



DOCTORAL THESIS

Chasing the holy grail of reflection

An exploration of reflective practice with pre-service physical education teachers

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Chasing the holy grail of reflection: An exploration of
reflective practice with pre-service physical education
teachers.



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I confirm that the word count of this thesis is less than 100,000

Table of Contents

Acknowledgements	v
Abstract	vi
Abbreviations	vii
Chapter 1	1
1.0 Introduction.....	1
1.1 Significance of study.....	2
1.2 Background	3
1.3 Positionality of the researcher	7
1.4 Reflective practice theory	10
1.4.1 Theoretical underpinnings of study	12
1.5 Research study.....	13
1.6 Research questions.....	16
1.6.1 How questions were formed.....	17
1.7 Structure of the thesis.....	18
Chapter 2- Review of Literature	22
2.1 Defining reflective concepts.....	22
2.1.1 Critical Reflection versus Reflection.....	23
2.1.2 Reflexivity.....	32
2.1.3 Role of reflection in linking theory and practice in education	40
2.1.4 The Theory of reflective practice.....	43
2.1.5 Can reflective practice be taught?.....	58
2.1.6 The role of the teacher educator	64
2.2 A review of empirical studies	67
2.2.1 Reflection in Education and Initial Teacher Education (ITE)	67
2.2.2 The when and how of reflective practice	72
2.2.3 Approaches to reflection	76
2.2.4 Reflection in Physical Education	92
2.2.5 Summary	100
Chapter 3 - Methodology	105
3.0 Introduction.....	105
3.1 An introduction to Action Research	106
3.2 Reconnaissance Phase.....	108
3.2.1 Researcher's reflections on 2015-16	113
3.2.2 Personal reflections from year two.....	117
3.2.3 Outcome of reconnaissance phase.....	117
3.3 What is Action Research?	118
3.3.1 An extensive endeavour and constitutes a large family of diverse methods	119
3.3.2 Action Research is always participatory.....	121
3.3.3 Action research is always action-oriented.....	127
3.3.4 Critical reflection is almost always a key component in Action Research	128
3.3.5 Action research uses a cyclic process that integrates the action and the reflection	129
3.4 Benefits and drawbacks of action research	131
3.5 How can we ensure that Action Research is rigorous?	134
3.6 Why Qualitative Research?	137

3.6.1	Theoretical and philosophical foundations of qualitative research	138
3.6.2	Positivism versus interpretivism	138
3.6.3	Reason for a qualitative not a quantitative approach?	143
3.7	Sampling	145
3.7.1	Ethical Issues	147
3.8	Data collection and research instruments	151
3.8.1	Weekly reflective accounts	154
3.8.2	Peer review process	157
3.8.3	Video-assisted reflection	162
3.8.4	Lesson Observations	165
3.8.5	Focus Group Interviews	168
3.8.6	Conducting the focus group	184
3.9	Data analysis structure	185
3.9.1	Weekly reflections	187
3.9.2	Peer review	191
3.9.3	Video-assisted reflection	194
3.9.4	Lesson observations	195
3.9.5	Focus Group Analysis	195
3.10	Summary	198
	Chapter 4	200
4.0	Findings	200
4.1	Weekly Reflection overview using Gibbs' Reflective framework	201
4.1.1	Pre-reflective reflections	202
4.1.2	Surface Level reflections	208
4.1.3	Pedagogical reflections	218
4.2	Students' reflections on areas of expertise	225
4.3	Peer Review	234
4.4	Video-assisted reflection	249
4.5	Lesson observations	256
4.6	Focus group	264
4.6.1	Teaching and learning Issues	264
4.6.2	Collaboration and support	266
4.6.3	Formal versus Informal processes	267
4.6.4	Subject expertise	269
4.6.5	Time	271
4.7	End of induction year focus group	276
4.7.1	Reflective approaches	276
4.7.2	Conversations/dialogue	276
4.7.3	Brief written notes	277
4.7.4	Reflection process easier	278
4.7.5	Impact on practice	279
4.7.6	Induction and reflection	283
	Chapter 5 - Discussion	286
5.1	Different types of reflectors	287
5.1.1	Group 1 – The 'defenders'	287
5.1.2	Group 2 - The 'surfers'	295
5.1.3	Group 3 – The 'divers'	306
5.2	Different but similar	319
5.2.1	Demonstrations	320

5.2.2 Pupils' physical activity levels	321
5.2.3 Differentiation.....	322
5.3 Formal v informal reflection	332
5.4 Time	337
5.5 Collaboration	342
5.6 Induction teaching	347
Chapter 6 - Conclusion and recommendations.....	350
6.1 Research question 1.....	350
6.2 Research question 2.....	355
6.3 Research question 3.....	359
6.4 Research question 4.....	362
6.5 Research question 5.....	364
6.6 Limitations	367
6.6.1 Recommendations	368
Appendix 1 - Larrivee's (2004) 4 levels of reflection.....	I
Appendix 2 - Gibbs' (1988) Reflective Framework.....	VI
Appendix 3 - Ethical documentation	VII
Appendix 4 - Focus Group Schedules	XIX
Appendix 5 - Moderation of reflections.....	XXII
Appendix 6 - Peer review post lesson discussion and analysis sample	XXXIV
Appendix 7 - End of PGCE focus group analysis	XXXVII
References.....	LV

Table of Figures

Figure 1 – Kolb's ELT.....	46
Figure 2 - How Kolb's ELT underpins reflection	48
Figure 3 - How CST underpins critical reflection	51
Figure 4 - Theoretical Underpinnings of Study.....	53
Figure 5 - Overview of reconnaissance period 1.....	111
Figure 6 - Overview of year 2 reconnaissance study	116
Figure 7 - The why, what and how of AR in this study	121
Figure 8 - Mode of participation in AR.....	124
Figure 9 - The action-reflection cycle	130
Figure 10 - Overview of student profile	147
Figure 11 - AR cycle during data collection phase (2017-18)	153
Figure 12 - Types of focus groups	172
Figure 13 - Focus group design	176
Figure 14 - Overview of data collection and analysis linked to research questions	186
Figure 15 – Standardisation protocol for weekly reflections.....	189
Figure 16 - Types of Feedback	192
Figure 17 - Content focus of feedback.....	193
Figure 18 - Students' assessed weekly reflections	201
Figure 19 - Reflections on areas of expertise	226
Figure 20 - Peer review reflections	235
Figure 21 - Types of feedback	239
Figure 22 - Overview of feedback provided by reviewers and utilised by reviewees	240
Figure 23 - Feedback given and received by each individual student.....	241
Figure 24 - Overview of video-assisted reflections.....	249
Figure 25 - Students' use of weekly reflections.....	257
Figure 26 - Overall summary of students' reflective work and progress.....	263
Figure 27 - Reflective differences and similarities.....	326
Figure 28 - PE Reflective Wheel.....	329

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Abstract

Reflective practice is a common feature of initial teacher education, yet there is a lack of clarity surrounding the concept and how it should be conducted. The study investigated reflective practice approaches with pre-service PE teachers (n=11) who were enrolled on the PGCE PE course at Ulster University for the academic year 2017-18.

The research was conducted within an Action Research framework, where the action-reflection cycle was employed to help inform and shape the direction of the research. The researcher utilised online weekly reflections, peer review and video-assisted reflection to determine the effectiveness of each approach in developing the pre-service teachers' reflective skills. One year after having completed their PGCE study, and in their role as practising teachers, the researcher investigated how these teachers used reflective practice during their induction year.

The study found that these pre-service teachers began reflecting at different levels and progressed at different rates, highlighting the individual nature of reflective practice. Although, less than half of these pre-service teachers demonstrated the ability to reflect to a higher level on their areas of expertise, all but one pre-service teacher improved their reflective skills, showing that pre-service teachers can make progress in deepening reflections. Across the entire group, there were common subject focused areas that the students chose to reflect on and in response to this, the researcher has developed the PE Reflective Wheel which can be used to support pre-service PE teachers' reflective practice. Video-assisted reflection was the most effective approach, followed by peer review, thus highlighting the importance of using collaborative approaches. Most of these pre-service teachers made some use of weekly reflections to inform planning and teaching, with a small number failing to utilise these in any way. As in-service teachers, they used reflective practice in a less formal way to suit full-time teaching.

Abbreviations

AR – Action Research

CPD – Continued Professional Development

CST – Critical Social Theory

DE – Department of Education

DENI – Department of Education Northern Ireland

EPD – Early Professional Development

EA – Education Authority

ELT – Experiential Learning Theory

GTCNI – General Teaching Council Northern Ireland

G & T – Gifted and Talented

HOD – Head of Department

HEI – Higher Education Institution

ITE – Initial Teacher Education

MBR – Memory Based Reflection

PCK – Pedagogical Content Knowledge

PE – Physical Education

PETE – Physical Education Teacher Education

PGCE – Post-Graduate Certificate in Education

SE1 – School Experience One

SE2 – School Experience Two

TGfU – Teaching Games for Understanding

UCETNI – University Council for the Education of Teachers Northern Ireland

VBR – Video Based Reflection

Chapter 1

1.0 Introduction

Reflective practice is a key focus of any initial teacher education (ITE) programme throughout the world (Buschor and Kamm, 2015; McGarr et al, 2019), a view supported by Tabachnick and Zeichner (2002, p.13), who state that 'there is not a single teacher educator who does not claim to produce reflective practitioners'. However, it would appear that often the reality of reflective practice does not match with the claims of its supporters (Marcos et al, 2011). Whilst there are some who have criticised how reflective practice is presented and utilised (Russell, 2005; Marcos et al, 2011; Collin et al, 2013), there are others who question the very existence of reflective practice in teaching (Ecclestone, 1996; Fendler, 2003), with Russell (2013) claiming that the employment of reflective practice in teacher education has done more harm than good. He believes that whilst teacher educators have not been able to clarify the concept or adequately model reflective practice themselves, their insistence on placing importance on it outside 'the realm of real action and classroom experience' (Beauchamp, 2015, p.127), means that graduate teachers do not see how reflective practice can be an important component of their future professional development.

Beauchamp (2015) points out that whilst the criticisms above have been 'persistent over time in the literature' (p.127) there has been the emergence of other criticisms, one of which is 'the lack of real reflection...a sense that reflection may be talked about more than practised' (p.127). Atkinson (2012) supports this view by taking the criticism a step further, stating that, 'The agentic reflective

practitioner may be more of a fiction created in teacher knowledge scholarship and professional pedagogy than a reality experienced by practicing teachers' (p.189). Therefore, for many pre-service and in-service teachers, reflection is often 'more a promise than a reality' (Clara et al, p.175). Considering the disparity that exists between reflective practice theory and how it is received and conducted in ITE, it was clear that this area required investigation.

1.1 Significance of study

The researcher therefore problematised the concept of reflective practice, with a view to generating new perspectives on its use with a group of Post Graduate Certificate in Education (PGCE) Physical Education (PE) students. The widely held positive beliefs and assumptions relating to the undoubted value of reflective practice have led to a lack of research in this area, particularly in the area of Physical Education Teacher Education (PETE), where Jung (2012) notes that there is a 'dearth of research studies on reflection in the area of physical education' (p.158). Of the few studies that exist on reflection in PETE, Mordal-Moen and Green (2014) note that these studies 'confirm that PETE neither 'shakes nor stirs' newly emerging PE teachers' relatively conservative views and practices in relation to PE, let alone education more generally' (p.416). The majority of these studies (Sebren, 1995; Byra, 1996; Napper-Owen & McCallister, 2005; Calandra, Gurvitch, & Lund, 2008) investigated the use of a single approach to developing reflection, whereas this study aims to provide new knowledge relating to the impact of various approaches to reflection in the area of PE and which approaches might be more effective compared to others. Considering the practical nature of this subject and the specific knowledge,

understanding and skills required to deliver a broad and balanced curriculum, the study also provides insights into how pre-service PE teachers reflect when teaching areas of expertise and areas of non-expertise. The study also provides evidence relating to the reflective practices of the group during their induction year, with a view to discovering how PGCE reflective practice prepared them for their first year of teaching. This is an important component of the study whereby it provides evidence as to how induction teachers make use of the reflective skills they developed during PETE. It would seem that this is a novel approach, since from their review of studies on reflection in PE from 1995 – 2011, Standal and Moe (2013) stated that, 'no longitudinal studies were found that follow cohorts of pre-service teachers from PETE into professional work as PE teachers' (p.223).

1.2 Background

Finlay (2008) notes that over the last few years, the concept of reflective practice rose to prominence in 'various fields of professional practice and education' (p.1) and that in some of these professions, 'it has become one of the defining features of competence' (Ibid, p.1). This is most certainly the case in ITE, where students are expected to demonstrate competence when reflecting on their practice. The importance of reflective practice for teaching in Northern Ireland is obvious by the production of the document, 'Teaching: The Reflective Profession', by the General Teaching Council for Northern Ireland (GTCNI, 2011). This is their Charter and Code, the first of its kind in Northern Ireland and considering the various aspects of teaching that they could have focused on, they chose reflection, thus highlighting the significance of this document. The document outlines how reflective practice should begin during ITE and develop,

following full registration with GTCNI, through Induction, two years of Early Professional Development (EPD1, EPD2) and beyond for teachers' continued professional development (CPD), presented in such a way where reflective progression is expected and assumed. Whilst it acknowledges that their Charter and Code may be viewed as 'an idealism that sits ill at ease with the realities of school life', GTCNI believe that if teachers are to be considered true professionals, the profession must 'value idealism as an underpinning characteristic of the professional persona' (Ibid, p.8).

The study is also timely as the Department for Education (DE), Education Authority (EA), Universities Council for Educating Teachers Northern Ireland (UCETNI), and GTCNI are conducting a review of Induction and EPD as part of the roll out of the Learning Leaders Strategy (DENI, 2016). Produced by DE, the strategy outlines how a teacher's professional learning journey begins during ITE, followed by Induction, EPD and career long. A central theme running through the document is that teachers and their schools must take responsibility for their own professional development. In identifying what it considers to be the 'key elements of teacher professional learning' (DENI, 2016, p.9), teachers as reflective practitioners is a key component in helping them 'to determine their continuing learning needs' (p.9). Therefore, it is clear that reflective practice is a valued component of teacher education and beyond in Northern Ireland.

It would seem that, as a concept, reflective practice is consistently presented in an idealistic way. Literature from teaching councils, ITE courses and departments of education will all contain some reference to reflective practice, with the majority using the phrase 'critical reflection', usually without clearly defining what this term

means. Perhaps more surprising is that such documentation fails to provide clear guidance as to how a pre-service teacher might begin to develop their critical reflective skills. Implicit in these documents is the message that becoming critically reflective is a natural occurrence for pre-service and in-service teachers, without the acknowledgement that developing reflective skills is fraught with difficulty (Roberts, 1998; Hockley, 2000; Griffin, 2003; Hobbs, 2007). Gore and Zeichner (1991) note that even though various reflective practices and their associated criteria are very diverse, 'important differences between specific practices are masked by the use of the common rhetoric' (p.120).

The confusion surrounding reflective practice in education is captured by Finlay (2008), who points to the existence of 'multiple and contradictory understandings of the concept' (p.1). Therefore, the multiple definitions of reflection (Beauchamp, 2015), along with the lack of consensus on the terminology used to describe it (Zeichner & Liston, 1996), make it a complex concept that is difficult 'to adopt or teach' (Arslan, 2019, p.112). Arslan (2019, p.111) believes that, 'reflective practitioners should learn and grow' during the process and that the employment of reflective practice in ITE should allow 'pre-service teachers to learn from their experiences', a view supported by McGarr and McCormack (2014) who point out that reflective practice is of crucial importance in helping to support student teachers, particularly during school placements. However, developing pre-service teachers' reflective skills is regarded as a challenging undertaking, with many authors (Boud & Walker, 1998; Penso, Shoham, & Shiloah, 2001; Bain et al, 2002; Akbari, 2007; El-Dib, 2007; Fathi and Behzadpour, 2011) quick to highlight that low-quality reflective work is the most regular outcome for the majority of pre-service teachers. Low-quality reflective work is characterised by

descriptive accounts where the individual fails to reflect deeply on their practice, whereas in high-quality reflective work, the individual reflects deeply on the issues at hand.

The once accepted assumption that all student teachers can reflect by simply using their 'professional judgement' (Sellars, 2014, p.2), has recently been replaced by the realisation that student teachers and indeed early career teachers 'need assistance in order to learn to reflect' (Clara et al, 2019, p.175). Many authors (Finlay, 2008; Olson and Finson, 2009; Ajayi, 2011; Williams and Grudnoff, 2011) believe that reflective practice should be taught explicitly to pre-service teachers. Nelson and Sadler (2013) agree, but highlight the importance of teacher educators increasing their awareness of their own ideas in relation to 'the deliberate experiences through which that development is meant to occur' (p.54). However, Dyer and Taylor (2012) found that even though the students in their study were exposed to deliberate and explicit teaching of reflective practice, they were unable to think freely about their practice, believing that 'there are external and universal rules for good practice that are known to more experienced practitioners, against which they must be measured' (p.561). One possible reason why deliberate and explicit teaching of reflective practice may not have the desired impact is that its presentation and delivery in university settings may limit and inhibit students' ability to learn (Hourani, 2013), whereby reflection is often rigidly structured (Shoffner, 2008) and 'forced' upon students. Beauchamp (2015) believes that such an approach produces reflections that are perfunctory and thus unauthentic. Loughran (2002) points out that the majority of pre-service teachers are simply encouraged to reflect, which is 'likely to be as meaningful as a lecture on cooperative group work' (p.33).

However, despite the challenges and complexities associated with this concept, there are some (Larrivee, 2008; Osterman & Kottkamp, 2004; Zwozdiak-Myers, 2012) who emphasise the potential benefits that reflective practice can have on the practice of pre-service teachers. McGarr et al (2019) point out that reflective practice is of fundamental importance in teacher education as it allows pre-service teachers to explore their beliefs and assumptions (Brookfield, 1995). This view is supported by Killeavy and Moloney (2010), who see it as a critical component of teachers' professional growth. However, in order to have a positive impact, it must be conducted effectively. Loughran (2002, p.34) states that, 'for reflection to lead to valuable learning outcomes for teacher educators and their students...it must be effective reflective practice'. An exploration of what constitutes effective reflective practice will be conducted in the review of literature (Chapter 2). An important factor in the design of this study was the researcher's prior experiences with reflective practice, which are outlined below.

1.3 Positionality of the researcher

During my four-year B.Ed in Physical Education (1996-2000), I engaged with the area of reflective practice. As a pre-service teacher, I encountered many difficulties with this concept, the biggest issue being that I did not know how to reflect. The approach to which I was introduced, involved evaluating and reflecting upon each taught lesson during teaching practice, a practice that is still very common in many teacher education courses today. Looking back, I realise that every single one of my lesson evaluations/reflections were contrived, whereby I set out to criticize myself as much as possible as I often felt this is what the tutors wanted to read. I also recall investing more time and effort with these

when certain tutors were coming to observe me, as you were aware that some tutors appeared to value reflective practice and others showed little interest in this aspect of your work.

I took up my first teaching position in a Northern Ireland post-primary school in September 2000, where I taught PE for twelve years. During the first three years, I completed Induction (Year 1), EPD 1 (Year 2) and EPD 2 (Year 3), all of which espoused elements of reflective practice. Similar to my experience as a pre-service teacher, the approach to in-service practice was devoid of direction in relation to developing reflective skills. In each of the three years, I identified areas of practice that I wanted to improve. The guidance for this process was for individuals to investigate their chosen area(s) by gathering evidence which could then be evaluated and reflected upon in order to provide an avenue for improvement. Central to the process was the role of the teacher tutor who was responsible for supporting and guiding the induction programme. They were also responsible for observing my practice on at least one occasion each year, with the Head of Department (HOD) being responsible for conducting the other observation each year. Across the three-year period, I received just one observation by the HOD and none from the teacher tutor. I received no input in relation to the aspects of my practice that I should have investigated. The teacher tutor was also the Vice Principal and it was obvious that he did not have the time to support me, so much so that he frequently advised me to, 'pick something that is easy for you to do so that we get it out of the way'. After my induction year, the HOD left me to my own devices and did not display any interest in what I was working on during EPD1 and EPD2.

Almost eight years ago, I began my current role as a teacher educator, where again reflective practice would become a key component of my everyday work with pre-service teachers. Transitioning from teacher to a teacher educator was a challenging experience and supporting pre-service teachers with their reflective practice work was an area where I felt out of my depth, leading to feelings of imposter syndrome. I also noted that each colleague approached reflective practice in a different way, meaning there was a lack of consistency in how the PGCE team were developing students' practice in this area. Some colleagues gave their students a series of set questions which they had to respond to, whilst others encouraged their group to reflect on any area of their practice that they felt warranted improvement, without any form of structure or guidance. There were others who appeared to have their students evaluate lessons rather than reflect upon them. When I asked colleagues for advice regarding this area, responses amongst the group were vague and inconsistent. It was obvious that my colleagues saw reflection as an aspect of the course that must be done and similar to what is noted above, they appeared to take student reflection for granted. For the first year I basically copied the approach of one colleague who appeared to have put some thought into this area. However, during the year I realised that the students' reflective work was poor and that only a few had made progress. The problem was, I did not know what to do in relation to improving my approach and students' practice in this area. I began to read around the area and the more I read, the more I realised I knew little about reflection. It is clear that my personal experience of reflection resembles many of the issues referred to in the literature above. Therefore, I needed to find out more about reflective practice and so decided that this taken-for-granted, much maligned but frequently

mandated area had to be investigated. The next section addresses the theoretical concepts associated with reflective practice and the two main theories that underpin this study.

1.4 Reflective practice theory

As noted above, there is much confusion surrounding the concept of reflection (Fook et al, 2006). Dewey (1933) defined reflection as, 'turning a subject over in the mind and giving it serious and consecutive consideration, thereby enabling us to act in a deliberate and intentional fashion. Reflection involves active, persistent and careful consideration' (p.9). Farrell (2014), in consideration of Dewey's (1933) work, points out that 'reflection is not a point of view with end products..., but a process of planned exploration and examination of also the means (process and context) associated with reflection' (p.2). Therefore, Dewey (1933) believed that reflective thinking should not be routinized, but rather a process that 'emancipates us from merely impulsive and merely routine activity' (p.17). Dewey's work 'provided a basis for the concept of 'reflective practice' (Finlay, 2008, p.3), which rose to prominence with the work of Schon (1983). In his work, 'The reflective practitioner', Schon (1983) identified two types of reflection, reflection in-action (during the event) and reflection on-action (after the event). He believed that novice professionals tend to reflect on-action since they do not possess the depth of experience that is required to allow them to react intuitively during an event (reflection in-action), whereas experienced professionals are able to 'monitor and adapt their practice simultaneously' (Finlay, 2008, p.4), thus allowing them to reflect in-action. Whilst Schon's (1983) work has been the catalyst for much work in the field of reflective practice, it has

attracted criticism from some authors (Greenwood, 1993; Usher et al, 1997; Boud & Walker, 1998; Moon, 1999; Eraut, 2004; Ekebergh, 2007), with Smyth (1989) pointing out that his work is atheoretical and apolitical. According to Finlay (2008), these criticisms gave rise to 'calls for a more critical, reflexive exploration of the nature of reflective practice' (p.5). It was therefore important to define the terms, reflection and critical reflection.

Whilst there are authors who use the terms interchangeably, there are those who recognise the importance of making a distinction. Larrivee (2000) defines critical reflection as a combination of 'critical inquiry, the conscious consideration of the ethical implications and consequences of the teaching practice with self-reflection, deep examination of personal beliefs, and assumptions about human potential and learning' (p.293). Fook (2007) distinguishes between the terms, stating that reflection 'involves the ability to be aware of the theory or assumptions involved in professional practice, with the purpose of closing the gap between what is espoused and what is enacted, in an effort to improve both' (p.365), whereas critical reflection 'focuses on the power dimensions of assumptive thinking, and therefore on how practice might change... to bring about change in the social situations in which professionals work' (Ibid, p.364). These terms are explored in greater detail in the opening section of the review of literature where the confusion surrounding the terms is untangled. Providing a clear distinction was important for the study in that the understanding developed from this critique influenced the researcher's decision to utilise Larrivee's (2004) Reflective Framework and levels criteria (see appendix 1), as opposed to using other relevant frameworks. The unique feature of Larrivee's framework is that it contains four levels of reflection, as opposed to others (van Manen, 1997;

Tsangaridou & O'Sullivan, 1994), that include three levels. Larrivee's first level, pre-reflection, is where her framework differs from all other frameworks, in that she acknowledges certain reflective work to be unworthy of being called 'reflective', hence the title, 'pre-reflective'. Larrivee's other three levels, surface, pedagogical and critical, are similar to van Manen's (1997) technical, practical and critical and Tsangaridou and O'Sullivan's (1994) descriptive, justification and critique. Larrivee's four levels allowed for a more accurate assessment and classification of students' reflective work, demonstrating that her framework is particularly suited to ITE.

