to be engaged completely full learning to take place
9. The best ways are to use a variety of approaches
10. No! Everyone does it differently, which is good
11. No – be confident is the key.
12. No it's different for everyone, it depends on your style
13. Practically and making it exciting
14. No, dependent on the pupils' and schools' needs and requirements.
15. No!!
16. However the children learn best
17. No – but actively involving all children brings the class's thoughts alive
18. I believe no
19. No
20. Confidently!
21. To be adaptive and flexible to change in practice, even if it has previously worked well
22. No
23. No
24. No – every class and teacher are different, do what is best for the class.
25. No, every child doesn't fit the same shoe
26. No, all ways can be good!
27. I believe it is contextual, depending upon the needs of the children, purpose of the subject, and personal experiences.
28. Trial and error – go with what the children loved
29. Known, teaching is only as good as you make it
30. No
31. Through learning yourself and knowing your class
32. No, it depends on the children's needs and the type of student you have
33. There are different methods; does not necessarily mean it's the best way
34. No there is not
35. No there are many ways to teach one when I did asked for one class but may not work for another
36. No
37. The way that works for your class
38. Fun, firm, fair! Engaging and a good subject knowledge
39. From the heart – not the book – passion!
40. No it depends on the teacher, class, area of school and so on no, it depends on the individual teacher and what works best for them
41. You need to adapt your teaching to suit the needs of the children in your class – to be creative, inspiring and motivational.
42. The way lecturers teach here is the best way
43. Yes – listening to the people and accommodating to their needs at all times: keeping the pupils at the centre of your teaching at all times
44. No

45. No. Teaching depends on how children learn. I will teach in my have to be adjusted depending on the children we teach. We are there to help them learn, so we need to know how they learn best (e.g. visual prompts).
46. No – dependent on learners
47. No, depends on the needs of students
48. Child-led
49. No, because every child learns differently
50. Inclusively. My aim is to make it lively, thoughtful, welcoming and that it is okay to make mistakes
51. Yes, a way that works for the children's learning!
52. Teach to how your children learn
53. Your own way of teaching, fun, excitement and progression is the Best way to teach
54. A range of ways to teach that is best for individuals and the class.

APPENDIX 18: the core principles of the Economic and Social Research Council, 2016, and whether they are met in this research:

ESRC Core Principles	Met in my research?
Research should aim to maximise benefit for individuals and society and minimise risk and harm	✓
The rights and dignity of individuals and groups should be respected	✓
Wherever possible, participation should be voluntary and appropriately informed	✓
Research should be conducted with integrity and transparency	✓
Lines of responsibility and accountability should be clearly defined	✓
Independence of research should be maintained and where conflicts of interest cannot be avoided they should be made explicit.	✓