1.4.1 Theoretical underpinnings of study

The study is underpinned by two main theories. The first theory is Kolb's (1984) Experiential Learning Theory (ELT), where learning from experience occurs in a cyclical fashion (see fig.1 p.44). Kinsella (2002, p.196) describes Kolb's (1984) theory, stating, '...we begin with a concrete experience, we reflect on it, we conceptualize/theorize about the meaning of the experience, and we test out our new understandings in the world of practice through our actions'. Kolb (1984) recognises the importance of integrating theory and practice as opposed to 'the simple application of 'scientific' knowledge to the practice field' (Kinsella, 2010 cited in Thompson and Pascal, 2012).

The second overarching theory is that of critical social theory (CST). Carrington and Selva (2010, p.46) note that 'critical social theory can be linked back to the Frankfurt School of sociologists', who were 'anti-positivist and had an emancipatory ideal in that they sought to free people from a false-consciousness'.

Central to the theory is the idea that it provides a 'framework for a form of critical discourse that can change the pedagogical process from one of knowledge transmission to knowledge transformation (Ibid, 2010, p.46). In CST, individuals recognise that social change must be both personal and collective and therefore, involve effective dialogue. Brookfield (2009, p.296) supports this view, noting that from a critical theory perspective, 'reflection focuses on uncovering power dynamics and detecting the creation and maintenance of hegemony'. The use of both theories is critical to this research, as it allows the researcher to demonstrate the theoretical foundations upon which he bases his understanding of reflective practice. Both theories are explored in greater detail in chapter 2, where the underlying concepts of each theory are explained and linked to the methodological approaches used in this study.

1.5 Research study

If we begin with the premise that reflective practice is important but that there are considerable challenges in developing it as part of a one-year programme, then there is a professional imperative to examine the issues and to explore how to develop current practice effectively. The researcher wanted to develop his knowledge and understanding of reflective practice (Lesnick, 2005) so that he may improve his ability to support his PGCE PE students' reflective skill development with a view to discovering how reflective practice can be effective.

According to la Velle and Leask (2019, p.9), 'Education is probably the most powerful influence on the development of our society...and shapes the values, rights and responsibilities that make our society distinctive'. Winch (2010)

supports this view by noting the importance that the philosophy of education has to play in ITE, stating that if the aim of teacher preparation 'is to develop individuals capable of making professional judgements, it cannot be enough that they are taught recipes derived from the research' (p.6). la Velle and Leask (2019) insist that all ITE programmes should allow students the opportunity to explore the type of teacher they want to be, where they are not only able to make daily decisions about their practice but that they can 'contribute to school policy, to curriculum debate and... to wider debates about the current and future direction of education' (Winch, 2010, p.8). Improving pre-service teachers' reflective skills is therefore, an important component of helping teachers to work towards a 'broader, philosophically informed, statement of professional capacity' (Ibid, p.10) where individuals can develop their professional judgement by analysing what it is they are doing, why they are doing it and how they might improve it in the future (Leask and Liversidge, 2019), and thus avoid becoming the 'technician' who learns 'through apprenticeship' (Winch, p.9). Biesta (2015) highlights the 'appeal of competence-based approaches to teaching and teacher education... through its emphasis on performance, standards, measurement and control' as inhibiting the 'professional agency of teachers' (p.1). According to Biesta (2015), the main problem with competence based approaches to ITE is that 'good teachers not simply need to be able to do all kind of things... but that they also need to be able to judge which competences should be utilised in the always concrete situations in which teachers work' (p.2). Therefore, effective teachers must be able to decide the most appropriate educational action to take when dealing with 'this concrete situation with these concrete students at this particular stage in their educational trajectory' (Ibid, p.2). Developing the reflective capacity of pre-service

teachers is therefore important if teachers are to make effective judgements about their teaching and pupil learning.

The participants for this study were the entire cohort of PGCE PE (N=11) students enrolled at Ulster University for the academic year of 2017-18. It must be noted that whilst the participant group may appear small, it represents the entire population of PGCE PE students in Northern Ireland and that adds significance to the study.

The research method employed was Action Research (AR) and the study was qualitative in nature. Considering that reflective practice is conducted and experienced in many different ways, it is accepted that there is no set way to do it. Therefore, in attempting to investigate a concept that remains ambiguous (Fendler, 2003), it was important to use a research method that would accommodate an 'ongoing process of changing for the better over time' and where 'Improvement does not imply an end-point where everything will be perfect' (McNiff and Whitehead, 2009, p.35). The AR methodology was used during the reconnaissance period of study (which lasted two years) and the data collection phase (one year), whereby through the action-reflection cycle (McGrath and O'Toole, 2012), the researcher implemented, evaluated, reflected and reimplemented approaches to assist students' reflective development. Whilst AR was ongoing for three years, there were six main cycles, with two cycles occurring in each year. The modifications to the various reflective approaches and indeed the implementation of new approaches was based on the researcher's reflection of the process where he used his evaluation of the students' reflective work, student feedback and the ongoing review of literature. Details relating to the

various amendments/changes that emerged from each phase and how they influenced the data collection phase of the study will be discussed in chapter 3.

Apart from the end of year induction focus group, all other data was collected during school experience 1 (SE1) and school experience 2 (SE2). The data consisted of students' weekly reflections which were posted to an online group discussion board (SE1 & SE2), audio recordings of students' feedback discussion following a peer reviewed lesson observation and the subsequent lesson reflection (SE2). Video-assisted lesson reflections were also collected during SE2, as well as observations of students' teaching practice (SE1 and SE2) and focus group data, one set collected at the end of PGCE study (June 2018) and the other collected at the end of the participants' induction year (June 2019).

1.6 Research questions

Following the two-year period of reconnaissance study and the review of literature, the researcher devised the following research questions:

1. In what ways do pre-service PE teachers' reflective capacities change across the PGCE year?
2. What approaches to reflection are most effective for developing pre-service PE teachers' reflective skills?
3. Does increased subject knowledge allow pre-service PE teachers to produce higher quality reflections?
4. How do pre-service PE teachers make use of their weekly reflections?
5. In what ways do pre-service PE teachers use reflective practice during their first year as a qualified teacher?

1.6.1 How questions were formed

Question one was formed as a result of the high number of references within the literature to the belief that it is difficult for pre-service teachers to make progress with their reflective work during ITE and the researcher's analysis of students' reflective work during the reconnaissance period, whereby reflections tended to be low-level, descriptive and repetitive.

Question two originated initially from the review of literature where authors consistently note the differences that exist amongst teacher education courses, particularly in relation to how reflective practice is approached. The researcher's experience during the reconnaissance period also helped to confirm this as a question since student feedback indicated that written reflections were time-consuming and subsequently a demotivating factor.

Question three emerged purely from the two-year reconnaissance period, where upon analysis of weekly reflections from both the 2015/16 and 2016/17 cohorts, some students reflected better on their area(s) of expertise. The researcher was keen to investigate if this would be a similar pattern for the 2017/18 cohort.

Question four also emerged from the review of literature and the reconnaissance period of study. Some authors (Cornford, 2002; Akbari, 2007; Hobbs, 2007; Fathi & Behzadpour, 2011) point out that reflective practice during ITE has little impact on teaching and learning and an analysis of students' reflective progress during 2015-16 and 2016-17 indicated that this could possibly be true. The researcher was, therefore, keen to investigate if and how these students used their weekly reflections to inform future planning and practice.

Question five emerged from the review of literature where it was clear that the vast majority of studies conducted on reflective practice involved pre-service teachers, meaning that very few studies investigated practising teachers. The noted difficulty amongst pre-service teachers in translating reflective practices beyond ITE and into their teaching career (Olson & Finson, 2009; Poom-Valickis and Mathews, 2013) also impacted the decision to form question 5 as the researcher was keen to investigate if these students were able or willing to continue with their reflective practices.

1.7 Structure of the thesis

Chapter 1 provides a rationale for the study where the purpose and significance of the research is outlined. Relevant literature is used to identify key issues relating to the concept of reflective practice. The global acceptance of reflective practice in teacher education is noted, emphasising the significance that is attached to its role in preparing pre-service teachers. This is followed by a discussion relating to common criticisms of its use in teacher education, namely the lack of clarity surrounding the concept, the gap that exists between what reflective practice should be and how it is actually conducted and the somewhat inhibiting structure of reflective practice. The challenges of reflective practice for pre-service teachers and teacher educators are also noted, along with the acknowledged benefits. The research questions are presented and there is a clear justification as to how these questions were formed.

Chapter 2 provides a review of relevant literature relating to reflective practice. The first section addresses the theory associated with the concept, which draws

on the seminal work of Dewey (1933) and Schon (1983), and which includes a critique of Schon's work. The second part focuses on relevant empirical studies connected to reflective practice, the majority of which involve studies relating to ITE, including the small number in PETE. Through these studies, the following aspects relating to reflective practice are addressed: structured and unstructured approaches, individual and collaborative reflection, formal and informal reflection, journal writing, peer review and video-assisted reflection. The themes to emerge from the review of literature, combined with the two-year reconnaissance period of study, influenced the focus and design of the research.

Chapter 3 outlines the methodological approaches used in this study. As noted above, the study was conducted within an AR framework. Types of AR are presented and critiqued in order to justify the type used in this study. Each data collection instrument is presented and discussed, starting with the students' online weekly reflections, followed by the peer review process, video-assisted reflection, lesson observations and focus groups. The first four collection instruments were a normal part of the PGCE course and therefore did not require the same in-depth justification as the use of focus groups did. The use of focus groups as the fifth data collection instrument is discussed, where advantages and disadvantages are presented, along with a discussion of the various aspects required to make a focus group effective i.e. group size, location, discussion topic, number of questions and wording of questions. The final section outlines how each data set will be analysed. All reflections (weekly and those emerging from the peer review and video-assisted process) were assessed against Larrivee's (2004) Reflective Framework. The audio recorded discussions from each peer review were analysed by identifying the types of feedback that each reviewer

provided and then a comparison was made with the reviewee's reflection in order to determine which types of feedback they used in their reflection. All focus group data was subjected to content analysis where initial codes were identified, followed by the identification of key themes. The lesson observations were conducted as part of normal PGCE school experience assessment where students were assessed as to how well they used their reflections to inform planning and subsequent teaching and learning. Therefore, this data set is descriptive, describing for each student to what extent they utilised their weekly reflection.

Chapter 4 presents an overview of the main findings emanating from each data collection set, beginning with the findings from the online weekly reflections. The findings are presented in a systematic fashion where the levels attained by each student are clearly presented, demonstrating evidence pertaining to reflections at pre-reflective, surface and pedagogical levels. This is followed by findings relating to the students' reflections on areas of expertise. The third section presents the findings relating to the process of peer review where the reflective levels achieved by each student on their peer review reflection are presented along with findings relating to the types of feedback provided by the group and the types of feedback chosen for reflection by reviewees. The fourth section of the findings addresses the video-assisted reflection process where the levels attained by each student who engaged with this process are presented. The next section presents findings relating to lesson observations where it details to what extent each student utilised their previous weekly reflection both in terms of lesson planning and subsequent lesson delivery. The sixth section presents the findings relating to the end of year PGCE focus group interviews where main themes are presented. The

final section of findings relates to the end of induction year focus group where again main themes are presented.

The fifth chapter discusses the key issues to emerge from the findings. In section one the researcher discusses the differences that exist amongst the group in relation to their reflective ability, by identifying three distinct groups. This is followed by a section on the common areas that students from all groups chose to reflect on. The third section addresses the area of formal versus informal reflection which is followed by a discussion on the theme of 'time'. The fifth section discusses the theme of collaboration and the final section of the discussion focuses on the issue of induction for beginning teachers, where it would appear that the induction process in Northern Ireland does little to help develop teachers' reflective skills. The discussion utilises relevant literature in order to establish similarities with other studies as well as identifying how the findings in this study differ from other empirical work.

Chapter six includes the conclusion and recommendations. In the conclusion, answers are presented on each research question by linking the final comments back to relevant literature. Recommendations are presented for various stakeholders, namely teacher educators, pre-service teachers, EA and GTCNI.

Chapter 2- Review of Literature

The review of literature will be divided into two distinct sections, with section 2.1 dedicated to the review of literature concerning the theory connected to reflection. There will be a focus on the complexities surrounding the definition of reflection, critical reflection and reflexivity. The seminal work of Donald Schon (1983) is critiqued, allowing the author to interrogate the concepts of reflection-in-action and reflection-on-action. The role of reflection in combining theory and practice is then explored prior to a discussion of the two main theories that underpin this study, Kolb's (1984) ELT and CST. The next sub-section addresses the question of whether or not reflective practice can be taught and this is followed by a discussion on the role of teacher educators.

Section 2.2 explores how reflection is utilised in education, specifically ITE. Relevant empirical studies are reviewed, with the majority focusing on pre-service teachers. Various approaches to developing reflective practice are discussed, particularly the use of structured versus unstructured approaches, individual and collaborative reflection, formal and informal approaches, journal writing, peer review and video. The section then reviews reflection in PE, where again most of the literature discusses reflection in ITE.

2.1 Defining reflective concepts

Parsons and Stephenson (2005) point out that reflective practice continues to be a focus for writers as they attempt to provide a clear definition of the concept. Boulton and Hramiak (2012, p.507) note that, 'Reflection is not a new process.

Its philosophical foundations can arguably be traced back to the work of Aristotle in his writings in the *Nicomachean Ethics*, in which he writes about human deliberation'. Cahn (2002) in discussing Aristotle's reference to human deliberation, emphasises how Aristotle claimed that, when considering important questions, others are required to assist us in this process; so that deliberations become focused on the means rather than the ends, and how that end might possibly be reached.

According to Bell et al (2011, p.799) the concepts of, 'Reflection, reflective thinking, reflective learning and critical reflection are not clearly defined'. This view is supported by the earlier work of Rogers (2001, p.38) who states that, 'there is a lack of clarity in the definition of reflection, its antecedent conditions, its processes and its identified outcomes'. Thorpe (2004, p.339) agrees, noting that, 'the lack of common definitions for the terms we use continues to complicate our ability to compare, and therefore, to gain from the research efforts within our discipline'. Fendler (2003) captures the ambiguity surrounding the concept when stating that, 'It is no wonder that current research and practice relating to reflection tend to embody mixed messages and confusing agendas' (p.20). Therefore, the researcher deems it important to explore the theoretical concepts associated with reflection in an attempt to define and thus make distinctions between them.

2.1.1 Critical Reflection versus Reflection

As previously noted, developing an understanding of what constitutes 'reflection' and what constitutes 'critical reflection', is important for the researcher as the

literature clearly highlights that the concepts are not clear. Collin et al (2013) in attempting to provide a clear definition of reflection, consulted the works of Beauchamp (2006) 'who conducted an in-depth theoretical analysis covering 55 definitions of reflective practice' (Collin et al, 2013, p.105). It is of significance to note that Beauchamp's (2006) analysis did not produce a 'conclusive definition of the concept' but it did manage to 'distinguish between several types of reflective processes, objects, and rationales' (Collin et al, 2013, p.105). Liu (2015) analysed literature surrounding reflection in teacher education and found that not only is there a lack of clarity surrounding the definition of critical reflection, she also points to the lack of guidance available on how to critically reflect and the absence of a clear statement regarding the main rationale for critical reflection. In her study with pre-service teachers and teacher educators in Midwestern University, she highlights the different definitions that were provided by teacher educators and pre-service teachers as evidence of the gap in understanding that exists, with teacher educators, unsurprisingly, displaying a more accurate understanding, while pre-service teachers demonstrated a limited understanding. Whilst this gap is not surprising, it has raised significant questions regarding the quality of critical reflective work that continues to operate in many ITE courses.

Reynolds (1997, p.314) makes a clear distinction between reflection and critical reflection, by arguing that reflection is

'concerned with practical questions about what courses of action can best lead to the achievement of goals or solutions' whilst critical reflection is regarded as confronting the underlying assumptions in a particular context and 'involves engaging with individual, organisational or social problems with the aim of changing the conditions which give rise to them ,as well as providing the basis for personal change'.

From this definition it could be argued that reflection is operational whilst critical reflection is political (Smyth, 1989).

It is interesting to note that in many peer reviewed published journal articles, the terms reflection and critical reflection are used interchangeably, with many definitions of reflection containing what we would consider the language associated with critical reflection. Brookfield (2009, p.294) notes that the conflating of these terms 'implies that adding the qualifier 'critical' somehow makes the kind of reflection happening deeper and more profound'. He proceeds to state that, 'reflection is not, by definition, critical' and that many individuals engage with reflective practice by 'focusing solely on the nuts and bolts of process and leaving unquestioned the criteria, power dynamics and wider structures that frame a field of practice' (Ibid, p.294). For many theorists, reflection cannot be categorised as reflection unless it is critical. According to Yang (2009, p.11) critical reflection 'refers to how teachers learn to challenge their own teaching beliefs in a critical self-analysis and become responsible for their actions', a process that also encourages them 'to take a stand through questioning and challenging others' underlying assumptions, which is a way for teaching practices to be improved and for the conditions in which schooling takes place to be made more just'. Dymoke and Harrison (2008) support this view by emphasising that it is only when pre-service teachers/educators question their understanding and underlying assumptions and aim to make links between teaching and learning theories and their practice, that true reflection exists. Bard (2014, p.1) argues that reflection is simply the process of 'thinking about something while seeking a deeper level of understanding' but clearly points out that it is the systematic application of this thinking by collecting evidence and analysing it in order to

improve practice that is important. This view is supported by Farrell (2012, p.15), who insists that 'reflective practice is not isolated introspection; rather it is evidence based, in that teachers need to systematically collect evidence (or data) and then make decisions (instructional or otherwise) based on this information'. If we consider the distinction made by Reynolds above and the views of Bard and Farrell, we can see some difference by what is meant by reflection and critical reflection. However, it should be noted that Bard's reference to a 'deeper level of understanding' is important as many authors cite this as a component of critical reflection. What is of significance is that Bard and Farrell do not emphasise the scrutiny of one's values, beliefs and underlying assumptions in the context of their practice as a vital component of reflection. Therefore, it would appear that Bard and Farrell have defined reflection rather than critical reflection. It is important to note that Yang (2009), Dymoke and Harrison (2008), Bard (2014) and Farrell (2012) all point to reflection leading to a change or improvement in teachers' practices, whereas Brookfield (2009) does not identify improved practices as the main goal of reflection. Rather, he views reflection as a process whereby individuals can gain a deeper understanding of the wider social and political issues that can impact practice. This view is supported by Elidottir (2019) who does not view reflection from a positivist standpoint whereby it needs to lead to a change in a teacher's practice. She states that, reflection is about 'using our imagination...to untangle what is going on around us...to imagine and comprehend our professional life to get closer to understanding a given situation or to be able to see other possibilities or ways of thinking and learning' (Ibid, p.164).

Fund (2010) notes that, 'reflection is a mental process of active attention with purpose and/or outcome', meaning that individuals can develop an understanding of 'themselves, their work or others' (p.680) which according to Dewey (1933) and Moon (1999), relates to thinking and learning. In recognition of the wide range of approaches to reflection and the use of various categories, Moon (1999) insists that the differences in reflective practice are not linked to the process itself, but are connected to the different ways in which it is utilised or directed. Smith (2002, p.216) claims that,

'the term reflective practice describes the nexus between reflection and practice. If the term practice encompasses both the practice of teaching and the practice of learning, then practical experience becomes a site for learning'.

Smith (2002) proceeds to note that this will only occur if the learner possesses a disposition to be reflective. She refers to Perkins et al (1993) 'dispositional theory of thinking' as helping 'to frame the need for a reflective disposition that has three qualities' (Smith, 2002, p.216-17). According to Perkins et al (1993, p.4), a disposition 'is a psychological element with three components: inclination, sensitivity, and ability'. They describe 'inclination' as an individual having the tendency towards a particular behaviour, in this case, feeling the need to reflect on their practice when the situation arises. Sensitivity 'refers to the person's alertness' (Ibid, p.4) to situations when there is a need to employ the particular behaviour, in this case, being aware of times that reflective practice is required. Ability is simply having 'the actual ability to follow through' (Perkins et al, 1993, p.4) with the particular behaviour, in this case, knowing how to employ reflective practice effectively so that it leads to improved future practice (Smith, 2002). Perkins et al (1993) insist that the 'triad of inclination, sensitivity and ability

establishes a foundation for the dispositional analysis of cognition in general' but are keen to explain how this triad illuminates thinking 'and good thinking in particular' (p.6). They believe that good thinking can be 'characterised as reflecting seven broad thinking dispositions', which are:

1. To be broad and adventurous
2. Toward sustained intellectual curiosity
3. To clarify and seek understanding
4. To be playful and strategic
5. To be intellectually careful
6. To seek and evaluate reasons
7. To be metacognitive (Ibid, p.6)

Perkins et al (1993) argue that 'the ideal thinker is disposed toward all of these thinking behaviours, appropriately exhibiting one or more of them, depending on the thinking occasion' whereas the good thinker is disposed 'toward most of these at appropriate times, but in a less even and more human fashion' (p.7).

Farrell (2014) supports the views of Perkins et al (1993) pointing out that reflection is much more than developing various reflective approaches and that true reflection can only be achieved when teachers 'develop three main character attitudes to accompany the reflective process... open-mindedness, responsibility and whole-heartedness' (p.2). Dewey (1933, 1986) defined open-mindedness as 'freedom from prejudice, partisanship, and such other habits as close the mind and make it unwilling to consider new problems and entertain new ideas' (p.136). Farrell (2014), in consideration of how this attitude of open-mindedness can be

achieved, notes that the majority of people consider themselves to be open-minded, but he points to his experiences when delivering teacher workshops, where teachers when asked to 're-evaluate their beliefs... become a bit uncomfortable and some become resistant to change' (p.4). He highlights a key question in his workshops where he asks the participants if they think about why they teach their lesson in a certain way or are they 'faking' it? He reports that many teachers are shocked that anyone would consider that their teaching could be fake. Farrell (2014) points out that if teachers are afraid to critically examine their practice and do not utilise pupil feedback to inform their thinking, then it is possible they are 'faking it'. Dewey (1933, 1986) argues that to be responsible means to consider the consequences of what you do and learn. Farrell (2014) notes that a close examination of the attitude of responsibility highlights the impact that reflections have on not just the teacher, but the pupils and other members of the teaching community and indeed the wider society to which we all belong. Whole-heartedness is where 'a teacher is excited to look at his or her practice and does so in an undivided manner' (Farrell, 2014, p.7). Such individuals will reflect on their practice throughout their entire career, always questioning their beliefs and underlying assumptions with a view to creating new meaning.

In consideration of Mezirow's (1983) work, it must be noted that certain authors regard his work as not fulfilling all elements of what constitutes critical reflection. Cope (2003) and Reynolds (1998) refer to Mezirow (1991) and Boud et al (1985) as theorists who when discussing critical reflection focus on personal transformation rather than social transformation. Cope (2003, p.444) claims that for these theorists 'reflection can be critical if it challenges personal norms,

assumptions and 'taken-for-granted'. Such an approach does not align with Reynold's (1998, p.189) view, that 'the socially situated nature of experience must be taken into account for reflection to have any meaning'.

Thompson and Pascal (2012) note that much of the literature on professional development places too much emphasis on individual experience, since recognising the importance of the social context is imperative in the quest to develop critical reflective skills (Fook et al 2000). Thompson and Pascal (2011) believe that:

'Human existence is fundamentally social. Social issues should therefore not be seen as merely a backdrop or a set of minor contextual features. The social context is a primary feature of human reality. There is therefore a need to see personal reflection as not only an interpersonal matter, but also as part of the broader context of cultural formations and structural relations' (p.16-17).

It would seem that failure to neglect the social context of reflection would deem such approaches as reflective rather than critically reflective.

Swan (2008) in consideration of the difference between reflection and critical reflection, notes that critical reflection should involve deeper thinking which leads to a deeper impact. Many theorists regard "going deeper" as questioning 'hidden assumptions and the operations of power' (Ibid, p.389). It would appear, however, that some theorists differ regarding their conceptualisation of power. Raelin (2001) believes that public critical reflection has the power to increase learning at all levels, even at societal level, which helps to create 'a sense of the common good – a condition in which all parties in the human condition are treated as empowered entities or as human beings with dignity' (p.16). Brookfield (1994) in

his research with 337 teachers who produced autobiographical analyses of critical reflection episodes, states that,

'In contrast to the relentlessly upbeat rhetoric surrounding much exposition on empowerment, liberation, emancipation and transformation, their descriptions of their journeys as learners are quite often infused with a tone of sadness' (p.58).

Many of these participants spoke about a so-called loss of innocence whereby they had imagined that if they invested enough time and effort this would lead to 'universal certainty as the rewards for all their efforts' (Ibid, p.58). For many there was 'an appreciation of the importance of contextuality and ambiguity...an emotional craving for revealed truth' (Ibid, p.58). Brookfield's (1994) study also revealed that many participants when discussing critical reflection as a learning process, described it as a 'rhythm of incremental fluctuation' (p.58) or what we would refer to as one step forward, two steps back. He notes that such rhythms of learning are characterised by,

'evidence of an increased ability to take alternative perspectives on familiar situations, a developing readiness to challenge assumptions, and a growing affective tolerance for ambiguity, but; it is also one characterised by fluctuating moments of falling back, of apparent regression' (Ibid, p.58).

The findings from Brookfield's study would appear to indicate that questioning assumptions and the operations of power is a much more painful exercise than what Raelin refers to.

This section explored the issues surrounding the defining of reflection and critical reflection, highlighting that amongst many authors there appears to be different understandings regarding what each term means. This review has allowed the researcher to establish a distinction between the terms. Reflection in this study

relates to individuals using relevant teaching theory to think about their past teaching experiences with the aim of identifying how they can improve their future practice. Critical reflection involves all the facets of reflection but also involves an individual being able to explore their underlying values, assumptions and beliefs and coming to an understanding as to how these are influencing their practice within the broader social and political issues at play in a specific context. Therefore, as noted above, reflection involves the transmission of knowledge whereas critical reflection involves the transformation of knowledge. In the next section the concept of 'reflexivity' is explored, since some authors also tend to use the term interchangeably with reflection and critical reflection. It is therefore important to clarify and distinguish this concept.

2.1.2 Reflexivity

Finlay (2008), when discussing critical reflection refers to the concept of reflexivity, whereby teachers engage in a process of critical self-reflection, reflecting on 'the impact of their own background, assumptions, positioning, feelings, behaviour while also attending to the impact of the wider organisational, discursive, ideological and political context' (p.6). Taylor and White (2000), note that there is much debate regarding the notion that reflexivity and reflection are the exact same concepts. Pease and Fook (1999) regard both concepts as being interchangeable, whilst Rennie (2009) offers a distinction between them, emphasizing that reflexivity is demonstrated when individuals display self-awareness and an acknowledgement of their own personal role within that self-awareness. Fook and Gardner (2007) hold a similar view of reflexivity, seeing it as individuals being able to locate themselves in the broader picture surrounding

them and understanding how they relate to the wider organisational context. However, they regard this as a key facet of what constitutes critical reflection. Finlay (2008) emphasises that all three terms, reflection, critical reflection and reflexivity, are often misunderstood and wrongly regarded to be interchangeable. Finlay and Gough (2003) support this view by identifying these concepts on a continuum with basic reflection (thinking about) experiences after they occur at one end, reflexivity (continuous development of self-awareness) at the other end, with critical reflection positioned in between. Malthouse et al (2014) support the view of Fook and Gardner (2007) above, when they point out that 'reflexivity relates to the understandings of the complex relationships between individuals and social systems at micro and macro levels' where the individual displays the ability to position themselves within 'the broader social and organisational causes of particular problems' (p.599). In her previous work, Finlay (2002, 2003) identified five overlapping components of reflexivity that has critical reflection at the centre. These are:

1. Introspection – the examination or observation of one's own mental and emotional processes
2. Intersubjective reflection – the individual examines the relational context of his/her various practice experiences
3. Mutual collaboration – dialogue is at the heart of this component where through collaboration and debate, a particular problem can be solved between a mentor and pre-service teacher or indeed it may be a group of professionals

4. Social critique – this component considers the political and social contextual issues where the teacher may focus on the power imbalance at play in a particular educational context
5. Ironic deconstruction – this component considers the ‘postmodern and post-structural imperatives to deconstruct discursive practices and represent something of the ambiguity and multiplicity of meanings in particular organisational and social contexts’ (Finlay, 2008, p.7).

In analysing Finlay’s (2008) five components above, it can be argued that points one and two explain what is involved when reflecting, whereas points three – five could be used to explain the elements of critical reflection. Therefore, it would seem that whilst reflexivity can be defined, if an individual is to critically reflect, then they will have to be reflexive. Thus, reflexivity is a component of critical reflection (Fook, 1999).

The literature reviewed thus far has highlighted the complexities surrounding the defining of reflection, critical reflection and reflexivity. If such confusion exists amongst academics, it would seem logical to conclude that this lack of clarity and consistency will have implications for the implementation of reflective practice amongst teacher educators, pre-service teachers and indeed practising teachers. Therefore, in consideration of the hugely influential role played by Donald Schon in the field of reflection in education, it was deemed appropriate to critique how his seminal work, ‘The Reflective Practitioner: how professionals think in action’ (Schon, 1983) has impacted understandings and practice in this area. The next sub-section, therefore, provides a critique of this work.

2.1.3 A critique of Schon's work

Finlay (2008, p.3) points out that Dewey (1933) was one of the first theorists to 'identify reflection as a specialised form of thinking' where reflection arose from doubt or confusion related to a specific situation. According to Finlay (2008), Dewey believed that this doubt led to problem-solving through meaningful inquiry. Shoffner (2008) supports this view by emphasizing that Dewey's approach to reflection saw the process grounded in 'the deliberate exploration of a problem, much like that followed in scientific inquiry' (p.124) where the individual identified a problem and then began to seek a solution. Dewey's (1933) work formed the basis of Schon's (1983) 'The Reflective Practitioner: how professionals think in action', where Schon made a clear distinction between 'two types of reflection: reflection-on-action... and reflection-in-action' (Finlay, 2008, p.3).

In the context of education, reflection-on-action occurs after the lesson has concluded and is therefore sometimes referred to as the post-lesson reflection. Finlay (2008) notes that during reflection-on-action, the teacher consciously analyses and evaluates 'their past practice with a view to gaining insight to improve future practice' (p.3). Schon (1983) saw reflection-in-action as a process whereby teachers simply reflect while they are teaching and that it happens almost intuitively (Hourani, 2013). Schon (1996) sees the process occurring when addressing a problem, what he terms as the 'action-present'. Finlay (2008) emphasises that when reflecting in and on-action, teachers are aiming 'to connect with their feelings and attend to relevant theory' (p.3), as they aim to create new understandings that will help to inform their actions for the particular situation they are experiencing. Schon (1983) captures this when stating that,

'The practitioner allows himself to experience surprise, puzzlement, or confusion in a situation which he finds uncertain or unique. He reflects on the phenomenon before him, and on the prior understandings which have been implicit in his behaviour. He carries out an experiment which serves to generate both a new understanding of the phenomenon and a change in the situation' (p.68).

Analysis of this statement highlights that Schon sees reflection as a process whereby the teacher reframes the problem in a way that 'it can be considered from different perspectives, rather than simply applying scientific theories to practical situations' (Lambe, 2011, p.87). Finlay (2008) agrees, claiming that Schon (1983) viewed reflection-in-action as 'the core of 'professional artistry', a concept he contrasted with the 'technical-rationality' demanded by the positivist paradigm' (p.3) where problems are solved through the application of science. Rolfe, Freshwater and Jasper (2001, p.7) note that when followed rigidly, 'technical rationality reduces practitioners to the level of technicians whose only role is to implement the research findings and theoretical models of the scientists, researchers and theoreticians'. Thompson and Pascal (2012) believe that such an approach not only devalues the role of professional practice but portrays practitioners as professionals who simply follow instructions and procedures without thinking about or questioning such approaches, which is very far removed from what Schon (1983) refers to as the 'swampy lowlands' of practice.

Schon's (1983) work 'has been hugely influential – some would say 'canonical' – in the way it has been applied to practice and professional training and education' (Finlay, 2008, p.4). Therefore, considering the significant impact that Schon's work has had on the development of reflective practice, it is important to address the limitations of his work and an analysis of these limitations will help create further clarity on the gap that exists between reflection and critical reflection.

Smyth (1989) was one of the earliest critics of Schon's work by highlighting that his work was 'atheoretical and apolitical', a view supported by Fook et al (2006) and Thompson and Pascal (2012), who claim that these criticisms highlight how Schon's work was not sufficiently critical. Boud and Walker (1998) insist that Schon's work fails to consider the importance of context. However, it is interesting to note that Shoffner (2008) argues that Schon's work stresses the importance of context when reflecting.

Thompson and Pascal (2012) believe that Schon's work is often oversimplified when applied to practice, which could be a result of the lack of clarity and precision in his work (Eraut, 2004). Thompson and Pascal (2012) highlight another perceived flaw in Schon's work, the failure to take into account the significance of forethought, or what they refer to as 'reflection-for-action' (p.317). Reflection-for-action is the process of using our time effectively to plan ahead, drawing on our past experiences in order to deal with future practice. This view is supported by Greenwood (1993) who criticizes Schon for not focusing on reflection-before-action. Moon (1999) questions Schon's idea of reflection-in-action, claiming that it is not achievable, a view supported by Ekebergh (2007) who stresses that it is impossible to reflect in the middle of a lived situation and for true self-reflection to occur, 'one must 'step out' of the situation and the actions' (p.334).

Hebert (2015) in her critique of Schon's work, argues that 'Schon's model over inflates the role of the rational to the extent that it cannot properly be classified an intuitive model' (p.365). Bleakley (1999, p.325), however, sees Schon's reflection-in-action as 'an embedded gesture dissolving mind-body opposition'

but others such as Erlandson (2005) do not see this distinction as being firmly established, insisting that Schon's reflection-in-action reflects a mind-body dualism where the body appears to be controlled by the mind (intellect) and that the understanding emerges via rationalisation. Hebert (2015, p.366) points out that Schon wanted to 'overcome this dualism by delineating his own reflection-in-action from reflecting-on-action' but supports Erlandson by emphasising that Schon's (1983) model 'privileges rational understanding of knowing in action through a reflective process, assuming that all bodily acts can be understood through the faculties of the intellect' (p.366). Erlandson (2005) expands upon his earlier view by arguing that 'Schon's reasoning on reflection involves a dualistic, intellectualistic problem that can be recognised as the "control-matrix", meaning 'that something internal (for instance the mind at work) controls external behaviour (the instance the body)' (p.622). Hebert (2015) sums this up by noting that in Schon's (1983) reflection-in-action, 'it is the mind that must come to know through reflection what the body does in action' and that Schon's 'epistemology of practice' can be taken 'as evidence of his rationalist roots' and 'perhaps more importantly, reflection-in-action is not an epistemology, but rather, a process of knowledge production' (p.366). Eraut (2006) supports this view by stressing that, 'reflection in-action is a process of knowledge creation, not a new kind of knowledge which is somehow different from knowing-in-action' (p.12).

Hebert (2015) takes her critique a step further when she highlights what could be called the gap between action and reflection. She believes that reflection-in-action is sequential, meaning it can only begin when 'cognitive awareness is brought to the action at hand' (p.366), a process that Schon (1983, p.50) describes as thinking 'back on action and on the knowing which is implicit in

action'. This is supported by Collin et al (2013), who note that 'reflection-in-action may therefore be retrospective, which blurs the distinction from reflection-on-action' (p.109).

According to Thompson and Pascal (2012, p.317), 'another significant gap in Schon's work is the neglect of the significance of language, meaning and narrative'. They insist that Schon's work failed to address these crucial aspects of 'meaning making', a process that is very much at the core of what Schon (1983) referred to as the 'reflective conversation with the situation'. Thompson and Pascal (2012, p.317), therefore, believe Schon's work to be an 'oversimplification of the complex hermeneutical processes involved in reflective practice'. Mezirow (1983) also refers to the importance of meaning in his work on perspective transformation. He is of the belief that individuals are prevented from progressing as they find themselves trapped in a restrictive framework of meaning and what emerges is the development of 'self-limiting understandings of the situations they find themselves in and their role within it' (Thompson and Pascal, 2012, p.317). Mezirow (1983) views reflective practice as a process whereby individuals should have the opportunity to be set free from such limited understandings, allowing them to create new, empowered meanings. Thompson and Pascal (2012) agree, stating that,

'While Schön's critique of positivistic epistemology is consistent with postmodernist and post-structuralist concerns with language, meaning and narrative, his work did not develop in this direction' (p.318).

As previously highlighted, there is no doubting the significant impact that Schon's work has had on the development of reflective practice across many disciplines. However, the critique above has highlighted gaps in Schon's work, starting with

the view that his work is not theoretically based or indeed politically based (Smyth, 1989), meaning that the criticality of his work has been questioned. It has also been highlighted that his work is often oversimplified when applied to practice and that his failure to acknowledge forethought or 'reflection-for-action' is a weakness. The concept of reflection-in-action has been questioned, with some authors (Moon, 1999, Ekebergh, 2007) claiming that it is not achievable, since true reflection can only exist when the person can remove themselves from the situation and therefore conduct retrospective reflection. It would also seem that Schon's attempt to establish a distinction between the mind and body in reflection did not work, with some authors (Herbert, 2015, Erlandson, 2005, Eraut, 2006, Collin et al , 2013) emphasising that Schon's model of 'reflection-in-action' reflects a coming together of mind and body where the body acts based on the decision the mind has made following reflection. It would seem that for these authors, Schon's distinction between reflection-in-action and reflection-on-action is not as sharply defined as he would have intended. The concepts of reflection and critical reflection both emphasise the importance of individuals integrating theory and practice when reflecting. The next sub-section, therefore, explores the role of reflection in linking theory and practice.

2.1.3 Role of reflection in linking theory and practice in education

Allen (2011) insists that separating theory and practice would produce a 'false dichotomy' since theory is embedded in teaching and thus cannot be separated from classroom practice. Nelson, Miller and Yun (2016, p.650) insist that 'theory and practice do not need to be taught in isolation...multiple opportunities to connect theory and practice are not only possible but also critical for development

of reflective practice'. Gardner and Williamson (2007) support this view by claiming that it does not matter which comes first, but rather it is only important that any approach combines theory and practice. Stenberg, Rajala and Hilppo (2016, p.470) point out that 'incorporating educational theory into instructional practice is not a simple process of adding up elements' but rather it is a 'dialectical process that transforms both theory and practice'. Parra, Gutierrez and Aldana (2015) also acknowledge the importance of combining theory and practice to facilitate reflective development. They emphasise that through the process of reflection-in-action and reflection-on-action practitioners can identify problems, question the emergence of implicit knowledge and consider alternatives, leading to new knowledge that will shape their approach to practice based on the theories that they value.

Orland-Barak and Yinon (2007) also stress the importance of teachers making connections between theory and practice when reflecting. However, they are quick to highlight that enhancing the connections between theory and practice is one of the biggest challenges in teacher education. Marcos et al (2011) point out that the notion of reflective practice and its role in connecting theory and practice has been oversimplified and indeed has led to a 'diversity of intentions and promises' where the omission of its associated practical difficulties has resulted in it being 'taken beyond its limits' (p.22). According to Edwards, Gilroy and Hartley (2002) this has resulted in a loss of clarity around the role and implementation of reflective practice. Marcos et al (2011, p.22) argue that 'the inherent danger of this lack of clarity in embedded assumptions is that teachers are drawn into an apparent consensus about the prospects and feasibility of reflection and believe that reflection can help them improve their teaching'.

Feiman-Nemser (2001) emphasise that the difficulty in establishing strong relationships between theory and practice derives from the weak connection that exists between taught courses and practical experience; where quite often teacher education programmes are fragmented and incoherent. Orland-Barak and Yinon (2007) claim that many pre-service teachers simply want to 'survive' and that a focus on reflection may be too much considering their pragmatic needs. They believe that the use of reflective practice to enhance theory and practice connections in teacher education programmes may be too ambitious and that pre-service teachers are not ready to make abstract connections or conceptualise teaching and learning in this way. However, Korthagen and Vasalos (2005) point out that the development of a 'survival kit' will be of little use if applied only to technical issues and that pre-service teachers must adopt a critical approach, whereby they are asked to consider how their beliefs, attitudes and relevant theory have helped shape their understanding of various classroom practices. The issue of whether pre-service teachers should or are ready to engage with critical reflection is an area that will be developed further in part 2.2 of the literature review.

Kinsella (2010, p.568) advocates an approach to reflection which 'views the practitioner as an agent/experient, and recognises that through transaction with the situation, the practitioner shapes it and becomes part of it'. Gould (1996) adds weight to this argument by emphasising that expertise is not acquired by applying rules or protocols from positivist research, but that 'practice wisdom depends upon highly developed intuition which may be difficult to articulate but can be demonstrated through practice' (p.1). He argues that in consideration of this new 'epistemology of practice', reflective practice creates the opportunity for

educators to develop their understanding of professional knowledge that is enhanced through practice and the subsequent analysis of their practical experience. This view aligns very closely with Thompson's (2010) concept of 'theorising practice' which involves practitioners beginning with practice and then using their professional knowledge to interpret their experience so they can be in a position to deal with the challenges that emerge. Thompson and Pascal (2012) regard this approach as the alternative to technical rationality which expects educators to begin with theory and apply it to practice. They argue that practice is 'more a matter of art or craft than science – drawing on formal knowledge as and when appropriate, but not being wedded to a scientific 'technical fix' approach to practice' (Ibid, p.313).

This section addressed the role of reflection in linking theory and practice in education and there appears to be a general consensus that theory and practice should not be taught in isolation but that they should be combined. Whilst combining theory and practice should help facilitate reflective practice, it is noted that the role of reflection in connecting theory and practice has been oversimplified. The omission of the common practical difficulties has resulted in the impact of reflection being overstated which means that the concept is unclear, with many teachers assuming that reflection will improve their practice. The next sub-section explores the theory base associated with reflective practice.

2.1.4 The Theory of reflective practice

Despite the importance attached to this area, Thompson and Pascal (2012) highlight that the theory base associated with reflective practice continues to be

underdeveloped. They note that whilst there has been a lot of discussion surrounding the theory of reflective practice, 'there remains considerable scope for developing a more sophisticated understanding of the subject', particularly since we have a limited understanding of 'what actually happens when knowledge is integrated into practice... or how knowledge is generated from practice' (Ibid, p.311). Fook, White and Gardner (2006, p.5-6) agree, noting their concern 'that popular and perhaps relatively uninformed understandings of reflective practice and critical reflection have such sway in the field'. Liu (2015, p.137) maintains that the 'fuzzy conceptions of critical reflection' has resulted in a considerable lack of research in relation to pre-service teachers' reflective work and a reduction in efforts to improve approaches that could develop their reflective skills. In an attempt to ensure that this study had a clear theory base, the researcher identified two key theories that underpin the research.

Theoretical Underpinnings of Study

As noted above, the theory base underpinning reflective practice is largely underdeveloped and as a result has contributed to the widespread confusion that exists in relation to reflective practice in ITE. Having made the distinction between reflection and critical reflection and the recognition that reflective practice can be viewed on a continuum, the researcher selected two theories that help to capture the breadth of the reflective spectrum.

Kolb's ELT

As noted in the introduction, the first theory is Kolb's (1984) Experiential Learning Theory (ELT). This theory (see fig.1, p.46) recognises that all learning begins with

experience and can be traced back to Dewey (1938), who noted that, 'all genuine education comes through experience (p.25)...just as no man lives or dies to himself, so no experience lives or dies to itself. Wholly independent of desire or intent, every experience lives on in further experience' (p.27). Central to the theory is that practitioners do not begin with theory and aim to apply it to their practice setting but rather it is a process that involves, 'wrestling with the complexities of both theory and practice' (Thompson and Pascal, 2012, p.314). Bergsteiner et al (2010) in reference to Kolb's ELT (1984) note that the theory views learning as 'a cognitive process involving constant adaptation to, and engagement with, one's environment. Individuals create knowledge from experience rather than just from received instruction' (p.30). Dennison (2010, p.23) points out that Kolb's (1984) ELT 'is still the most commonly cited source used in relation to reflective practice' but proceeds to note that ELT 'has not gone unchallenged' (p.24). Smith (2001, 2010) notes that Kolb regards learning as being effective through the acquirement of four different abilities: 'concrete experience abilities, reflective observation abilities, abstract conceptualisation abilities and active experimentation abilities' (p.6). Kolb and Kolb (2005, p.194) note that ELT is based on six propositions:

1. Learning is best conceived as a process, not in terms of outcomes.
2. All learning is relearning – learning is best when an students' beliefs and ideas are examined and integrated with new ideas.
3. Learning requires the resolution of conflicts between dialectically opposed modes of adaptation to the world – in learning, individuals move back and forth between opposing modes of reflection and action and feeling and thinking.

4. Learning is a holistic process of adaptation to the world.
5. Learning results from synergetic transactions between the person and the environment.
6. Learning is the process of creating knowledge – social knowledge is created and recreated in the personal knowledge of the learner.

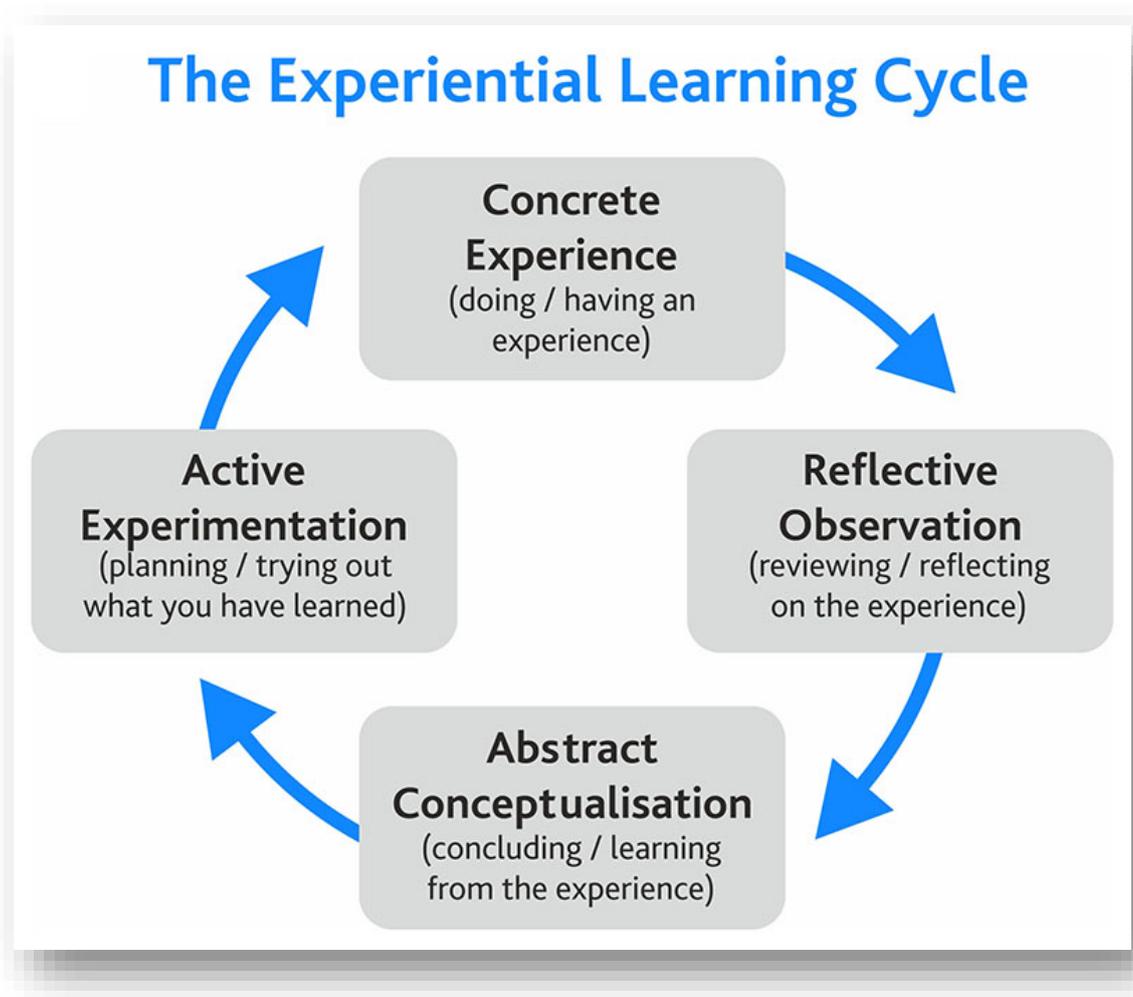


Figure 1 – Kolb's ELT

Smith (2001), however, has identified a number of key criticisms connected to ELT. The first criticism is that it fails to devote enough attention to 'the process of reflection' (Ibid, p.8), a view supported by Boud et al (1985, p.13) who point out that 'it does not help... to uncover the elements of reflection itself'. According to Anderson (1988), it lacks a focus on cultural experiences since it has 'been used within a fairly limited range of cultures, an important consideration if we approach learning as situated' (Smith, 2001, 2010, p.9), meaning that learning is affected by the environment. The third criticism directed at Kolb's ELT is that his representation of the relationship between learning and knowledge is too simplistic (Jarvis, 1987). Smith (2001, 2010, p.10) agrees, pointing out that Kolb fails to 'explore the nature of knowledge in any depth' where he 'focuses on processes in the individual mind, rather than seeing learning as situated'. Kolb also regards learning as knowledge production, thus failing to grasp 'different ways of knowing' (Smith, 2001, 2010, p.10). Dennison (2010) agrees, noting that ELT does not involve the use of feedback to the learner, which Jarvis (2004) sees as being crucial in the learning process. Despite the above criticisms, Tennant (1997, p.92) notes that 'the model provides an excellent framework for planning teaching and learning activities and can be usefully employed as a guide for understanding learning difficulties'. ELT is, therefore, a suitable theory to underpin this study, since its features relate closely to how pre-service PE teachers are likely to reflect. Their reflections will be based on teaching experiences, with the majority composed via reflection on-action. The PGCE PE course addresses appropriate learning theory and the students will be encouraged to reflect on theory in relation to their practice, with the aim of

devising better learning experiences that can then be put into future lessons.

Figure 2 below shows how ELT underpins the process of reflection.

Kolb's ELT	Reflection
Concrete Experience	Thinking about experience
Reflective observation	Reflection on-action
Abstract conceptualisation	Integrating theory and practice
Active experimentation	Improving practice

Figure 2 - How Kolb's ELT underpins reflection

In light of the distinction made above between reflection and critical reflection, it is clear that Kolb's (1984) ELT does not underpin the concept of critical reflection. Therefore, it was necessary to utilise a second learning theory that underpinned critical reflection. The second theory is Critical Social Theory (CST).

Critical Social Theory

According to Leonardo (2004, p.11), Critical Social Theory (CST) is 'a multidisciplinary framework with the implicit goal of advancing the emancipatory function of knowledge... In Education, CST promotes critical thinking'. Freeman and Vasconcelos (2010) note that CST is 'an evaluative as well as a political activity that involves assessing how things are in order to transform them into what they ought to be' (p.7). They first of all note that critical theory is participatory

and involves individuals critically reflecting on the 'relationship between overarching social, economic, or political systems... and everyday practices' (Ibid, p.8). Secondly, critical theory is pedagogical, since it involves the critical assessment of practice which 'involves learning new ways of perceiving people's roles and locations in the perpetuation and resistance of oppressive structures' (Freeman and Vasconcelos, 2010, p.8). Thirdly, critical social theory is action oriented since knowledge transformation can only be achieved when an individual's practice has been changed and thus 'cannot rely on rhetoric alone' (Ibid, p.8).

In education, CST is associated with the work of Paulo Freire, who according to Giroux (1993, p.177) is 'synonymous with the very concept and practice of critical pedagogy'. Leonardo (2004, p.12) notes that Freire's work 'promotes ideology critique, an analysis of culture, attention to discourse, and a recasting of the teacher as an intellectual or cultural worker'. In their critique of Freire's views on CST, Mooney and Nolan (2006, p.241) note that Freire (1972) saw CST as a means 'to frame enquiry, with the aim of liberating groups from constraints (either conscious or unconscious) that interfere with balanced participation in social interaction'. Manias and Street (2000) agree, noting that CST aims to 'actively free individuals to question the prevailing norms. Its goal is therefore transformation from the constraints of unequal power relationships through self-reflection' (p.51). Freeman and Vasconcelos (2010, p.9) point out that the 'knowledge generated by oppressive systems has become so embedded in everyday practices that it is a distortion and misrepresentation of human experiences and desires'. Critical social theorists are therefore of the belief that modern society creates 'oppressive structures by promoting one dominant way

of thinking' (Ibid, p.9), which Dant (2003, p.160) refers to as 'instrumental reason'. Leonardo (2004) emphasises that in order to make sense of CST, one must understand 'the nature of oppression... that oppression is real and formidable... oppression is simultaneously social and lived' and that it is 'part of the human condition and its structures inscribe our pedagogical or social interactions' (p.13). He proceeds to note that in quality education, students must develop an awareness of 'social injustice' and if possible, be active in working against it. However, in order for students to challenge social inequality, they 'must have access to discourses that pose critical questions about the new world order, a process assisted by theory-informed perspectives on students' social experiences' (Ibid, p.13). Freeman and Vasconcelos (2010) agree, claiming that in CST, theory and practice are viewed as being 'intrinsically embodied in praxis' and discussions that integrate theory and practice do not simply address 'the immediate concerns individuals may have' but stretch beyond these to include a 'critical appraisal of the values, commitments, visions and principles they have about their practices, their roles in society' (p.9).

Freeman and Vasconcelos (2010) note that one of the main criticisms associated with CST is that these conversations are 'pushed toward a predetermined outcome', a criticism which they feel is not accurate, since critical social theory 'is primarily a theory of practice that is shaped through its interaction with others regarding that practice' (p.9). Leonardo (2004) agrees, pointing out that in CST, there is no 'blueprint solution to a given problem... but rather to pose it as a problem, to ask questions about common answers rather than to answer questions' (p.13).

In consideration of the main components of CST, it is clear that they underpin the concept of what constitutes critical reflection. Therefore, CST is a suitable theory to underpin this study since the aim of the researcher is to develop pre-service teachers' reflective skills to a critical level. Figure 3 below displays how the components of CST and critical reflection relate:

Critical Social Theory involves:	Critical Reflection involves:
Critical thinking	Questioning of underlying values, beliefs and assumptions
Awareness of political and social systems and how these have created oppression	Awareness of the wider social and political issues affecting an individual's practice
Knowledge transformation through action enquiry	Action focused – considering alternative ways of practice, questioning dogma
Participation – knowledge is personally and socially structured	Collaboration
Effective communication	Dialogue
An understanding of oppressive structures and power imbalance	Awareness of power relations

Figure 3 - How CST underpins critical reflection

It is important to note that the researcher considered Social Learning theory (SLT) (Lave and Wenger, 1991) as an appropriate theory to underpin this research but it was felt that CST adequately addressed the social dimension, meaning SLT was disregarded. In an attempt to articulate how both ELT and CST have underpinned this study, the researcher produced Figure 4 below. The diagram is

followed by a commentary, which explains how both theories relate to the theoretical concepts associated with reflective practice, the choice of methodology and the data collection instruments.

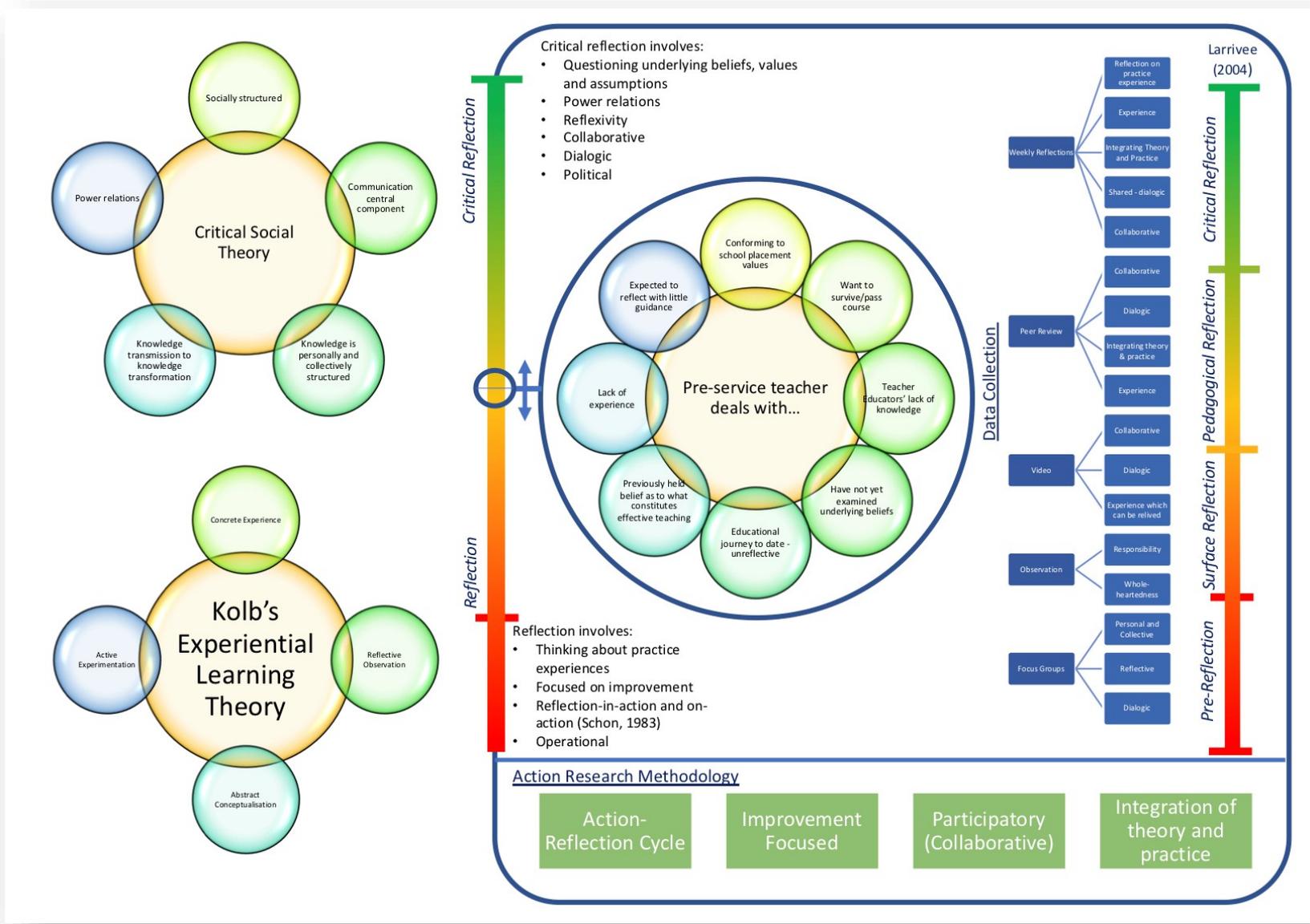


Figure 4 - Theoretical Underpinnings of Study

Commentary

The two underpinning theories are strategically positioned to the left of the reflective continuum. Kolb's (1984) ELT is positioned towards the lower left, next to reflection, highlighting that this theory underpins the components of what reflection is in practice. The listed components of reflection clearly align to the key facets of Kolb's ELT, where both advocate reflecting on experience with the aim of improving practice and recognising that central to reflection is the integration of theory and practice as opposed to the application of theory to practice (Thompson and Pascal, 2012).

Critical social theory (CST) is positioned at the opposite end of the continuum, next to critical reflection. It is clear that the components of CST are paralleled with the key facets of what constitutes critical reflection. CST and the concept of critical reflection both emphasise the importance of questioning underlying values, beliefs and assumptions with an awareness of an individual's power position in a specific context. Effective dialogue with others is a critical component of both, where the aim is to move from knowledge transmission to knowledge transformation (Fook, 2007).

As noted in the literature above, developing pre-service teachers' reflective skills is a difficult task. The issues that can impact a pre-service PE teacher's ability to reflect are identified in the middle section of the diagram, to the right of the reflective continuum. These are deliberately positioned next to the continuum, helping to articulate why pre-service PE teachers find it difficult to make progress with their reflective skills and convey factors affecting where their reflective capacities can be positioned along the continuum. For example, all pre-service

PE teachers want to pass the course and therefore they are likely to invest time and effort in completing assessed work, such as assignments. Since reflective practice is often not formally assessed on ITE courses, some students may, therefore, not consider it to be a priority and thus will invest little time or effort when completing reflective tasks, which will inhibit their reflective progress, meaning they are likely to be placed on the lower end of this continuum, close to reflection.

The previously noted widespread confusion and lack of coherence that exists in relation to reflective practice in ITE, combined with the researcher's lack of knowledge in this area meant that the researcher decided to employ an AR methodology. The use of AR permits the ongoing action-reflection cycle with the aim of improving the researcher's practice in this area. The key attributes of AR are situated at the bottom of the diagram, indicating that the data collection instruments which are listed above, have been employed within an AR framework. Each AR component closely relates to either ELT, CST, reflection or critical reflection. For example, the participatory and collaborative component of AR is a key feature of CST and critical reflection whilst the improvement focused component connects to the features of ELT and reflection.

Each data collection instrument is aligned to either ELT, CST, reflection or critical reflection. The weekly reflections, peer review and video-assisted reflection all involve reflecting on experience by integrating theory and practice with a view to improving future practice. Each of these collection instruments involve elements of collaboration and dialogue. The weekly reflections are shared with peers via an online discussion forum with a purpose of reviewing, discussing and

questioning each other's experiences. The peer review process addresses the importance of feedback and dialogue in the reflective process, recognising how new knowledge can be both personally and collectively structured. Video-assisted reflections involve the same collaborative elements as peer review but the involvement of the PE teacher mentor in this process brings into focus the question of power relations, which is a feature of critical reflection. The replaying of the video presents opportunities for individuals to analyse how their underlying values, beliefs and assumptions may have influenced their practice or how their practice may have been influenced by the values of their mentor which again is a feature connected to critical reflection.

Observations of students' teaching practice are important in that they can provide an insight into the attitude that students have towards reflective practice. Whilst the observations form a normal part of the PGCE assessment process, the researcher was focused on how each student made use of their previous week's reflection in terms of informing planning and subsequently teaching and learning. Therefore, the researcher was able to make a judgement as to whether individual students had developed a sense of responsibility, whole-heartedness and open-mindedness (Dewey, 1933, Farrell, 2014) which clearly impacts how they approach reflection and how they are likely to progress or not.

The decision to use focus groups was based on the premise that students would have the opportunity to share views and discuss their reflective experiences in a participatory and collaborative way. Therefore, this instrument clearly aligns with the principles of ELT, CST, reflection and critical reflection. Each data collection instrument will be discussed in more detail in chapter 3.

At the extreme right of the diagram is Larrivee's (2004) reflective framework, a paralleled extension to the reflective continuum. The positioning of Larrivee's levels next to the data collection instruments is significant, indicating that the reflections emerging from weekly reflections, peer review and video-assisted reflections were assessed against Larrivee's framework in order to determine the reflective levels attained by each student. The positioning of Larrivee's first level, pre-reflection, on this continuum, relative to the reflective continuum is important, since it highlights that Larrivee's framework contains an extended level of reflection that the theory connected to reflective practice fails to acknowledge.

This section considered the literature surrounding the theory of reflection and it would appear that the theory base is underdeveloped, resulting in frequent misinterpretation and consequently misapplication of reflective practice. The misapplication of reflective practice has obvious consequences for the development of teachers' reflective skills and ultimately teaching practice. In terms of summarising what this means, it should be noted that the underdeveloped theory base of reflection not only negatively impacts how reflective theories are understood but it consequently impacts how reflective approaches are formed. If such reflective approaches are formed on the basis of an underdeveloped theory base, then it is likely that these approaches are also underdeveloped. The application of underdeveloped reflective approaches to help teachers combine theory and practice is likely to inhibit teachers' reflective work, meaning that they struggle to reflect in a purposeful way. The final part of this section discussed the two theories that underpin this study, Kolb's ELT and CST. Figure 4 was presented, providing an overview of how the two theories underpin the theoretical concepts of reflection and critical reflection and how they

also relate to the choice of AR methodology and the particular data collection instruments that were employed. In light of the issues identified thus far, such as the confusion surrounding the concepts of reflection and critical reflection, the limitations of Schon's work, the complexities involved in integrating theory and practice and the clearly underdeveloped theory base, the next section considers whether or not reflective practice can be taught to pre-service teachers.

2.1.5 Can reflective practice be taught?

Amongst the majority of literature sources on reflective practice, there appears to be the assumption that all teachers can reflect. Authors such as Lyons (1998), however, have posed some very important questions relating to the concept of reflective practice. Lyons (1998) points to reports relating to North America in the 1990s which highlighted that 'reflection was not uniformly achieved' (p.116) and whilst many experienced teachers lauded the approach to reflection, many could not differentiate 'between description, analysis and reflection' (p.116). This led Lyons (1998) to pose a number of questions: why can some teachers engage in reflective practice and others cannot?, what influences an individual's ability to reflect?, can reflective practice be taught?, and is it possible that the acquisition of reflective skills is developmental? It is my intention to address these questions in relation to pre-service teachers in the quest for further clarification around the concept of reflective practice.

McGarr and McCormack (2014, p.268) believe that 'the process of engaging student teachers in reflective practice is a challenging undertaking', a view supported by Huberman (1995) who points out that the early career of many

teachers is simply concerned with surviving the day-to-day trials and tribulations of the classroom, meaning that many will not regard reflection as one of their top priorities. McGarr and McCormack (2014) emphasise that when confronted with such a challenging context, teachers are more likely to reflect on aspects of their teaching that permit survival where they 'draw on existing beliefs' (p.268), meaning that such reflections are technical/practical rather than being critical. Ross (1989) argues that such an approach is normal for beginning teachers as reflection usually occurs in three developmental stages: 1. Provide examples and describe what occurred, 2. Provide a thorough analysis from one perspective but be aware that different situations may require a different approach. 3. Provide critical reflective accounts whereby a range of perspectives have been considered and where there is clear recognition of the 'teacher's actions beyond the classroom' (Lambe, 2011, p.89). This view is supported by Hobbs (2007) who emphasises that learners need to be developmentally ready to critically reflect and that some pre-service teachers and indeed experienced teachers may be incapable of reflecting. To become critically self-aware is a skill that can only be attained with experience and high levels of intelligence (Hockly, 2000). In consideration of this assertion, it must be noted that Hockly's reference to being 'critically self-aware' highlights the importance of being reflexive, a skill which he claims can only develop with experience as well as being dependent on the individual possessing the necessary intelligence required to acquire these skills. As noted above, critical reflection requires teachers to question their values, beliefs and underlying assumptions in the wider social and political context, therefore, if we take Hockly's view to be true, we cannot expect pre-service

teachers to engage in critical reflection. In fact, it is possible that some teachers will never have the intellectual capacity to reflect at a critical level.

Griffin (2003) acknowledges that acquiring critical reflective skills is a developmental process and that pre-service teachers begin their study at different developmental stages along this continuum i.e. technical – critical. King and Kitchener (2004) share a similar view by highlighting their Reflective Judgment Model (RJM) which describes ‘a progression of seven major steps in the development of reflective thinking’ and where each stage ‘represents a qualitatively different epistemological perspective’ (p.6). Griffin (2003) also emphasises that experienced teachers are capable of engaging more critically with reflection than a novice teacher and that to expect novice teachers to critically reflect is somewhat unrealistic. This view is supported by Gordon (1984) who points to evidence that novices with their lack of ‘practical mastery’ are likely to follow models in a mechanistic fashion but as they become more experienced, they will display greater flexibility in utilising such models. Roberts (1998) argues that novice teachers, for example, have most often ‘not yet explored or examined their own personal theories of teaching and learning and that reflection on ‘borrowed’ routines requires a depth of understanding that novice teachers just don’t have’ (p.59). Finlay (2008) maintains that the reflections derived from this process cannot be effective. According to Hobbs (2007), even individuals who are capable of reflecting may simply dislike reflective practice and see it as a waste of their time. Her view that some teachers may simply not value reflection is worthy of further scrutiny. The literature identifies some possible reasons for such an approach. Finlay (2008) highlights the compulsory element often associated with reflective practice as a barrier to developing students’ reflective

skills and claims that, 'where assessment lurks, any genuine, honest, critical self-examination may well be discouraged' (p.14). Hobbs (2007) supports this view by pointing to research she conducted when she was an active participant on a TESOL (Teachers of English to speakers of other languages) certificate course in 2005. Each participant had to keep a teaching practice journal that was assessed and Hobbs found that a number of the participants felt pressured to reflect in a way that pleased the tutors, meaning that their reflections were insincere.

Finlay (2008) emphasises the difficulties associated with teaching reflective practice and emphasises that the emergence of many difficulties in this process is not surprising, 'given the confusion about what exactly it is, the complexity of the processes involved and the fact there is no end to what can be reflected upon' (p.15). She emphasises that not only is it difficult to be reflective, it is difficult to teach reflection but that doing and teaching reflection effectively, is even more difficult. Finlay (2008) highlights that reflective practice can be taught but to teach effectively requires a very careful and considered approach. The first aspect which Finlay (2008) considers to be of vital importance, is the presentation of reflective practice. She points to the importance of presenting the concept with care so that you maximise the potential of motivating students to engage with the process. She insists that this 'should not be a 'dry' academic exercise' (Ibid, p.16) where various models of reflection are presented but that students should be introduced to reflection through engagement with context-specific experiences where they get to see/hear how professionals cope in the reality of practice. Finlay (2008) stresses the importance of students taking ownership of this process from the beginning, whereby they engage with student-centred tasks that

require them to discuss and debate issues emerging, a process that allows students' reflective abilities to develop naturally, following 'their own values and spirit of inquiry' whilst also helping them to see from an early stage that 'practice often involves uncertainty and that answers are never clear-cut' (p.16). She believes that it is only when students begin to recognise the positive side of reflection that they should be introduced to various structured models of reflection. The models must also be offered in context and students made aware that each model is only one of a wide range of available reflective tools. Finlay (2008) emphasises the importance of allowing students to utilise a range of models so that they do not begin to think that there is only one way to reflect as well as letting them experience models that demand a more complex approach to reflection. Hobbs (2007) maintains that students may prefer being introduced to more basic models of reflection that requires them to initially describe their teaching experiences and when they become more experienced, they can begin to utilise models that require a more analytical and critical reflective approach.

Finlay (2008) highlights the importance of providing adequate support for students when they begin to engage with reflection and the need for them to feel safe and have support from others considered to be 'effective reflectors'. She argues that students must also have the opportunity to experiment with a wide range of reflective strategies in a variety of contexts such as, 'formal, informal, written, verbal' (Ibid, p.17), private and dialogic as well as engaging with reflection-in action and reflection-on action. As a result of engaging in a wide variety of reflective forms, students can begin to understand what approaches suit them in particular situations and what methods suit specific contexts. This view is supported by Pellegrino and Gerber (2012, p.2) who argue that reflection

'is personal in nature and, while one method might work best for one teacher, it might prove less useful to a colleague'. Quinn (2000) notes that reflective activities are very time-consuming and that very busy professionals may not have the time to provide lengthy written accounts but may be better to focus on developing their reflection-in action skills whilst student teachers may have the time to provide lengthy written reflective accounts. Finlay (2008) also emphasises the importance of teacher educators exposing students to a wide variety of teaching tools such as: case studies, critical incidents and role play, arguing that there is evidence to support the utilisation of each method.

From the evidence presented it would seem that we can answer Lyons' (1998) questions to some degree. If we take the first two questions together (why can some teachers reflect and some cannot, what influences an individual's ability to reflect?) it would seem that a lack of motivation can have an impact on one's ability to reflect as they may not value the role of reflection in their teaching. The manner by which reflection is presented to pre-service teachers appears to have a huge bearing on the attitude towards reflection. Ineffective presentation of reflection will do little to motivate students to engage with reflection thus inhibiting their ability to develop their reflective skills. It would also seem that the ability to reflect is impacted by an individual's prior experience and level of intelligence. In response to Lyons' 4th question it would seem that all pre-service teachers will begin their reflective work at different stages along the reflective continuum, therefore, indicating that acquiring reflective skills is a developmental process, a process that can be accelerated with effective teaching or one that can be inhibited with ineffective teaching. It would, therefore, appear that the teaching of reflective practice combined with the individual's initial reflective skills determines

the progress that can be made during the early stages of a teacher's career. It is also clear that reflection can be taught (answer to Lyon's 3rd question) but that teaching it effectively is a challenge. Russell (2005, p.203) supports this view by arguing that, 'reflective practice can and should be taught-explicitly, directly, thoughtfully and patiently'. However, Lynch (2000) insists that the impact of teacher reflection depends on 'who does it and how they go about it' (p.36). The next section will therefore focus on those responsible for teaching reflection, teacher educators.

2.1.6 The role of the teacher educator

The responsibility for teaching and supporting the development of reflective practice mainly lies with teacher educators. According to Lupinski et al (2012), it is the responsibility of teacher educators to ensure that pre-service teachers have the opportunity to develop their reflective skills by engaging with appropriate methods but they must also 'model how reflection-in-action and reflection-for-action work' (p.85). This view is supported by Shoffner (2008) who insists that teacher educators must utilise reflective practice to provide opportunities for growth and 'change in individual understanding' (p.125). Moon (1999) acknowledges the importance of reflection in teacher education programmes but emphasises that it must be coached, a view supported by LaBoskey (1994) who stresses that one of the key aims of teacher education should be to teach pre-service teachers what it means to be reflective and how to reflect. Lane et al (2014) emphasise that the development of a common understanding of reflection amongst teacher educators is crucial as this helps to facilitate 'the sharing of models/exemplars of best practice and the development of a common set of

indicators for assessing reflection and providing feedback' (p.482). They are quick to point out that establishing this consistency of understanding and approach can be very difficult for teams of teacher educators due to the fact that quite often these educators work with large numbers of diverse students across both primary and post-primary courses and indeed across a range of different disciplines. They maintain that these problems are heightened 'by the fact that academics in teacher education often differ in their level of experience designing and assessing reflective tasks and vary in their awareness of evidence-based practice in this area' (Ibid, p.482). From the evidence presented it is clear that the variations in approach to reflection by teacher educators have contributed to the confusion and inconsistencies surrounding reflection. If teacher educators are unclear about reflection how can they develop effective reflective skills in pre-service teachers? Can teacher educators develop reflection amongst pre-service teachers if they do not critically reflect on their own practice?

Whilst Tsangaridou and Polemitou (2015) emphasise that teacher education is an 'exceptionally complex' enterprise, a view supported by Kinsella (2009), they insist that teacher educators should not view the 'foci of reflection in a hierarchical order; instead they should realise that all foci are important and interconnected' and that they should provide opportunities for students 'to reflect on all aspects of teaching and help them develop certain pedagogical practices which have positive effects on students' (p.79). It is worth highlighting the views of Uhrich (2009) who developed the Hierarchy of Reflective Practice in physical education: a decision map for technical reflection-in action. Having reviewed relevant literature on reflection in physical education, she states that, 'each study situates itself individually and consequently fails to provide a coherent structure for

teacher educators for use in introducing then reinforcing reflective behaviours that can be used during and after a teaching episode' (Ibid, p.503). Urich (2009) claims that this lack of structure has forced teacher educators to develop a hierarchy, whereby certain reflective practices are appropriate for inexperienced teachers and more complex practices are appropriate for experienced teachers. Whilst Urich (2009) emphasises the need for a systematic approach to develop reflective skills in pre-service PE teachers, she does acknowledge that 'some physical education teacher educators may not require a logical and sequential' (p.504) approach and indeed pre-service teachers may not react positively to being instructed to think in such a linear manner. However, others such as Tsangaridou and O'Sullivan (1994) disagree with such a linear approach, claiming that teachers are capable of deeper reflection, depending on the particular context and their values and beliefs.

This section highlighted that the understanding and value of reflective practice amongst teacher educators varies due to their individual experience, the particular subject they teach and indeed the context in which they teach.

Summary

Section 2.1 began by reviewing the literature connected to the theoretical concepts of reflection and critical reflection, where a distinction between the concepts is made. The concept of reflexivity is then explored and noted as a key facet of what it means to reflect critically. Exploration of these concepts highlighted the widespread uncertainty and confusion that exists in relation to reflective practice. A critique of Donald Schon's work on reflection-in-action and

reflection-on-action is then presented, which acknowledges the significant contribution of his work to reflection in education and identifies the limitations of his work. Following this, there is a discussion of the complexities associated with integrating theory and practice when reflecting. The next section begins by addressing the underdeveloped theory base connected with reflective practice, which is followed by a discussion of the two main theories that underpin this study, Kolb's ELT and CST, and how they relate to the concepts of reflection and critical reflection, the AR methodology and the various data collection instruments. Following this, there is a discussion around whether it is possible or not to teach reflective practice and the last section discusses the role of those responsible for teaching it, teacher educators.

2.2 A review of empirical studies

In this section of the literature review, the author will begin by exploring the role of reflection in education, particularly initial teacher education.

2.2.1 Reflection in Education and Initial Teacher Education (ITE)

Fathi and Behzadpour (2011) in their discussion of the 'rise of reflective teaching', claim that in light of the discord that exists between theorists and practitioners, reflective practice was introduced because it was viewed as a 'solution to the dilemma' (p.242), a view supported by Akbari (2007). Cornford (2002) points to the existence of numerous studies on reflective practice where the findings state that pre-service teachers regard reflective practice as being of great value in their development. However, Richards and Lockhart (1999) argue that one reason for this is that teachers gain little from conventional approaches that can be used to

address their practical issues and that 'reflective teaching has emerged as a response to the call for a substitute for the concept of method' (Fathi and Behzadpour, 2011, p.242). Giminez (1999) points to teacher education in the 90s as being the 'heyday' of reflective practice while Fathi and Behzadpour (2011) are keen to emphasise that 'nobody engaging in the field of teacher education can deny its ubiquitous role in this field' (p.242).

Some authors (Beauchamp, 2006; Fendler, 2003), doubt whether reflective practice should be a component of ITE, claiming that the concept remains controversial and ambiguous. Desjardins (2000) emphasises that reflective practice has become a significant feature of teacher education programmes and this has created heavy expectations, 'despite the lack of theoretical grounding' (Collin et al, 2013, p.105). It would seem that the concept of reflective practice crept into teacher education before its effectiveness could be assessed (Ibid). Despite the confusion surrounding reflection, it is important to note that over the years it has gained momentum in education (Fathi and Behzadpour, 2011).

Lane et al (2014) note that 'there is a long tradition of research highlighting the importance of reflective practice in teacher education' (p.482) claiming that many authors (Bain et al, 1999; Rodgers, 2002; Russell, 2005; Shoffner, 2008) emphasise that in order to develop reflective skills, student teachers must receive 'explicit teaching and modelling of evidence-based practice and the provision of targeted feedback' (p.482). Boulton and Hriamiak (2012, p.503) note that, 'Trainee teachers are taught how to reflect both at university and while on practice but in reality this is a skill that is often hard to acquire'. In reference to their 15 years of educating teachers, they claim that one of the most difficult aspects of

the course for students, is developing a professional level of reflection. According to Rocco (2010) many students come from undergraduate courses where the focus is very much on developing their subject knowledge and therefore have very little experience when it comes to reflection. Olson and Finson (2009, p.45) note that, 'Unfortunately, research indicates that prospective teachers do not reflect on practice in ways that are meaningful or that will move their practices forward'. Although the development of reflective practice is regarded as a core element of all ITE programmes, researchers have discovered that pre-service and early career teachers generally produce low-quality reflections (El-Dib, 2007; Penso, Shoham, & Shiloah, 2001). Boud and Walker (1998) noted that reflective practice in many teacher education programmes was not well consolidated and designed. Shoffner (2008) agrees, noting that quite often, teacher educators utilise particular structures to support reflective practice, meaning that student teachers are given a set framework within which they form their reflections. She maintains that student teachers are therefore 'consciously guided through set aspects of reflective thinking' but warns that such an approach 'censors alternative ways of approaching reflection' with many students believing that 'there is only one right way to reflect' (Ibid, 2008, p.125).

According to Too (2013), the main function of reflection in ITE is to improve the students' ability to consider their practice more carefully. Parsons and Stephenson (2005) in reference to the work of Schon's (1983) reflection-in-action and reflection-on-action, cite Clandinin (1986) who claims that Schon's approach has one significant limitation. He argues that when Schon is describing particular observations, he does so from an objective perspective and therefore can only note behaviour that is observable. This means that the observer fails to capture

the important thoughts and feelings of the teacher, which are considered to be of importance in developing reflective skills (Clandinin, 1985). Parsons and Stephenson (2005, p.96) agree, stating that, 'a teacher's personal practical knowledge shapes a practitioner's response to a situation and therefore plays a crucial role in the process of reflection'. Hobbs (2007) holds a similar viewpoint by highlighting the importance of teacher beliefs in the reflection process. She maintains that all teachers will have accumulated thousands of hours being a student and will therefore have developed strong beliefs about what constitutes effective and ineffective teaching, 'beliefs that are often rigid in the face of teacher education' (Ibid, 2007, p.406). This view is supported by Zwozdiak-Myers (2012, p.68) who notes that 'the socialisation process of being a pupil in school for many years' has allowed pre-service teachers to build 'preconceptions about the nature of teaching'. If progress is to be made, Hobbs (2007, p.406) believes that 'teachers and teachers-in-training, in particular, must voice, confront and evaluate these beliefs in the light of alternative models of teaching'. Parsons and Stephenson (2005) support this view by emphasising that students must have an awareness of and be in a position to evaluate their own understandings about teaching if they are to become a reflective practitioner. However, Zwozdiak-Myers (2012, p.84) claims that 'teachers are unable to change personal theories and beliefs they are unaware of, and are often unwilling to confront those they are aware of unless they see good reason to do so'. Boulton and Hramiak (2012, p.507) believe that true reflection allows, 'trainees to build on their professional knowledge, adding to it as a result of such reflection, and in doing so, also build on their own understanding of teaching and learning, both as teachers and as learners themselves'. However, Bain et al (2002) note that developing critically

reflective skills and making the link between reflective theory and practice can be difficult for trainee teachers.

Fathi and Behzadpour (2011) emphasise that very few studies have been published that actually consider the impact of reflection on classroom effectiveness. Cornford (2002) emphasises that whilst there is no doubt that reflective approaches are 'theoretically rich', the problem lies with trying to translate this into practice. Fathi and Behzadpour (2011) point out that no evidence exists which highlights that reflective practice has resulted in better teaching practice for beginning teachers. Akbari (2007) supports this view by emphasising that whilst there is evidence to suggest that reflection can increase both job satisfaction and teacher self-efficacy, there is little evidence to suggest that it will lead to improved student attainment or improved teacher performance. Fathi and Behzadpour (2011) argue that due to the lack of evidence linking reflective practice to improved teaching and learning, reflection as an approach contains a 'big flaw'.

From the evidence presented it would appear that reflection is a core component of many teacher education programmes but that the apparent confusion surrounding the concept and its application has resulted in many different interpretations of how reflection should be delivered in ITE. Indeed, the variations in approach have led some to question the very existence of reflective work in teacher education. Many pre-service teachers enter ITE with 'well-developed and hardy beliefs' which must be 'subjected to a form of interrogation and questioning' (Zwozdiak-Myers, 2012, p.84) so that they become aware of how these views are impacting their practice. Considering that reflection is a critical component of

teacher education, it is surprising that there is a lack of evidence linking its effectiveness to improving teaching and learning. It is the intention of the researcher to investigate the link between reflective approaches and their impact on the PGCE students' practice.

The next sub-section addresses approaches to reflection and considers when reflective practice should begin for pre-service teachers, how the concept should be introduced and how structured or unstructured the approach should be.

2.2.2 The when and how of reflective practice

Hatton and Smith (1995) believe that reflective practice should be fostered from the very beginning of ITE. Fund et al (2002) point out that different researchers highlight various approaches for nurturing reflective practice, such as 'practicum, action research and micro-teaching' but that 'written reflections offer the clearest evidence of reflection' (p.486). However, as Woodward (1998) points out, many written reports turn out to be very descriptive and thus non-reflective. Hobbs (2007) acknowledges that written reflections of past learning experiences are a significant component of reflective practice in ITE programmes but emphasises that such approaches have 'one thing in common, they are all typically required assignments' (p.406). It is important to highlight that whilst Fund et al (2002) consider written reflective accounts to provide valid information, both Woodward (1998) and Hobbs (2007) disagree, claiming that many are not deserving of the title 'reflective'. Hobbs (2007) does acknowledge that when conducted with sincerity, reflective practice can be a powerful tool for teachers to critically examine their practice, but argues that, 'there is some question as to whether or

not RP can, in fact, be a required component of a course and still retain validity as genuine reflection. Can trainee teachers, or individuals for that matter, be forced to be reflective?' (p.406).

Larrivee (2008), however, argues that since it is widely acknowledged that it is difficult to move teachers beyond surface level reflection, 'without carefully constructed guidance, prospective and novice, as well as more experienced, teachers seem unable to engage in pedagogical and critical reflection to enhance their practice' (p.345). This view is supported by Hatton and Smith (1995) who suggest that teachers' reflective progress through the various levels of reflection is likely to be developmental in that they will need to consider technical aspects first, thus indicating a structured approach to guiding reflective practice. There have been many reflective frameworks produced, each containing similar levels or categories of reflection (Tsangaridou and O'Sullivan, 1994, Larivee, 2000). One of the earliest frameworks produced was by van Manen (1997) who proposed three levels of reflectivity. Technical reflection is the first level where teachers generally reflect on instructional and managerial issues related to classroom practice. Practical reflection was van Manen's second level where teachers reflect on the assumptions that underpin their actions and decisions. The third level is critical reflection where teachers reflect on the wider social and political context of their practice.

Olson and Finson (2009) support the view of Hatton and Smith (1995), emphasising that reflective progression is possible but that pre-service teachers must be carefully taught and supported through this process. Poom- Valickis and Mathews (2013, p.421) agree, stating that, 'strategies that promote development

of reflective skills, particularly in the early stages of a novice teacher's career, may lead to improved levels of reflection'. It is interesting to note that they have used the phrase, 'may lead' indicating that there is no guarantee that the use of these strategies will definitely lead to improvement in reflective capacity. Fund et al (2002) take this a step further by stating,

'While a wide variety of approaches have been employed to foster reflection among student teachers and other intending professionals, there is little research evidence to show that the use and enhancement of reflection has actually been achieved' (p.486).

Belvis et al (2013) however, point to research on reflective practice where the authors agree with its capacity to improve teaching and learning (Parsons and Stephenson 2005; Johansson, Sandberg and Vuorinen 2007; Kavaliauskiene et al 2007). Belvis et al (2013) emphasise that student teachers explore their teaching experiences 'through observation and subsequent interpretation'; and that by employing particular techniques gain access to information that, 'should lead to an improvement of professional practice' (p.280). They note that the experiences gained via teaching practice become the starting point for this type of learning. Rhine and Bryant (2007) in acknowledging that it is the role of the teacher educator to facilitate this development, state that,

'The irony of teacher education is that at the point at which pre-service teachers are most in need of assistance developing reflective habits and linking theory to practice they are usually most isolated from their mentors in higher education' (p.346).

According to McCormack et al (2007), teacher educators are aware that pre-service teachers must go through necessary stages as they develop their understanding of teaching and learning. Too (2013) insists that guidance and structure are necessary components of reflective practice for pre-service

teachers, since 'their past learning values may be based on limited subject knowledge and thus, a limited repertoire of skills for assessing their own learning' (p.161). Larrivee (2000) disagrees with this, stating that, 'the process of becoming a reflective practitioner cannot be prescribed' (p.296). Callens and Elen (2015) investigated the reflective work of 164 pre-service primary and secondary teachers by comparing the use of a linear (structured) and non-linear (structured) approach to reflection. The findings indicate that the use of a linear structured journal helps to support critical reflection more than a non-linear structured one.

Shoffner (2008), conscious of the various ways that teacher educators attempt to incorporate reflection into student work, wanted to 'create authentic experiences with reflection' that would 'translate beyond the University setting into personal reflective practice' (p.123). She conducted a study with pre-service teachers who were asked to use weblogs as a means of recording their reflections. The study found that weblogs were effective in supporting the students' reflective work but more importantly revealed an individualistic approach to reflection. Shoffner (2008, p.123-124) states that, 'the pre-service teachers altered the reflective process to meet their needs, producing a category of reflection I have termed informal reflection'. She points out that informal reflection involves the integration of theory and practice, a flexible framework, personal views and group interaction, and stresses that when working together, these elements create 'a reflective approach that assists in bridging the divide between university-structured and individually-initiated reflection' (Ibid, p.124).

There is clearly a great divide amongst many authors regarding the utilisation of structured or unstructured approaches for fostering reflection, with evidence

supporting the effective use of both. This is an area that the researcher aims to investigate in this study in an attempt to gain further insight into this aspect of reflection. The next sub-section will explore relevant empirical studies related to the following reflective approaches: written reflections, journal writing, peer review and video.

2.2.3 Approaches to reflection

As was previously noted, many teacher educators utilise reflective essay writing and journal writing as a means of starting pre-service teachers on their reflective journeys. Boulton and Hramiak (2012) point out that much of this writing is never shared with peers or indeed the university tutor, as the majority of teacher education involves school placements, where tutor visits are infrequent. Alterio (2004, p.322) points to the need for writings to be shared with others by stating, 'When we write and reflect with others we can gain multiple perspectives'. Boulton and Hramiak (2012) used shared online blogs with PGCE students in an attempt to determine if blogs could be used to provide a setting for reflective practice where the pre-service teachers could be encouraged to reflect on their professional development over a sustained period of time. They concluded that, 'there is substantial evidence that the blogs were a useful tool for reflective practice, developing a deeper level of reflections and developing a community of reflective practitioners' (Ibid, p.513). Rodgers (2002) sees value in sharing reflections with others in that it allows others the opportunity to view one's ideas whilst also revealing 'both the strengths and holes in one's thinking' (p.856). New understandings can be generated through such interaction as pre-service teachers are exposed to a variety of perspectives, some of which will challenge

their beliefs, whilst they will also receive support from others. Danielowicz (2001) supports this view by arguing that such environments create a shared space where pre-service teachers can socially exchange views that will involve the creation of new understandings and the critique of current thinking. Shoffner (2008) in her study of the use of web blogs (noted above) emphasises that the communal interaction was highly valued by the participants. A number of the students emphasised that responding to each other's comments made it much more interesting, with one particular student claiming that without interaction from and with others, she did not value the weblog. Van Wyk (2013) conducted research on the use of blogging with PGCE students who were teaching Economics and Management Science in Open Distance Learning environments. Van Wyk (2013, p.58) concluded that the 'blogs positively assisted and supported student teachers in their reflective practice'. It is interesting to note however that when critiquing this article Van Wyk appears to have overstated the positives in this study and fails to fully tackle the less favourable findings. For example, he highlights that for some students the blogs were irrelevant but fails to explore the reasons behind such views. On another occasion he points to students who did not use the blog and reports that others saw the blog as an extra burden on top of other course activities. He does give this point due attention but makes no reference to any of the negative aspects in the conclusion. Yang (2009) investigated the use of blogs with 43 student teachers in two teacher education programmes at two science and technology institutions in central Taiwan. The findings from this study report that the blog did 'provide a more flexible time and space for student teachers to reflect' (Ibid, p.18). It is important to note however that a key finding in this study was the important role that the two teacher

educators played in supporting students with the various blogging activities. They posed questions that made the students reflect more deeply as well as posting reflections on their own practice, allowing them to model good practice in reflection and demonstrate to the students that they were 'active learners' who 'made themselves vulnerable to share their thoughts with student teachers' (Ibid, p.17). It would seem that developing an online shared space for reflection is a valuable approach in helping pre-service teachers to reflect. This is an area that the researcher intends to investigate. In the next sub-section, the use of journal writing for facilitating reflection will be explored.

2.2.3.1 Journal Writing

Mason and Klein (2013) emphasise that reflective journal writing is one of the most often used methods in pre-service teacher education. Seban (2009) in her study with twenty-four pre-service teachers, analysed 271 journal entries that were completed over a 14-week teaching practice placement. She found that there was, 'little evidence of critical thought on the part of teacher education students' (Ibid, p.678) with over 83% of the reflections categorised as technical or descriptive. Mason and Klein (2013) insist that there are benefits to be gained from engaging in reflective journal writing but that 'reflective thinking and writing are skills that require scaffolding, guidance and practice' (p.210). It is important to note that even though Seban (2009) provided clear guidance and structure for her students, only 3.3% of the reflections were categorised as critical. Hume (2009) in her work with postgraduate science students used student reflective journals as a means of providing feedback about teaching and learning in workshops and communicating their experiences on teaching practice, when

away from University. Hume (2009) reported that the students' comments tended to be very descriptive and lacked depth of thought and as a result she introduced certain measures into her teaching in an attempt to strengthen students' reflective skills. She noted that, 'in order to encourage my students to engage in purposeful and regular reflection, some measures and guidelines needed to be provided for journal keeping and recognition given to the worth of their reflections' (Ibid, p.249).

Hume's (2009) first support tool for her students was introducing them to what she called, 'Shulman's framework'. She believed that her students needed to understand that 'good teachers utilise a complex knowledge base gained from a range of sources' (Ibid, p.249) to develop their understanding. During teaching practice, the students were required to record their progress in relation to Shulman's 'knowledge categories' when completing their reflective journal entries. The findings from the use of this first support mechanism did not produce the desired results. She reported that the students' entries made little reference to their knowledge gains and only a small number of students made links to Shulman's framework. Over the course of the next two years, Hume (2009) continued to develop her work on reflective journals by making explicit reference to Shulman's framework during university-based teaching sessions, an approach which generated some success as the students began to comment on the suitability of particular activities for learning rather than just being descriptive. However, Hume (2009) points out that despite this more deliberate focus, 'they rarely related their experiences to Shulman's framework and the growth of their knowledge bases' (p.251). Hume (2009) notes that her expectations for the students' reflective work were unrealistic and that she began to realise that

reflection is more complicated than she had imagined. In response to this, she decided to utilise AR as a means of investigating and improving the students' reflective journal writing, with a particular focus on developing their pedagogical content knowledge (PCK). She highlights the positive outcome of this approach, stating that, 'the strategies introduced in this initiative, particularly focused coaching and practice of these skills in workshop activities prior to journal-keeping, are proving to be successful in promoting deeper levels of student reflective thinking and greater awareness of what teaching science might involve' (Ibid, p.248).

The evidence presented by Hume (2009) appears to indicate that journal writing can be effective but that students will only develop this ability when teacher educators provide intensive guidance and scaffolding during university-based workshops. Pavlovich (2007) supports this view by emphasising that journal writing can be a powerful mechanism for students to develop their reflective skills. She realised that after using a learning journal with her students in year 1 that a more rigorous and structured approach was required in order to facilitate and extend the students' reflective abilities. Pavlovich (2007) outlined that students must include course readings, classroom discussions and personal experiences in their reflections. Moon (1999) notes that it is necessary to include assessment criteria when using journal writing, as it allows the participants to understand the expectations. Pavlovich (2007) provided clear guidance as to the structure of each journal entry, stating that it must include: description of the experience, analysis of the experience, creation of 'new meaning from the experience, and action for learning', believing that such a structure, 'may assist students to move beyond descriptive accounts of their experiences' (p.287). It is important to note

that Pavlovich (2007) claims that such a structure 'may' assist students and the discussion section of her work supports this view, where she notes that whilst most students were able to 'move their entries into a more analytical space', there were others who 'continued to write all three entries descriptively on class topics and did not connect at a personal level' (p.290). It would seem that whilst journal writing is a very popular method utilised by teacher education courses, the empirical evidence presented points to a method that has limited impact on the development of reflective skills. The next sub-section reviews relevant literature on the use of peer review as a reflective approach.

2.2.3.2 Peer review

According to Buchanan and Stern (2012, p.38), 'there are many different forms and approaches to peer review and consequently it is difficult to provide a precise definition of peer review'. Van Zundert et al (2010) see peer review as 'a process whereby students evaluate or are evaluated by their peers' (p.270). Bell (2005) notes that participation in peer review has the potential to change one's educational outlook, a view supported by Zwozdiak-Myers (2012, p.101) who points out that 'peer observation can be a highly effective strategy for gaining access to the alternative perspectives and viewpoints of others'. However, Wager et al (2002) emphasise that on occasions those receiving feedback via peer review only hear the negative aspects, even when the majority of the feedback is positive. This view is supported by Bard (2014) who points out that teachers often find it difficult to respond positively to constructive feedback. Buchanan and Stern (2012) insist that despite the 'possible biases of hearing only the negative...', peer review can be designed to promote collaborative learning amongst students'

(p.39). Yiend et al (2012, p.1) agree, stating that, 'formative peer observation is considered by many to be a powerful tool for providing feedback to individual teachers, disseminating disciplinary good practice and fostering a local evaluative enhancement culture'. Weller (2009) insists that peer observation builds confidence and develops reflective thinking, whilst Desimone (2011) believes that some of the most effective professional development experiences occur in classrooms, where teachers observe their colleagues as well as having their own practice observed. Hamilton (2012) provides evidence from his study with 43 staff members of a public high school who engaged in peer review. Data was gathered via the use of an anonymous online survey and a series of semi-structured interviews. Whilst the majority of respondents highlighted the process as being positive, some of the responses indicated that the experience for some staff was limited. A number of teachers pointed to the fact that their colleague was using similar practices which seemed to confirm for them that they were doing an effective job.

Hamilton (2012) notes that whilst the observation of colleagues is important in that it can allow opportunities for individuals to affirm their own pedagogical approaches, 'teachers should still thoughtfully consider what they and others do, in order to construct opportunities for students' learning as well as improve their teaching practices' (p.55). Loughran (2000) points out that all too often the process of reflection permits teachers to justify their current practices, whilst Boud and Walker (1998) claim that when reflective practice is uncritical, reflections can simply reinforce prejudices and ineffective practice. Gosling (2005) adds further support to this argument by stating that peer observation has the potential to 'reinforce the reproduction of the traditional values and practices of the group'

(p.24). Buchanan and Stern (2012) point to a study based on students enrolled in a fourth- year history programme at Utrecht University in the Netherlands where it was suggested that the majority of students benefitted greatly from peer feedback, which for some individuals, 'led to an improvement in their academic growth' (p.39). They emphasise that the study highlighted important differences in the attainment levels between the students who engaged with peer review and the groups who did not participate; with one specific difference being the better quality of written work produced by those who completed peer review. Buchanan and Stern (2012) highlight findings from their study with 60 PGCE Religious Education students enrolled at Melbourne Catholic University, Australia (ACU). The students were required to complete group presentations to their peers on various teaching and learning approaches. Each group were given the freedom to prepare their own peer review instrument with many utilising questionnaires and the peer review instruments included both written and oral feedback. When the process was complete, each participant was then invited to complete a short questionnaire as well as participate in a focus group interview. The results from this study indicated that the pre-service teachers recognised the benefit of receiving peer feedback as part of their work. Buchanan and Stern (2012) highlight two main findings, one being that the students saw the process as being able to contribute to the development of 'skills and pedagogical techniques for the classroom' (p.44) and secondly that the dialogic nature of learning communities was central to the peer review process. They concluded that, 'the pre-service teachers involved in this study tended to view feedback from the peer review in a positive light even in situations where they found the feedback to be strongly critical of their work' (Ibid, p.46).

Hatzipanagos and Lygo-Baker (2006) argue however, that despite the potential benefits to be gained from peer observation, it must be questioned whether engagement in this process can enhance a teacher's critical reflective skills or improve their practice. Hendry et al (2014) make a clear distinction between 'peer observation' and 'peer review', acknowledging that both terms are used interchangeably in higher education literature. The critical difference for them is that in peer review the observer is required to provide feedback whilst in peer observation an observer can observe without providing feedback. They acknowledge that teachers can learn from the peer review process when the process is conducted appropriately and point to the work of Bell and Cooper (2013) in a peer review programme in the School of Engineering at a major Australian University; where participants enhanced their teaching skills and confidence in teaching. Hendry et al (2014) clearly emphasise that the process must be conducted appropriately and when referring to the study by Bell and Cooper (2013), highlight that effective leadership and 'a preparatory workshop on giving feedback as a critical friend' (p.319) were central to conducting an appropriate peer review programme.

Gosling (2009) regards effective feedback as a significant component of peer review but maintains that many observers are not capable of providing meaningful feedback on others' teaching practices. Yiend et al (2012) argue that this claim by Gosling raises many doubts about the value of peer observation of teaching in developing teachers' critical reflective skills. Atkinson and Bolt (2010) point out that a more effective method is to involve an experienced observer and a peer observer and whilst this may provide an avenue for pursuing a more critical perspective on teaching, 'there remains a lack of evidence about whether

participation in such a process can be a catalyst for change' (Yiend et al, 2012, p.2). Bard (2014) also highlights feedback as a crucial element in the reflective process, by emphasising that most of the difficulties surrounding the implementation of reflective practice results from the feedback that teachers receive. She points out that teachers are generally not very receptive to feedback, particularly if it has been provided by a mentor or supervisor. Bard (2014) believes that many supervisors regard their job as 'assessing the quality of the teacher's practice... rather than guiding the teacher to excellence through exploration' (p.3). If both parties fail to realise that they should be learning from each other, 'the task of analysing the situation... and seeking alternatives is not only challenging, but prone to fail' (Ibid, p.3). Zwozdiak-Myers (2012) notes that in order for the process to be successful, there must be 'mutual respect between partners; trust; a supportive environment; and stretching, challenging and pushing each other's thinking' (p.102). Buchanan and Stern (2012) note that a critical component of effective post-lesson feedback sessions is having the questions prepared in advance as this helps to generate a more reflective discussion. The students in their study reported that feedback delivered by an authority figure (tutor) was regarded as personal as opposed to the peer feedback which they viewed as being more constructive. Choy and Oo (2012) in relation to teacher reflection, point to the importance of analysing and articulating problems before action is taken, thus emphasising the importance of dialogue, although they make no reference to the importance of relationship dynamics in this process. Bard (2014) insists that putting dialogue at the heart of reflective practice is the most difficult aspect.

From the literature presented, it would appear that peer review, when implemented appropriately is an effective method for supporting the development of pre-service teachers' reflective skills. Effective implementation would consist of pre-service teachers leading the process, designing feedback questions and the creation of a positive working relationship between the reviewer and the teacher. Involving tutors in peer review appears to reduce the learning and development opportunities for the pre-service teacher. Perhaps the involvement of a peer and tutor in this process would be effective (Fund, 2010), a view supported by Peterson (2003, p.240) who notes that 'as readers and writers interact within a classroom, a sense of reciprocity develops between them', creating a mutually beneficial situation, particularly when feedback is non-judgemental. The empirical studies referred to above indicate that peer review has the potential to be an effective approach for developing teachers' reflective skills. However, it seems that a key determinant in how useful this approach can be, relies on the quality of feedback delivered by the reviewer. The next subsection reviews literature on the use of video to support the development of teachers' reflective skills.

2.2.3.3 Video-assisted reflection

Welsch and Devlin (2007) emphasise that one of the most promising practices in developing reflective practice involves the use of video. They believe that video can be used to enhance pre-service teachers' reflective skills and provide a medium whereby they can observe and interpret their practice. In their study with pre-service teachers who were on teaching practice in a special educational needs (SEN) setting, the students consented to having two lessons videoed. The

standard practice for all non-videoed lessons was that the pre-service teachers completed a written reflection referred to as 'Memory-based reflection' (MBR) whereby each student responded to a six-item reflective framework that posed specific questions. For the 'Video-based reflection' (VBR), the pre-service teacher watched the video of himself or herself teaching and then completed the written reflection by responding to the same six questions used in the MBR condition. Welsch and Devlin (2007) utilised a scoring rubric to assess the quality of the written reflections and compared the quality of written reflection under MBR conditions with the quality under VBR conditions. It was found that across all participants, a slightly higher cumulative mean score on the reflection profile was demonstrated under VBR. 94% of all students reported that after viewing the videoed teaching session their ability to reflect was enhanced in comparison with their ability when reflecting under the MBR condition. Students also overwhelmingly believed that the videotaped sessions enhanced their ability to reflect on student learning, however, Welsch and Devlin (2007, p.58) noted that, 'reflection probe data indicate minimal difference in students' ability to identify individual student functioning and reasons for performance'.

Welsch and Devlin (2007), point out that reflective practice can be viewed on a continuum where participants move from 'superficial to significant to the potentially profound' (p.58). Larrivee's (2004) reflective framework outlines such a continuum with four levels of reflection: pre-reflection, surface level reflection, pedagogical reflection and critical reflection. In the pre-reflection stage, pre-service teachers take things for granted, often attributing problems to pupils without questioning their own abilities or adapting their teaching to suit pupil needs, whilst those reflecting at surface level focus on what works for them

without considering their underlying beliefs and assumptions with the words descriptive and technical being associated with this stage. In pedagogical reflection, pre-service teachers focus on connecting theory and practice in an attempt to make sense of their teaching and at the critical level of reflection they examine their personal and professional belief systems whilst reflecting on the moral and ethical implications of their practice in the wider social, political and economic context of their practice.

Welsch and Devlin (2007) highlight that at the superficial stage, student teachers are very much concerned with 'means rather than ends' (p.58) where the focus is on the use of correct instructional approaches; whereas the significant stage involves questioning underlying beliefs and assumptions in order to make sense of their experiences and decisions so that they can take their practice forward. They claim at the potentially profound level, 'the worth of knowledge is in question' (p.58) where it is not about seeking answers but it is more important to question the existing answers. Hatton and Smith (1995) point out that for pre-service teachers, reflective practice is a developmental process that is individually determined, meaning that progression through the various levels is not the same for all students. Welsch and Devlin (2007) highlight that for the students in their study the videotape promoted reflection at surface level where the students focused on the technical aspects of their practice (first level) rather than facilitating the students' ability to consider more effective methods for practice (second level).

Rhine and Byrant (2007) support the use of video to promote reflective practice amongst pre-service teachers. In a three-year study with pre-service secondary

school teachers, the students were required to video lessons and then share selected clips from the videos with their peers, who subsequently reviewed the clip and provided feedback. Having analysed students' reflective online comments, Rhine and Byrant (2007, p.351) commented that they 'found common categories of discourse that provided us with evidence that the digital video assignment nudged our students toward a more reflective stance'. It is interesting to note that Rhine and Byrant (2007) highlight only two examples from the online work where students had a clear focus on teaching and learning by stating, 'In their comments to their peers they moved beyond discussion of the superficial logistics of the classroom to an exploration of their emerging philosophies of learning' (p.352). It would appear that not all students reached this level of reflection, thus supporting the above view from Hatton and Smith (1995) that all students develop their reflective abilities at different rates. The findings from Welsch and Devlin (2007) also appear to support these findings in that their study produced little evidence of students moving beyond surface level reflection.

Harford et al (2010) conducted a study with pre-service teachers where they used video for the purpose of self and peer review. During the course of their teaching practice each student was expected to video at least two lessons that were to be shared with their reflective partner for peer review, whilst each student also kept a reflective diary. When it reached the point where all students had at least two lessons videoed, a final group analysis session took place whereby each student had to upload a 10-minute clip from one of their videoed lessons; with each clip then being analysed and discussed by the group and tutor. Harford et al (2010, p.59) insist that, 'while videoing of one's own work is hugely informative, peer-videoing can be transformative'. They found that peer-video analysis provided an

effective tool for 'scaffolding and promoting reflective practice among student teachers' and that the students had the opportunity 'to see a wider range of classroom contexts than they would ordinarily experience' (Ibid, p.65). Overall, the findings suggest that the peer-video process significantly impacted the students' reflective abilities which in turn impacted classroom practice (Harford et al, 2010). It is important to note that they made no reference to the particular level or depth of the students' reflective comments and from analysis of the sixteen student comments evidenced in the article, the majority could be categorised as surface level with the students mainly commenting on technical aspects of their practice. It could be argued, however, that the decision to utilise a prescribed framework when analysing video sessions that facilitated a 'systematic and developmental critique of the student teachers' classes' (Ibid, p.60) inhibited students' reflective development.

Danielowich (2014) points out that the high degree of scaffolding used when reviewing video may be 'prompting teachers to simply express more of what they perceive are the 'right' reform-minded ideas, just as they might do over time in response to classroom observation reports' (p.265). Miller (2009) argues that student teachers in particular often regard the standards and competencies against which they are assessed as being fixed and that attaining each competency is an end goal. Dori and Herscovitz (2005) support this view by emphasising that many student teachers are therefore unable to adapt their practice in different settings and as result require constant support as they learn how to express their views about their practice and to analyse, accept or disregard the meanings that emerge from those thoughts. Danielowich (2014) believes that engagement with this type of reflection can help reduce 'resistance

to regular peer observation and discussion' (p.266) and increase a student teacher's self-efficacy so that they are not only receptive to feedback but they seek feedback from their peers and utilise it to inform their practice.

Wenger (1999) emphasises that student teachers find it very difficult to take ownership of their learning as they are often struggling to establish their authority as a practitioner, striving to achieve competency in their teaching. According to van Es and Sherin (2002), video allows student teachers the opportunity 'to remove themselves from the demands of the classroom, such as having to take action and make instructional decisions... and to step back from the events... and examine them closely' (p.576), a view supported by Greenwalt (2008) who believes that the use of video helps to 'facilitate distant viewings and therefore personal insight' (p.389). Cummins et al (2007) maintain that the use of video teaching evidence helps create conflict in the mind of the teacher, allowing them to examine their pedagogical decisions, an approach which Danielowich (2014, p.266) believes helps them to analyse their 'intentions and actions and triggers change-directed thinking to resolve the conflicts'. Yerrick et al (2005) support this view, noting that one of the greatest benefits of video is repeated viewing which helps teachers to reflect in ways that are unlikely to emerge via selective memory. Danielowich (2012) points out that teachers when analysing the practice of others are likely to use the same conceptual framework they use when making decisions about their own practice and if they regularly engage with the process of exchanging feedback of videoed teaching episodes with peers, then the emerging conflicts will become much more obvious. Danielowich (2014) used video and peer-sharing with six post-primary pre-service biology teachers. The peer-video sharing context was loosely guided whereby the students simply

responded to and discussed what they observed without having to answer specific set questions. Danielowich (2014) found that this approach 'allowed them to generate some change-directed thinking... that encouraged them to vary, find, or start out on pathways for pursuing change' (p.284).

The evidence relating to the use of video in supporting the development of reflective skills amongst pre-service and practising physical education teachers appears to be positive. The main benefits seem to be: (a) having the opportunity to conduct repeated viewings allowing teachers to step back and view their teaching objectively, (b) some teachers progress from technical to critical reflection at a quicker rate, (c) when used to assist with peer review it appears to be more powerful as teachers benefit from another perspective. It is important to note though that a prescribed framework for video reflection may inhibit reflection as it can allow teachers to confirm their existing ideas in the same way they might do after receiving an observation report. The next sub-section will review the role of reflection, specifically in the context of physical education.

2.2.4 Reflection in Physical Education

An appropriate starting point for reviewing reflection in physical education is the paper written by Standal and Moe (2013) entitled, 'Reflective practice in Physical Education and Physical education Teacher Education: A Review of the Literature Since 1995'. They identify the work of Tsangaridou and O'Sullivan (1994) who created the Reflective Framework for Teaching in physical education (RFTPE) as being of significance in developing reflective practices in physical education. The RFTPE consists of two main categories: the focus of reflection and the level of

reflection. The focus of reflection is divided into technical, situational and sensitizing and the levels are description, justification and critique. As an example, '... a sensitizing-descriptive, justificatory, and critical reflection involves providing descriptive information combined with logical explanations and evaluations of an action from a critical, socio-political perspective' (Standal and Moe, 2013, p.221).

Standal and Moe (2013) begin their focus on reflective practice in Physical Education Teacher Education (PETE) by pointing to the work of Ballard and McBride (2010) who found that pre-service physical education teachers made limited progress with their reflective work whilst also highlighting the work of Zhu (2011) who found that pre-service teachers mainly reflected on technical aspects of their practice. On a positive note, they point to the findings of Crawford, O'Reilly and Luttrell (2012) who made specific use of the RFTPE to assess pre-service teachers' reflections during a physical activity course and concluded that the use of the framework allowed the pre-service teachers to develop 'more analytical responses to their teaching and a greater emphasis was placed on sensitizing reflections' (Standal and Moe, 2013, p.225). Based on their literature review, Standal and Moe (2013) make three clear distinctions between the contexts of physical education and PETE: 1. The inability of pre-service PE teachers to critically reflect on their practice, 2. PE teachers require reflective communities and 3. The approach used to generate reflection. They found that the majority of pre-service physical education teachers find it difficult to move beyond the technical level of reflection, although they did highlight the work of Garrett and Wrench (2008) who reported that some pre-service teachers were able to critically reflect on their practice. Standal and Moe (2013) state that one of the

strongest findings emerging from their review of the various PE studies is the importance of having access to a reflective community. In discussion of the various approaches used to generate reflection, they conclude that 'there is no study that compares the impact of different media, such as written reflections versus the use of video recordings for the purpose of enhancing pre-service teachers' reflective capabilities in PETE' (Ibid, p.228). The author's research will compare the use of different reflective approaches, therefore, addressing a gap in the literature.

McCormack (2001) investigated the use of reflective journal writing, focus group interviews and questionnaires with 90 first year PE student teachers in an attempt to uncover their skill development and attitudes towards, the teaching of dance. Data were collected over a period of 14 weeks where the students participated in a 2-hour dance workshop each week. The journal entries were analysed using Tsangaridou and O'Sullivan's (1994) RFTPE. The study found that these student teachers arrived at the course with a wide range of reflective skills and varying attitudes towards dance. The study also discovered that some students, particularly the more mature aged students were able to reflect more deeply on their practice whilst others struggled to reflect beyond the technical aspects of their practice. Gender differences were noted in relation to attitudes towards teaching dance and motivation for completing reflective journal entries. Female group members were more eager to teach dance and reflect on their experiences, compared to the males, who particularly in the early stages of the study demonstrated low levels of motivation towards teaching dance and reflecting on the experience. Although the study found that the majority of students valued

journal writing, 'some student teachers felt hindered by a lack of personal reflective writing skill' (McCormack, 2001, p.5).

Jung (2012) investigated the reflections of three exceptional physical education teachers. Her study focused on 1) what exceptional physical education teachers choose to reflect on and 2) how these reflections influenced their practice. She highlights the complex and context-specific problems that teachers encounter on a daily basis but emphasises that 'no single right course of action is available' (Ibid, p.158). Ovens and Tinning (2009) insist that teachers must make decisions based on their own personal theories whilst always being aware of the specific context they are experiencing. Jung (2012) supports this view but emphasises that whilst teachers need to acquire the necessary skills to deal with the unique subject related issues, 'it is impossible for teacher educators to prepare teachers with all of the knowledge and strategies that they will need for every situation they will encounter' (p.158). As has been highlighted above, developing reflective skills amongst pre-service teachers is a critical element of all teacher education programmes and is central to improving teaching and learning. However, as Graber (2001) points out, reflection is one of the least investigated areas in physical education. The findings from Jung's (2012) study can be considered significant in the context of reflection in physical education as the findings highlight clear context-specific issues associated with physical education. Jung (2012) found that the teachers focused on four key areas for reflection: a) the students, b) instruction c) context and d) critical incidents. These findings support the earlier work of Tsangaridou and O'Sullivan (1997) who investigated the reflections of four physical education teachers. The common areas identified as the focus for reflection were: student learning and instruction, ethical and moral

issues (which mainly focused on students with learning needs), contextual issues and macro-reflection (similar to what was termed critical incidents in Jung's study). Some of the evidence presented by Jung (2012) highlights the unique context of physical education. When reflecting on the pupils, reference was made to the differences and the range of psycho-motor skill levels amongst the pupils with each teacher emphasising the importance of identifying pupil needs and tailoring their lesson to suit. Pupils' likes and dislikes in physical education were also identified as being important in terms of adapting the curriculum to cater for specific pupil interests. The particular pupil focused content discussed above is unique to physical education.

When reflecting on instruction, two of the main areas focused on were (a) management strategies and (b) grouping strategies. All three teachers emphasised classroom management as being of high importance and the identification of spatial concerns and equipment distribution, aspects particularly unique to physical education. Whilst many teachers are likely to consider classroom management as being of importance when reflecting, the particular focus on the use of space and distributing equipment is very specific to the context of physical education. The teachers discussed space in the context of how to effectively use the space available and distributing equipment identified health and safety aspects as well as ensuring time was not lost.

The focus on groupings in the context of PE is also very specific because it is the one subject where you can expect the range of ability within the class to be wide ranging, particularly when you consider the breadth and uniqueness of the different activities. Each teacher discussed the importance of appropriate

groupings so that pupil learning could be maximised. All three teachers also reflected on their specific context with reference to the principal, class sizes and parents. The value placed on physical education by the principal whether positive or negative influenced the teachers' reflections and the importance of speaking with parents in order to find out more about their child was also a feature of the reflections. The teachers particularly focused on pupils who had specific physical disabilities and how they could best include these pupils. Again, the focus on the physical ability/disability of pupils is unique to the context of physical education.

All three teachers reflected on critical incidents that had occurred during their career to date (a) burn-out, (b) devaluation of PE, (c) students' injuries and (d) positive experiences. It was emphasised how the devaluation of PE by colleagues was an issue that annoyed these teachers and caused them to reflect on the importance of PE and ensuring they remain an advocate for the subject. As was identified under instruction, health and safety issues were discussed in relation to students' injuries with one teacher claiming that the need to focus on health and safety was negatively impacting student learning. Jung's (2012) study highlights the specific context that physical educationalists experience and the findings show that this context influences their reflective focus.

In a more recent study, Tsangaridou and Polemitou (2015) investigated the reflections of five pre-service primary physical education teachers. The findings from this study identified similar foci to that found in Tsangaridou and O'Sullivan (1997) and Jung (2012) with the following main areas addressed in their reflections: pedagogical (mainly focused on managerial and instructional factors that impacted student learning), PCK – pedagogical content knowledge (the use

of appropriate teaching strategies to enhance student learning), content (in relation to skills, tactics and rules required for particular activities) and social issues (equality, fair-play and cooperation). The findings from Tsangaridou and O'Sullivan (1997), Jung (2012) and Tsangaridou and Poletmitou (2015) are similar and would appear to suggest that the specific context of physical education impacts the particular areas that pre-service and qualified physical education teachers choose to reflect on.

O'Connell and Dymont (2011) in their research with pre-service health and PE teachers focused on the students' use of journal writing as the medium for reflection. They found that journal writing was valued by some students and devalued by others, many of whom did not see the importance of thinking critically or reflectively. This supports the work of Cisero (2006) who sees them as tedious and not necessary. The important point to emphasise is that the study by O'Connell and Dymont did not focus on the specifics of using journal writing to reflect in physical education but simply highlighted general issues with journal writing which are applicable to all subjects.

Lamb et al (2012) investigated the use of a buddy peer review process to assist with the development of 23 pre-service physical education teachers' reflective skills. Each student had their teaching video-recorded and then reviewed by a peer, meaning each student undertook the role of teacher and reviewer. It is interesting to note that they justified the study by arguing that there was a 'need for further empirical evidence of impact of reflection on teaching in physical education' (p.24). The findings were extremely positive with all students claiming that the process of peer review allowed for a safe, relaxed, equal and pedagogic

space to reflect without the fear of being judged. They reported that the students 'developed a sense of professional identity, expanded their ability to reflect effectively on their own and another's practice and increased their capacity to distinguish appropriate generic and subject-specific skills' (Ibid, p.35). The reference to subject-specific skills is important in that the use of video has allowed students to replay the lesson and have the opportunity to identify subject-specific issues that they may not normally have identified through standard post-lesson reflection. However, Lamb et al (2012) did not identify the precise nature of these subject-specific skills which would have been beneficial for the reader. They also noted that 'the trainees demonstrated at times and in varying degrees migration from 'technical' to 'critical' levels of reflection' (p.35) but did not present clear examples of such reflections. It would seem that the use of a buddy peer review system aided by video recorded lessons is beneficial in allowing pre-service PE teachers to reflect on subject-specific aspects, but it would be of more benefit to know what these aspects were.

From the evidence presented above, it would appear that while some progress has been made in developing reflective practice in physical education, there is still much work to be done. Most of the studies report that pre-service PE teachers struggle to reflect beyond the technical aspects of their practice. It is obvious that, 'bridging the theory-practice divide appears to be a crucial challenge for PETE' (Standal and Moe, 2013, p.229). It is also worth reiterating that very few studies have focused on reflection with qualified PE teachers and that there exists little evidence relating to the impact of reflection on the practice of teachers.

2.2.5 Summary

Section 2.2 began by discussing the role of reflection in education and ITE where there exists a range of interpretations as to what should constitute reflective practice. This was followed by a discussion of the common approaches used to facilitate reflection, particularly in ITE. The use of written work as a medium for recording reflections was explored, followed by the use of journal writing, peer review and video-assisted reflection. The evidence suggests that the collaborative approaches of peer review and video are most effective. The last section addressed evidence relating to reflection in physical education, where there have been few studies conducted and of those that have been, the majority are focused on ITE.

The issues that have emerged from the review of literature are outlined below:

- There is a distinction between reflection and critical reflection, but many authors do not make this distinction clear
- There is debate amongst some authors regarding the precise nature of critical reflection with some claiming that complete personal reflection can be critical whilst others emphasise that it can only be called critical reflection when teachers consider the relevant social and political issues
- Schon's work on reflection-in-action has been critiqued with some authors claiming that being able to reflect whilst teaching is not possible and that Schon's attempt at dissolving the mind-body dualism did not work

- Reflective practice can be taught but it is difficult to teach when we consider the confusion surrounding its definition and lack of guidance on how it should be taught
- Teacher educators have an important role to play in developing pre-service teachers' reflective skills and the difficulties are exacerbated when we recognise the range of individual attitudes and experience that these educators possess in relation to reflective practice
- Closing the theory-practice divide is a huge challenge for pre-service teachers
- Many pre-service teachers struggle to reflect beyond technical aspects of their practice with many authors arguing that the acquisition of reflective skills is developmental
- There is a long tradition of reflection in ITE but there appears to be a lack of coherence throughout the field
- True reflection only exists when teachers develop three main characteristics – open-mindedness, whole-heartedness and responsibility, combined with an ability to question their underlying beliefs and assumptions
- Various reflective methods/approaches exist, all of which appear to have benefits and drawbacks
- Written reflections are considered essential by many authors but there are those who question if written reflections are deserving of being labelled 'reflective', since most written accounts are descriptive
- Differences of opinion exist as to whether written reflections should be assessed or not

- Journal writing is perhaps one of the most popular reflective methods but very few studies report significant changes in pre-service teachers' reflective abilities after utilising journal writing
- Peer review is considered effective in developing reflective skills, as is the use of video
- In studies of peer review where the findings were particularly positive, a recurring theme was that the pre-service teachers took ownership of the process
- Reflective practice in PETE requires considerable development with very few studies focusing on the specific context of physical education
- Very little evidence exists as to the impact of reflection on improving teachers' classroom practice and on improving pupil attainment
- Very few studies report on practising teachers' reflections with the vast majority of studies focused on reflection in ITE.

Whilst it is noted that each issue above is important in relation to understanding the literature, the author has identified key issues that are central to the research design. It is noted above that various reflective approaches exist and each approach appears to have benefits and drawbacks. However, the majority of studies investigate the use of one approach in isolation but do not utilise other approaches for comparison purposes. Therefore, this research will focus on exposing PGCE PE students to a range of reflective approaches so that the effectiveness of each approach can be analysed and compared to the others. Highlighted above is that journal writing is one of the most popular methods but very few studies report improvement in participants' abilities to reflect. Therefore,

taking this point on board in conjunction with the view (reported in the review of literature) that reflection is more effective when conducted with others, journal writing will not be utilised. However, the students will use an online discussion forum where they can share their weekly reflections with peers and PGCE tutor. Peer review and video-assisted reflections appear to be beneficial for improving reflective practice so the author will explore the use of both approaches in this study. A fundamental message in the review of literature is that very little evidence exists pertaining to the impact of reflection on teachers' practice so this is an area that will be explored in the research. The use of reflection in physical education has received minimal attention by authors and since the participants of this study are PGCE PE students, this will ensure that all reported findings will be subject specific. The review of PE related reflection literature also highlighted the breadth of activities that PE teachers must deliver. Considering this information in conjunction with the findings from the reconnaissance period of study, where some individual students appeared to reflect more deeply on lessons involving their area of expertise, this has led the researcher to investigate whether or not greater expertise in a curriculum component results in higher quality reflections. The final area addressed in this research is whether or not reflective practice is utilised by beginning teachers during their first year of practice. The researcher intends to investigate the experiences of these participants in relation to reflective practice at the end of their induction year.

As a result of the issues described above in the summary and the reconnaissance period of study, the researcher devised the following research questions.

Research Questions

1. In what ways do pre-service PE teachers' reflective capacities change across the PGCE year?
2. What approaches to reflection are most effective for developing pre-service PE teachers' reflective skills?
3. Does having more subject knowledge allow pre-service PE teachers to produce higher quality reflections?
4. How do pre-service PE teachers make use of their weekly reflections?
5. In what ways do pre-service PE teachers use reflective practice during their first year as a qualified teacher?

Having reviewed the literature and identified the key research questions, the author will proceed to outline the research methods, data collection tools and proposed approaches to data analysis in chapter 3.

Chapter 3 - Methodology

3.0 Introduction

This chapter provides a discussion and analysis of the methodological approaches employed in the study. As noted in the introduction, the study employed Action Research (AR) and thus the chapter will begin with a discussion surrounding the use of AR. This is followed by a discussion of the qualitative nature of the study. The various data collection approaches are then explained, beginning with students' weekly reflections, the peer review process, video-assisted reflections, lesson observations and focus group interviews. This is followed by a discussion of the various approaches to data analysis.

The thesis investigates the use of various approaches to developing reflective practice amongst a group of PGCE PE students. As previously noted, the researcher has had considerable prior experience in the area of reflective practice, as a student teacher, a PE teacher and now currently as a PE teacher educator. Therefore, the researcher brings to the study his own beliefs and values relating to reflective practice. Ogden (2008) in discussing qualitative research, emphasises that the crucial 'imperative is for researchers to be aware of their values and predispositions and to acknowledge them as inseparable from the research process' (p.61), a view supported by Mehra (2002). Throughout this study, the researcher, therefore, aimed to acknowledge his 'own subjectivity in the research process' (Ogden, 2008, p.61), an approach which is supported by Ortlipp (2008) who notes that 'A reflexive approach to the research process is now widely accepted in much qualitative research' (p.695). In order to keep as

accurate a record as possible, the researcher kept a reflective journal, a strategy which is encouraged by Ahern (1999) and Etherington (2004). Since the researcher would not be sharing the journal with anyone, he felt this was an appropriate way to record his thoughts, where he could be honest and sincere. The researcher's reflexivity will be discussed later in the chapter (see p.107-8) whereby the aim is to demonstrate how the content of this journal helped to create 'transparency in the research process' and how it had 'concrete effects on the research design' (Ortlipp, 2008, p.696).

3.1 An introduction to Action Research

McGrath and O'Toole (2012) argue that the main aim of AR is to put learning into practice whereby the action-reflection cycle is used to help meet the overall learning outcomes. They proceed to emphasise that not only is the focus on embedding learning into practice, but there is a second aim which is to generate knowledge that helps contribute to theories of action. According to Reason and Bradbury (2001), AR involves experimentation, where the actions of the researcher within a particular participatory community are monitored and evaluated, with an overall aim to improve the performance of the community or improve the issue being investigated. It is significant to note that in their later work, Reason and Bradbury (2008) stress that improving practice alone is not enough because if the research fails to build upon or test theory, it lacks significance. McGrath and O'Toole (2012) therefore, highlight that conducting effective AR is very demanding as researchers are expected to provide practical solutions in a real world setting as well as contributing to the advancement of knowledge in the particular area. Argysis and Schon (1991) in commenting on

the action/research debate refer to the dual outcomes as the 'double burden' (p.86). They state that the nature of action research highlights issues surrounding its rigour and relevance, since most action researchers are aiming to develop theories of practice that can be utilised beyond the initial research setting.

Within this study the researcher is aiming to develop improved approaches to fostering student teachers' reflective skills, as well as to create new knowledge around the role of reflection in teaching and learning. As previously highlighted in the review of literature, current approaches to developing student teachers' reflective skills highlight many inconsistencies in approach as well as an apparent limited understanding and application of reflective theory. Issues surrounding the lack of definition associated with reflection, the overuse of written reflective accounts, the assumption that all student teachers know how to reflect without being taught, and the potential to utilise a wide range of approaches mean that this study is open to 'trial and error'. The lack of concrete ideas in relation to developing and implementing reflective practice means that the researcher has no hypothesis to test, but rather he is aiming to investigate various approaches to reflection with the aim of discovering which methods, if any, are more effective and thereby enhance his knowledge and understanding of this complex area. Within the context of the researcher's own practice as a PGCE tutor, it was evident that current use of reflective practice was having a limited impact upon the students' reflective skills. Therefore, the researcher was keen to improve his practice in this area and, based on the issues highlighted above, decided to conduct this investigation within an AR framework. The researcher was, therefore, taking action to improve practice in a particular area, realizing that this would involve 'processes of improvement' (McNiff & Whitehead, 2009, p.11)

whilst also recognising that this research could not be programmatic and cannot be defined in terms of hard and fast methods' (Reason and Bradbury, 2008, p.3). The first phase of AR in this study was the reconnaissance period, which lasted two years.

3.2 Reconnaissance Phase

Prior to conducting the data collection phase of the study, the researcher felt it would be beneficial to complete a two-year reconnaissance phase which would allow him to develop an understanding of what is possible in relation to supporting students' reflective development. The approaches explored in this phase helped to clarify 'where I was starting from in my real-world situation' (McNiff et al, 2003, p.35). The reconnaissance period, therefore, allowed the researcher to hone his skills and the processes involved, thus providing an insight into what approaches were deemed most effective for utilization during the data collection period. The process, in conjunction with the review of literature helped the researcher to devise appropriate questions that led to improvement (Maxwell & Choeden, 2012). This two-year reconnaissance study was conducted within an AR framework where the researcher worked with two separate PGCE groups in consecutive years. The work with these groups involved the following:

1. The presentation of reflective practice – with the aim of making it valuable and worthwhile to students
2. The exploration and testing of a range of approaches to developing reflective skills
3. The development and testing of different reflective guides

4. Using tightly developed processes to gather qualitative data from student feedback across the PGCE year

By using the cyclical process of AR, the researcher implemented various reflective approaches and based on ongoing evaluation of students' reflective work across school placements, student feedback and personal reflection of the process, approaches were modified and then reimplemented. This process was repeated four times across the two-year period, twice during year one and twice during year two. Figure 5 below provides an overview for the first year (2015-16).

2015-16	Reflective approaches used	Students' work	AR Cycle
Semester 1 & 2 in University setting	Reflections after each University peer teach session where all students reflected on the strengths and areas for development within the lesson. It was hoped that the sharing of reflections via an online discussion board would stimulate discussion and lead to higher quality reflective discussions. Prior to engaging with the online discussion forum, the students received a session on how to use the forum. Students had access to sample postings where there was a focus on posing effective questions.	Reflections were consistently descriptive (low quality) and long-winded (Larrivee's framework used to categorise). On rare occasions the student who taught was made consider aspects of their lesson they had not originally thought of, showing that the collaborative element was helping. However, most of the reflections were very positive and lacking a critical edge.	<p>Student feedback at end of semester 1 noted that reflections were time consuming with many reporting that there was no need for each student to post a reflection as many of them addressed the same issues. Using this feedback and the researcher's analysis of the students' reflective work (using Larrivee's framework) the process was modified for semester 2.</p> <p>During semester 2, two university-based workshops were conducted that focused on developing students' depth of thinking. It was also agreed that only those students who taught the peer session would post a reflection to the discussion board – the others were to read and pose questions to stimulate deeper thinking if they felt it was required.</p> <p>Student feedback at end of semester 2, in conjunction with researcher's ongoing analysis of student reflections resulted in the decision to discontinue this approach for 2016-17.</p>

2015-16	Reflective approaches used	Students' work	AR Cycle
SE1	Weekly unstructured reflections where students were to provide an overview of their week's teaching and to be posted to the online discussion board.	These reflections were descriptive (low quality) and often repetitive. (Larrivee's framework used to categorise)	Student feedback (requesting more structured guidance), combined with ongoing AR cycle and literature review resulted in the decision to modify this approach for SE2.
SE2	Daily lesson plan reflections where students completed 'lesson reflection template' after each taught lesson. These were kept in the students' SE files meaning they were not shared with others	These reflections were again descriptive and thus low quality. (Larrivee's framework used to categorise)	Student feedback at end of semester 2 noted that this process was time-consuming and combined with ongoing evaluation of students' work and AR cycle, the process was changed for the following academic year. The lesson reflection template was not used in 2016-17 but instead the students were introduced to Gibbs' reflective framework (see appendix 2)

Figure 5 - Overview of reconnaissance period 1

Gibbs' Reflective Cycle

As previously noted, the students wanted guidance on how to structure their reflections. The researcher considered suitable reflective frameworks such as Rolfe's (2001) but decided to utilise Gibbs' reflective cycle. Husebo et al (2015) note that the cycle comprises six stages and that it 'provides a structure that... guides the process of reflecting' (p.369) where individuals respond to a checklist of key questions. The six stages are description, feelings, evaluation, analysis, conclusion and action plan. Gibbs (1988) sees the reflective cycle as a structured debriefing that should prevent learners from beginning with 'superficial descriptions of what happened to premature conclusions' (p.25). Husebo et al (2015) note that each step in Gibbs' cycle informs the next and that the use of questions in each step can guide lesson debriefings and provide structure. Lawrence (2008) and Powley (2013) point out that Gibbs' framework is well-structured and easy to follow. Moon (2007) emphasises that the framework can be useful to students when they first begin to reflect but that it is a support tool that should be abandoned when appropriate. Husebo et al (2015) highlight a limitation of Gibbs' model in that it 'provides no guide as to the achievement of better quality reflection... the model might encourage a relatively superficial form of reflection' (p.374). Kihlgren et al (2014), however, note that Gibbs' cycle does foster deeper reflection whilst Wilding (2008) insists that Gibbs' cycle is ideal for those in the pre-service stage since the lack of complexity permits 'better engagement with the process' (p.724). The researcher, therefore, felt that it was appropriate to use Gibbs' cycle with these pre-service PE teachers.

3.2.1 Researcher's reflections on 2015-16

As previously noted in the introduction, the researcher kept a personal reflective diary throughout this AR study. Two extracts from 2015-16 are worth highlighting as they help to demonstrate how the researcher's own personal beliefs and assumptions impacted the study. As noted in figure 5 above, in an attempt to improve the students' depth of reflection, he conducted two workshops during semester 2. At the time the researcher thought his approach would be effective but when reflecting on his actions and decisions throughout the year, he realised that both sessions were not what the students required since they were too theory based and not practical enough. The researcher at this stage of the study was becoming familiar with the literature connected to reflective practice and somehow believed that subjecting the students to more theory would enhance their reflective skills. This approach was wrong and failed to have any impact, highlighting that at that particular time in the study, the researcher's beliefs directly influenced the course of action to be taken.

The second reflection relates to the implementation of the lesson plan reflective template for SE2 when the students were expected to reflect on each lesson they taught. Again, at the time of making this decision the researcher felt that it was logical, based on the fact that the students wanted some structure and that their reflective work during SE1 was of low-quality. However, reflecting on this at the end of 2015-16 he wondered how the process changed from having the students reflect on two lessons per week via the online discussion board to having them reflect on up to 12 lessons per week, in a process where their reflections were not shared with peers or the PGCE tutor. The researcher believes that his

underlying assumption, of which he was unaware of at the time - 'the more they reflect, the better they will become', was the basis for this decision. As a result of this reflective process the researcher learned two things:

1. The students must receive better guidance and support in learning to reflect and that this must be modelled
2. The focus must be on developing effective reflective practice as opposed to focusing on quantity of reflection

Figure 6 below provides an overview for year two (2016-17) of the reconnaissance phase.

2016-17	Reflective practice approaches	Students' work	AR Cycle
Semester 1 and 2 in University	After each peer teaching session, the student who taught the lesson received verbal feedback from his/her peers and the course tutor. The student recorded the feedback on their phone for the purpose of helping them to reflect on their practice. However, the students were encouraged but not required to post a lesson reflection to the online discussion board.	Students did not have to complete a lesson reflection.	<p>Student feedback at the end of both semesters was positive, with the majority stating that the audio recorded feedback discussions helped them to think about aspects of their practice that they were not aware of during or indeed immediately after the teach.</p> <p>It was decided to continue with this approach in 2017-18.</p>
SE1 and SE2	Students reflected on their week's teaching by identifying two lessons that they would reflect upon in greater detail – one lesson that required much improvement and one that went fairly well but still required improvement. Using the annotated lesson plan notes for these lessons, the students used Gibbs' framework to compose and post the reflections to the online discussion forum.	<p>In SE1 the quality of reflections produced were low-level and descriptive as opposed to being analytical.</p> <p>In SE2 the quality of reflections were marginally better where a few students were beginning to make stronger connections</p>	<p>Student feedback at end of semester 1 was positive, with 7/12 students stating that their reflections were beneficial in helping to support their progress and the other 5 said they were 'somewhat' useful .</p> <p>In response to student feedback that written reflections were time-consuming and that some preferred to speak their thoughts, during semester 2 university-based teaching sessions, the students were introduced to</p>

2016-17	Reflective practice approaches	Students' work	AR Cycle
		between theory, practice and pupil learning.	<p>different media for recording their reflections - audio and video.</p> <p>Based on an analysis of their reflections, the researcher also held two reflective practice workshops where the focus was on developing the students' depth of reflection. Students assessed sample reflections using Larrivee's (2004) framework, thus allowing them to explore the differences and meaning connected to the various category statements.</p>
SE2	Students were encouraged to observe a peer teaching. If possible, they were to observe a PE student but if logistics proved difficult then they could observe another peer from a different subject. The students used the feedback provided in conjunction with their own annotated lesson plan notes to produce a more detailed lesson reflection. They did not have to share this reflection via the online discussion board.	Work was not shared with peers or researcher.	7 students managed to engage with this process, either as a reviewer, reviewee or both, meaning 5 students did not engage. Feedback from the students who engaged was very positive, with a number citing that the process was more relaxed compared to when a mentor or tutor observes their practice. It was decided to use this approach during the 2017-18 course.

Figure 6 - Overview of year 2 reconnaissance study

3.2.2 Personal reflections from year two

Upon reflection, it would seem that the decision to not have students share their peer reviewed reflections was a mistake. This decision was made based on the fact that the students could choose which lessons they wished to reflect upon and therefore the researcher did not wish to force the students into sharing these reflections. However, whilst the students who engaged with this process found it beneficial, the researcher was unable to access the reflections and make a judgement as to how the process impacted their reflection work. Therefore, the researcher was unable to fully reflect on this process.

3.2.3 Outcome of reconnaissance phase

Based on the reconnaissance phase, the following reflective practice approaches would be implemented with the 2017-18 cohort, during semester 1.

- At the end of each university-based peer teach lesson, the group along with the PGCE PE tutor would provide feedback to the students who taught the lesson. The student would audio record the feedback on their phone. The students would be encouraged to post a reflection to the online discussion board but not required to
- Two weekly reflections (one on a weak lesson and one on a fairly good lesson) posted to an online shared discussion area using Gibbs' reflective framework (see appendix 2) as a structure
- All students to engage in peer review process and to share reflections with peers and PGCE tutor

An overview of the AR process for 2017-18 is provided below on p.151-153 (see fig.11).

The next section addresses the key components of AR, where the researcher explains how this study fulfils the key principles associated with it.

3.3 What is Action Research?

According to Dick (2015), five aspects stand out in relation to Action Research:

1. Action Research is an extensive endeavour as it consists of a large family of diverse methods
2. Action Research is always participatory
3. Action research is action-oriented – it is intended to bring about improvement
4. Action Research almost always has critical reflection as a key component
5. Action Research uses a cyclic process that integrates the action and critical reflection in order to determine how the desired changes may be implemented

The researcher will outline how his research meets each condition listed above by first of all outlining his understanding of each aspect and then linking these to the specifics of this study.

3.3.1 An extensive endeavour and constitutes a large family of diverse methods

Dick (2015) refers to AR as a family of diverse methods, a view supported by Reason (2003, p.16) who argues that 'action research is an orientation to inquiry rather than a methodology'. Murray (2002) supports this view by emphasizing that AR often involves interventions in complex settings which involve numerous political, economic and social aspects, whilst Stone (2006, p.260) believes traditional research design 'may not be adequate, appropriate or reasonable'. Chapman et al (2011) point out that AR is being utilized more widely as its potential value is receiving greater attention, but that 'it is still criticized for its lack of rigour' (p.208). Zuber-Skerritt and Fletcher (2012) agree, stating that action researchers 'may find rigour in academic research, writing and publishing (the research part of AR) difficult, especially because rigour in AR has a different meaning from rigour in traditional scientific research' (p.224). McNiff and Whitehead (2009, p.17) acknowledge three key differences between AR and traditional research in terms of:

1. What is studied?
2. How it is studied and represented?
3. Why it is studied?

In terms of differentiating between what is studied, McNiff and Whitehead (2009) argue that in traditional research, 'the researcher studies and makes claims about what is 'out there', separate from themselves' whereas in AR the researcher

'makes claims about what they are doing, in relation with others, and generates their living theory of practice' (p.18). The authors label traditional theories as 'E-theories', with 'E' standing for 'external' and AR theories as 'I' theories, with 'I' standing for 'internal'. It is the second difference, 'How it is studied' that can allow action researchers to conduct rigorous research. For this study the researcher responded to the questions below (see figure 7) which have been proposed by McNiff (2006).

Question	Researcher's response
What is my concern?	Current approaches to developing student teachers' reflective skills are not effective
Why am I concerned?	Student teachers are not having the opportunity to maximise their learning and the learning of the pupils they teach
What kind of experiences can I describe to show the situation as it is?	Evidence from student reflections over previous academic years show that reflections are very descriptive and, therefore, not reflective. Student feedback is questioning the value of reflection for their practice as many view it as a 'waste of time'.
What do I do about it?	I implement new approaches based on my review of literature and my own personal practice.
What kind of data do I gather to show the situation as it unfolds?	Gathered data on students' weekly reflections which were posted to a shared VLE. Weekly reflective accounts were analysed and graded against Larrivee's Reflective Framework (2004).
How do I ensure that any conclusions I come to are reasonably fair and accurate?	An experienced colleague analysed and graded a sample of these weekly reflective accounts in order to quality assure the standard of grading.
How do I modify my ideas and practices in light of the evaluations	By reflecting upon the findings and student feedback (active participants) I made changes to the reflective practice approaches expected from the student teachers.

Question	Researcher's response
How do I explain the significance of my research for my own learning and the learning of others?	I outline and explain my role in the research, addressing the dual roles of tutor and researcher and how this is to have an impact on my learning and student learning.
How do I modify my ideas and practices in light of my evaluation?	Through reflection of my own role in this research (reflexivity) I outline how my thinking has changed and how this is to have an impact on what I do next (action).

Figure 7 - The why, what and how of AR in this study

The third difference relates to 'why it is studied'? In traditional research the aim is to generate data that will test a particular hypothesis meaning that the findings can be applied to similar situations beyond the research context. Therefore, the idea is 'to apply theory to practice and ensure that the practice fits the theory' allowing such research to be used to 'predict and control the future' (McNiff and Whitehead, p.19). As previously noted, AR is used by researchers in an attempt to improve their own practice as well as improve their research capabilities, meaning that 'theory is embodied within their practices and is generated through their practices' (Ibid).

3.3.2 Action Research is always participatory

Dick (2015) states that whilst there is a growing diversity of AR approaches, 'one of the key similarities providing some unity within the diversity is that action research is participatory' (p.434). In his review of 314 AR encyclopedia entries, he notes that at least 80% had the word 'participation' or 'participatory' in the text. According to Dick (2015, p.435), 'participation serves multiple purposes, among

them empowerment of those involved, a commitment to equity, information sharing among the various stakeholders and building commitment to the planned actions'. Sax and Fisher (2001, p.71), in recognising the importance of participation in AR, argue that, 'one of the most important features of this approach lies in the relationship between those conducting the research and those 'being researched'. Denzin and Lincoln (1994, cited in Sax and Fisher, 2001) point out that the participants become partners in this process, establishing a shared responsibility for recognizing particular problems and applying appropriate action-based strategies. McGrath and O'Toole (2012) showed that the degree to which researchers position themselves as 'insiders' or 'friendly outsiders' has huge implications for research design.

Cornwall (1996) outlines six modes of participation:

- Co-option
- Compliance
- Consultation
- Cooperation
- Co-learning
- Collective action.

See figure 8 below (McGrath and O'Toole, 2012, p. 511), an adapted version of Cornwall's (1996, p.96).

Mode of participation	Involvement of local people	Relationship of research and action to local people	Action research types – A, B, C
Co-option	Token; representatives are chosen, but no real input or power	ON	A. Technical (Grundy, 1982; Carr and Kemmis, 1986) The scientific-technical view of problem solving (McKernan, 1991)
Compliance	Tasks are assigned, with incentives; outsiders decide agenda and direct the process	FOR	The positive approach (McCutcheon and Jurg, 1990) The technical collaborative approach (Holter and Schwartz-Barcott, 1993)
Consultation	Local opinions asked, outsiders analyse and decide on a course of action	FOR/WITH	B. Practical (Grundy, 1982; Carr and Kemmis, 1986) Practical-deliberative action research (McKernan, 1991)
Cooperation	Local people work together with outsiders to determine priorities, responsibility remains with outsiders for directing the process	WITH	Interpretive (McCutcheon and Jurg, 1990) Mutual collaborative approach (Holter and Schwartz-Barcott, 1993)

Mode of participation	Involvement of local people	Relationship of research and action to local people	Action research types – A, B, C
Co-learning	Local people and outsider share their knowledge, to create new understanding, and work together to form action plans with outsider facilitation	WITH/BY	C. Emancipatory (Grundy, 1982; Carr and Kemmis, 1986) Critical-emancipatory action research (McKernan, 1991)
Collective action	Local people set their own agenda and mobilise to carry it out, in the absence of outside initiators and facilitators	BY	Critical Science (McCutcheon and Jurg, 1990) Enhancement approach (Holter and Schwartz-Barcott, 1993)

Figure 8 - Mode of participation in AR

Kemmis (2006) points out that AR in its technical form (Type A) is mainly concerned with problem-solving and bringing about an improvement in practice. McGrath and O’Toole (2012) explain that with this type of research, the researcher can design the research question(s) as well as an appropriate intervention for the group, who are heavily involved in the process; a process by which they contribute to data collection and that the outcome should be positive for all involved. With this type of research, it is obvious that the researcher is very much in charge of the process and must work hard at creating positive working relationships with the group so that they cooperate as fully as possible. Using this approach, the researcher sets out to test a particular intervention in order to assess its effectiveness in solving the problem identified in a specific context.

According to Clark (2000), the researcher is normally an expert who comes from outside the research context and that change is usually implemented when cooperation of participants has been achieved. McGrath and O'Toole (2012, p.512) state that, 'With interventions planned and outsiders directing the process, it is possible to make knowledge claims that are generalisable or transferrable beyond the immediate context/setting'.

Kemmis (2006) highlights the key difference between technical and practical AR by stating that in practical/iterative AR, the same desire for technical change exists, but there is an emphasis on informing the 'practical decision making of practitioners' (p.95). According to McGrath and O'Toole (2012), there is considerable collaboration between the researcher and other participants ensuring clear identification of problems and possible solutions. They hold the view that such an approach to AR results in the creation of a better understanding of the key problem identified which then allows all participants to become involved in designing the most appropriate intervention. Clark (2000) maintains that this approach can help generate new theory as the problem is clarified after discussion and an understanding is developed amongst the group.

Emancipatory AR is focused on improving a practitioner's understanding as well as developing their ability to critique the social, educational or work environment to which they belong (Kemmis, 2006), and has two main goals (McGrath and O'Toole, 2012):

1. It enhances the actual link between the problems encountered by individuals and the use of particular theories which help clarify and resolve the issues (Holter and Schwartz-Barcott, 1993).
2. It also allows practitioners to develop an awareness of how their underlying values and beliefs, which are often demonstrated within the culture of the organisation, and how these may be impacting the particular problems (Clark, 2000).

When this study began, the mode of participation was co-option as the PGCE students in the researcher's institution were engaging in reflective practice for the first time. Therefore, it would not have been appropriate nor possible for them to have increased their level of participation at this early stage. However, as the study progressed and the students' knowledge and understanding surrounding reflective practice began to increase, the mode of participation began to change. At times, the researcher consulted the students when reflecting upon approaches that they employed and used the student feedback to help him make decisions about changes to the reflective practice programme. Towards the end of the study, particularly during SE2, the students were beginning to take on a cooperative role whereby the researcher and students would discuss strengths and weaknesses of reflective approaches and, through discussion, proposed changes were made. Unlike Cornwall's (1996) framework above, the researcher could not be regarded as an outsider but was very much an insider. Teaching these students, observing their teaching practice and marking their assignments meant that the researcher was a very significant person in the lives of each PGCE

PE student. The researcher outlines the complexities he encountered in section 3.3.3 below.

3.3.3 Action research is always action-oriented

Kemmis (2009) believes that AR focuses on three main things, 'practitioners' practices, their understanding of their practices, and the conditions in which they practise' and acknowledges that, whilst these three aspects are inextricably linked, the 'bonds between them are not permanent' since each component 'shapes the others in an endless dance in which each asserts itself, attempting to take the lead, and each reacts to the others' (p.463). Kemmis (2009) argues, therefore, that if practitioners wish to transform each of these aspects, central to this is changing their practice in action. This view is supported by Brydon-Miller et al (2003) who believe that knowledge comes from doing, advocating the use of AR as opposed to theorizing which they regard as being of limited use because it does not involve doing and that 'action researchers are doers' (p.15). McNiff and Whitehead (2009) insist that for action to be effective it must be 'informed, committed and intentional' (p.40). In this study, the researcher ensured that the action was informed by first of all questioning his 'own motives' and treating the pre-study reflective practice programme in a critical manner by 'being open to other people's points of view' (Ibid, p.40). The researcher's actions were committed in the sense that he recognised the need for the reflective practice programme to be better and that this action was not a result of wanting things his 'own way', but rather about staying true to his values. The researcher constantly evaluated and reflected upon his actions in order to ensure honesty and openness 'for the benefit of others' (Ibid, p.40). Intentional action was addressed

by having the PGCE students implement the new approaches to reflection where the researcher was not 'aiming for behavioural outcomes' but rather intended to generate new, 'interesting questions that open up new possibilities' (Ibid, p.41). He ensured that the key objective of the action process was 'to improve practice' (Elliott, 1991, p.49). The next sub-section discusses the role of critical reflection in AR.

3.3.4 Critical reflection is almost always a key component in Action Research

Earl-Slater (2002) asserts that reflection is a critical component of the AR cycle and that the researcher should carefully reflect on the evidence from other studies, the methodology selected and the evidence emerging from their study. This view is supported by Little (2012) who emphasises the importance of reflecting on the data in order to make the necessary adjustments to the interventions, so that improvement can be attained. Elliott (1991) adds that if action researchers are to improve practice in a context where values have resulted in concrete action, then 'a continuing process of reflection' (p.50) is required. As previously highlighted in the review of literature, critical reflection is a term that is often not clearly defined and, as a consequence, is used interchangeably with reflection. The researcher having already critiqued these terms does not feel the need to do so again, but feels it is important to highlight the issue in the context of the action-reflection cycle. Elliott (1991) reports that in the context of AR to bring about improvement, the majority of practitioners adopt a very technical approach whereby they highlight practical issues that can improve their practice and some wish to attain a 'prespecified end-product' (p.51).

Luttenberg et al (2018) argue that whilst there is no doubting the importance of reflection in AR, it is however a complex issue, 'first of all because of the many beliefs among which you have to 'choose', but most of all because of the lack of a frame of reference that can give support when making such a choice' (p.75). Luttenberg et al (2018), therefore, see reflection in AR as being complicated for the researcher as they must consider the 'diverse domains of reflection' and make a choice 'between diverse beliefs within the different forms of reflection' (p.76). The researcher in this study recorded written reflections and on occasion used audio recorded reflection to capture his thoughts. These reflections were then used to inform the action-reflection cycle, which is addressed in section 3.3.5 below.

3.3.5 Action research uses a cyclic process that integrates the action and the reflection

Savin-Baden and Major (2013) state that AR is about 'transforming people's practices... through a cyclical process of thinking, acting, data gathering and reflection' (p.245). This ongoing cycle of reflection and subsequent action is what makes AR unique. Kemmis (1980, p.5) in reference to the work of Lewin (1946), outlines the basic cycle that action researchers should follow in figure 9:

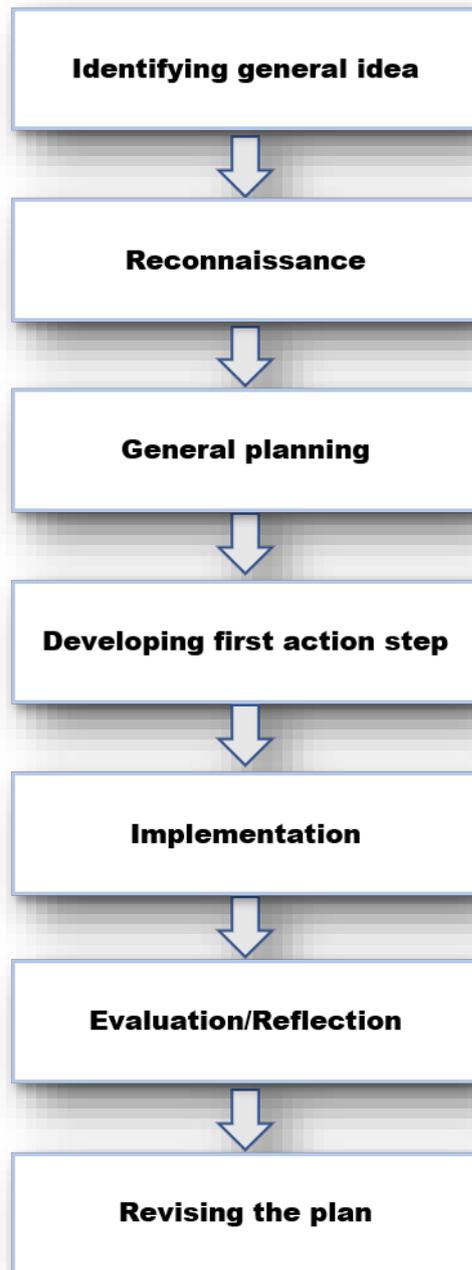


Figure 9 - The action-reflection cycle

The researcher then simply continues with 'developing the second action step' (Elliott, 1991, p.69) and follows the same cycle. This AR cycle was employed throughout the course of the present study. The next section discusses the benefits and drawbacks of AR.

3.4 Benefits and drawbacks of action research

According to Coghlan et al (2004), the phenomenon of insider AR has become established as an important way of understanding and changing organisations. Coghlan (2007) later found that due to the distinctive nature of AR, the quality depends on how the particular context is understood and the effectiveness of collaboration. Coghlan and Branick (2005) emphasise that when members of an organisation investigate the specific workings and functioning of their organisation with the aim of improving a particular aspect, then they are undertaking insider AR. According to Schon (1983), such research is undertaken in 'swampy lowlands' where addressing problems can be messy. According to Coghlan (2010), it is critical that researchers select the most appropriate 'action modality', and that such decisions will be influenced by the particular context, relationship dynamics between researcher and participants, how the inquiry is structured and 'the dual outcomes of action research for practice and knowledge' (McGrath and O'Toole, 2012, p.510). Reason and Bradbury (2001) espouse a similar view by arguing that the main rule in AR is for the researcher to be aware of the choice he/she is making and the subsequent consequences. Herr and Anderson (2005, p.78) agree, noting that, 'action research is a messy, somewhat unpredictable process, and a key part of the inquiry is a recording of decisions made in the face of this messiness'.

According to Coghlan and Brannick (2005), insider AR can be seen to involve the management of three interlocking challenges:

1. Preunderstanding – insider action researchers face the task of building on the closeness they have with the research setting, while at the same time attempting to create a distance from it in order to review critically the process that will enable change to occur.
2. Role duality – they have to hold dual roles, their organisational member role(s) and their action researcher role with the obvious conflicts and ambiguities that can arise.
3. Organisational politics – they must also deal with organisational politics whereby they have to balance the requirements of their career plan with the requirements for the success and quality of their action research.

MacIntosh et al (2007) underline the importance of recognizing that these three challenges are not static since 'AR is a dynamic process where the situation changes and changes as a consequence of deliberate action. Action researchers have to deal with emergent processes, not as distractions but as central to the research process' (p.339). They refer to Lewin's (1946) often cited maxim that understanding of a situation can only occur when one tries to change it. This is illustrative of the development of preunderstanding that occurs in the course of an AR study. MacIntosh et al (2007) also highlight that the changes to emerge during this process create challenges for the action researcher that require continuous renegotiation, as they must maintain their dual roles whilst attempting to survive and thrive politically.

As this study progressed, the researcher became more aware of his preunderstanding and how this had an impact on his decisions. It was difficult for him to have this awareness at the beginning of the process because he was employing new approaches to reflection and through his own reflection, realised that he got 'caught up in it'. During the reconnaissance period of study, the researcher was very much exploring reflective approaches with the view that the quantity of reflections was important. After some thought, he realised that the students were being expected to do too much in this area and it was only when the first year of reconnaissance study concluded that this became clear. Student feedback confirmed this and was supported by the poor quality of reflections in the latter half of that academic year (2015/16). It was clear that the students became bored and found the process monotonous. Based on this information, the researcher made changes to the reflective practice programme for the 2016/17 academic year. During 2016/17 the researcher was able to distance himself more easily from the process and had more of a focus on students producing quality reflections. During this particular year (year 2 of reconnaissance study) the researcher made significant changes to the reflective practice programme, some of which emerged as a result of student feedback, the researcher's own reflections and an analysis of the students' reflective work. Role duality in this study very much related to the researcher's role as PGCE tutor. As was highlighted in the review of literature, some authors question whether reflective accounts can be regarded as being reliable since students write with an awareness that their tutor will read their work and, therefore, may not be entirely honest. The researcher was conscious of this and made a genuine effort to remind students to be honest and not to be afraid to write how they felt. There is

no way of knowing how honest the students were when reflecting but, as the year progressed, it became apparent that they were expressing themselves much more openly. The researcher did not have to manage organisational politics as the research did not involve colleagues or any investigation into the practice of others. Some authors, for example Chapman et al (2011) question the rigour associated with AR and this issue is addressed in the next section.

3.5 How can we ensure that Action Research is rigorous?

Bray et al (2000) attribute the popularity of AR to the context specifics of the methodology, where the trusted generated data is used to seek improvement and change with individuals in a particular setting. Capobianco and Feldman (2010, p.909) in relation to teacher development argue that, 'Because results and conclusions drawn from action research generally stress contextualized knowledge or learning situated within one's classroom practice, there seems to be an implicit consensus that they have little credibility due to a lack of generalizability, validity and reliability'. It was felt to be quite ironic that the main critics of AR highlight the same points that its advocates use to stress its superiority (McGrath & O'Toole, 2012). McGrath and O'Toole (2012, p.513) believe that AR is 'usually seen for its change or consultancy capability and not as a serious research methodology in the traditional scientific sense'. Deemer (2009, p.1) supports this view by stating that 'The action research process differs somewhat from the traditional scientific research process in that it evolves from an educator's struggle with a very particular issue in the classroom and the main focus of the research is on solving this particular, local problem'. According to Deemer (2009) the type of local knowledge to be gained from action research

methodology is very useful to educators and 'is considered just as valuable as knowledge derived from large-scale academic research. Instead of a tension between theory and practice, in action research the two are united and provide an impetus for discovering solutions to authentic classroom problems' (p.1). If AR is to be effective, however, researchers must meet certain requirements (Zuber-Skerritt and Fletcher, 2007). They must be:

- practice-oriented (improving practice);
- participative (including in their research all stakeholders and others who will be affected by the results of the research);
- focused on significant issues relevant not only to themselves but also to their community/organisation or fellow human beings in the wider world;
- using multiple perspectives of knowing, triangulation of appropriate methods and theories, and connecting their own judgements to discussion in the current literature;
- rigorous in their action research methodology and creative, innovative, contributing something new to knowledge in theory and practice within and across systems;
- explicit about their assumptions so that readers and examiners may use appropriate criteria for judging the quality of their work; and
- reflective, critical, self-critical and ethical.

Zuber-Skerritt and Fletcher (2007, p.417).

According to Zuber-Skerritt and Fletcher (2007) it is more appropriate in AR to utilise mainly qualitative methods rather than a quantitative approach, 'because the aim is not to survey large samples of populations or "subjects" in order to predict future trends or to make generalisations about past and present' (p.423). Rather, as they go on to point out, the aim of AR should be to work with a relatively small number of participants who are motivated and knowledgeable about the subject area, and who are keen to analyse their own practice and make changes to improve this practice. Zuber-Skerritt and Fletcher (2007) see clear differences between the ethics and values associated with traditional research and AR. Eikeland (2006) in discussing the work of Zeni (2001, p.37) concludes that 'conventional research is unfit for action research because of its practice of 'othering' human beings as research subjects'. Zuber-Skerritt and Fletcher (2007) highlight the important role that Institutional Review Boards (IRBs) in universities play in ensuring that ethical standards are followed to protect any human beings associated with research. Zuber-Skerritt and Fletcher (2007) argue that such ethical regulations,

'have been designed for conventional positivist research that is able to articulate well-defined hypotheses, pre-determined methods and predictable or expected outcomes in advance. In action research there cannot be such pre-determination, because by its very nature AR is open-ended, collaborative, situation specific, methodologically eclectic, and thus not prescriptive in its use of methods, processes or final goals' (p.423)

Chapman et al (2011) in citing the work of Davison et al (2004), state that, 'Action Research has been recognised for the relevance of its results but criticized as lacking in rigour, and while relevancy and rigour in research have often been

viewed as mutually exclusive, this need not be the case' (p.208). Chapman et al (2011) in emphasizing that the term "rigour" suggests "exactness" also cite Benbasat & Zmud (1999, p.5) who argue that "rigour" has also been defined as 'the correct use of methods and analyses appropriate to the task at hand'. Therefore, in this study the researcher ensured that he adhered to the principles of AR and that the data collection tools and analysis were conducted as accurately as possible.

As noted above, the study is solely qualitative and the next section draws on appropriate literature to discuss and justify the qualitative nature of this study.

3.6 Why Qualitative Research?

Whilst there have been many attempts to define qualitative research (Bryman, 1988; Silverman, 1993) there is no agreed definition. Flick (2014, p.17) states that it is 'not based on a unified theoretical and methodological concept', a view supported by Punch (2009) who regards it as a 'site of multiple methodologies and research practices' (p.115). Qualitative research aims to analyse participants' interactions and expressions in their local contexts (Flick, 2014), a view supported by Burns (2000) who points out that the main motivation for using qualitative methods 'is to capture what people say and do as a product of how they interpret the complexity of their world, to understand events from the viewpoints of the participants' (p.11). This research aims to investigate the views of the PGCE PE group in relation to their use of various reflective practice approaches and how these approaches helped influence their own teaching and pupil learning, therefore it will be vital to gain access to their thoughts, decision-

making and particular teaching context. Hence, qualitative research methods will be employed to allow the researcher to gain access to such information that will allow him to answer the research questions.

3.6.1 Theoretical and philosophical foundations of qualitative research

Maxwell (2013) stresses the importance of understanding the underlying theories connected to qualitative research. He argues that 'the distinction between positivism and constructivism underlies the epistemological discussion of qualitative research quite widely' (Ibid, p.75). Maxwell (2013) emphasises that as an epistemological programme, positivism dates back as far as Auguste Comte (1800s) who argued that 'sciences should avoid speculation and metaphysical approaches, rather; they concentrate on studying observable facts' (Maxwell, 2013, p.75). Maxwell (2013) sees positivism as being 'characteristic of the natural sciences' and points out that quite often in qualitative research it is highlighted negatively by the researcher in an attempt to justify what they perceive as their superior qualitative approach. Malterud (2016) in demonstrating that qualitative research is situated within the interpretative paradigm, insists that a basic understanding of the differences between the positivist and interpretative paradigms is essential before employing qualitative research methods.

3.6.2 Positivism versus interpretivism

Cohen et al (2011) claim that educational research has 'absorbed several competing views of the social sciences' (p.4) with the traditional view being that the natural sciences and the social sciences are very similar. Those who hold such a view believe that both sciences are focused on discovering 'natural and

universal laws' (Ibid, p.5) which not only explains the behaviour of individuals, but also general social behaviour. The interpretive view, whilst seeking to maintain the same rigour as the natural sciences and the desire of the social sciences to explain human behaviour, highlights how individuals 'differ from inanimate natural phenomena and, indeed, from each other' (Ibid, p.5). Cohen et al (2011) argue that these conflicting views derive initially from 'different conceptions of social reality and of individual and social behaviour' (p.5). In consideration of the different views presented, it is important to emphasise that they represent 'strikingly different ways of looking at social reality and are constructed on correspondingly different ways of interpreting it' (Ibid, p.5), at the same time recognising that there are explicit and implicit assumptions underpinning these polarised conceptions.

Burrell and Morgan (1979) identified four sets of assumptions, the first of which belongs to the ontological category. Blaikie (1993), cited in Grix (2004, p.59) defines ontology as the study of 'claims and assumptions that are made about the nature of social reality, claims about what exists, what it looks like, what units make it up and how these units interact with each other'. Therefore, these assumptions are concerned with the precise nature of 'the social phenomena being investigated' (Cohen et al 2011, p.5). Ormston et al (2014) acknowledge that social science 'has been shaped by two overarching ontological positions in relation to these issues – realism and idealism' (p.4). Realists believe that there exists an external reality which is independent of their beliefs and understanding of the world, meaning that they see a distinction between the way the world is and the way in which individuals interpret it. Those with an idealistic view of the world believe that reality is 'fundamentally mind-dependent: it is only knowable

through the human mind and through socially constructed meanings' (Ibid, p.5), thus signifying that no reality can possibly exist independent of this.

The second set of assumptions relates to epistemology which concerns the nature of knowledge, how it is acquired and how it can be communicated to others. How researchers position themselves in this debate 'profoundly affects how one will go about uncovering knowledge of social behaviour' (Cohen et al 2011, p.6) with those who believe that knowledge is hard and objective undertaking an observer role whereas those who regard it as subjective will become involved with their subjects, thus dismissing the approaches adopted by natural science. Cohen et al (2011, p.6) state that to 'subscribe to the former is to be positivist; to the latter, anti-positivist or post-positivist' or to belong to the interpretative paradigm. Ormston et al (2014) explain that one view of knowledge acquisition relates to induction, a 'bottom up process' whereby particular 'patterns are derived from observations of the world' (p.6) with the opposing view that knowledge is acquired through the process of deduction, a 'top down process' which involves the testing of particular hypotheses against planned observations. In other words, 'inductive processes involve using evidence as the genesis of a conclusion – evidence is collected first, and knowledge and theories built from this', whereas for deductive processes the evidence generated is used to either 'confirm or reject' the hypothesis (Ormston et al, 2014, p.6). However, they are quick to claim that labelling qualitative research as 'inductive' is a 'rather misleading qualification' (Ibid, p.6) and Blaikie (2007) agrees that 'pure' induction or 'pure' deduction does not exist. Ormston et al (2014) capture this by arguing that when inductive research begins, the researcher is unable to approach the process with a clear mind since the research questions, data collection and

subsequent analysis techniques will 'have been influenced by assumptions deductively derived from previous work in their field' (p.6). As previously stated, the researcher did not have a hypothesis to test and, therefore, conducted inductive research but acknowledges that this cannot be described as a purely inductive process. The research questions, choice of data collection instruments and approaches to data analysis have all derived from the researcher's engagement with the review of literature and the ongoing AR.

The third set of assumptions relates to basic human nature and the relationship that individuals have with their environment. Cohen et al (2011, p.6) argue that since 'the human being is both its subject and object of study, the consequences for social science of suppositions of this kind are indeed far reaching'. From these, two very different images emerge, one being the individual who appears to respond almost mechanistically to their surrounding environment, like puppets on a string; the contrasting image being one where the individual controls their own actions in a creative manner, thus creating their own environment (Cohen et al, 2011).

Cohen et al (2011) emphasise that the three sets of assumptions discussed above will directly impact on the methodological approaches adopted by researchers. Those researchers who view the world as being external to the individual will adopt a positivist approach whereby, they utilise quantitative methods such as questionnaires and experiments to gather factual data, therefore the choice of methods 'and how knowledge is gained, are critical' (Savin-Baden and Major, 2013, p.4). On the other hand, those who view the world as an arena where human beings through personal interaction can create their

own world, will make use of interviews, narrative accounts and personal constructs (qualitative methods) hence adopting an interpretive approach (Cohen et al 2011). Cohen et al (2011) also point out that one very important difference between the positivist and interpretive paradigms is their different theoretical conceptions. Those who adopt a positivist approach (normative researchers) aim to 'devise general theories of human behaviour' (Ibid, p.18) which can be validated by utilising complex methodologies deemed to remove them further from everyday life experience into an abstract world. In these contexts, the researcher does not interact with study participants as such interaction might possibly influence their behaviour (Savin-Baden and Major, 2013).

Those researchers operating within the interpretive paradigm will look to study 'humans in their natural settings rather than in experimental environments' (Lichtman, 2004, p.4), where verbal and visual communication are required to answer the research questions. In this context, the goal is not to devise general theories related to human behaviour, but to study individuals in their specific environment since society 'does not exist in an objective, observable form; rather, it is experienced subjectively because individuals give it meaning by the way they behave' (Savin-Baden and Major, 2013, p.6). Ormston et al (2014) suggest that such researchers cannot achieve neutrality meaning that their account will not be objective. They advocate an approach whereby inductive researchers should adopt the position known as 'emphatic neutrality', indicating that they acknowledge their research cannot be 'value free', but encourages them to be open and transparent regarding these underlying assumptions, values and biases, 'while striving as far as possible to be neutral and non-judgemental in their approach' (Ormston et al, 2014, p.8). The researcher in this study made a

genuine attempt to acknowledge his assumptions and values relating to the role of reflection in teaching and learning.

3.6.3 Reason for a qualitative not a quantitative approach?

The researcher aims to highlight why this study utilised only qualitative methods and not a quantitative approach. Ritchie and Ormston (2014) assert that there are occasions when the use of qualitative approaches 'will be the only approach needed to address a research question' (p.37). They have identified six features, that, if associated with a topic under investigation, will 'necessitate the sole use of qualitative inquiry' (Ibid, p.37). The six features are:

- Ill-defined/not well understood – on occasions it may be necessary to conduct qualitative research when the topic needs greater clarification before being measured or tested. As noted in the review of literature, reflective practice is still not well understood.
- Deeply rooted – if the topic under investigation relates to the participants' underlying values and beliefs and if connected to a sensitive topic, then this will require skilful questioning that allows the individuals time and space to explore emerging issues. The review of literature highlighted that central to developing pre-service teachers' reflective skills is having them reflect on their underlying values and beliefs.
- Complex – if the topic under investigation is complex where the researcher is attempting to gain an understanding of phenomena

'which are innately intricate or conceptually difficult to relate' (Ibid, p.38). As has been previously highlighted, the nature of reflective practice is very complex and because the researcher aims to unpack students' responses and thoughts in relation to this topic, they will need time to discuss and debate the emerging issues thus rendering only qualitative approaches suitable.

- Specialist – if the participants under investigation hold a very important role in society. Examples of such people include senior officials or 'experts' and due to their particular role, the researcher will require the use of 'exploratory and responsive questioning' (Ibid, p.38).
- Delicate or intangible – capturing an understanding of topics in social science can be very difficult, sometimes due to the exact nature of the area itself, which is 'either ethereal or unseeable' (Ibid, p.38). The topic of reflection in this study relates to this feature as the researcher is trying to investigate students' reflections which is a cognitive process that differs for everyone. Capturing these thoughts and feelings can be difficult and, therefore, requires the use of carefully considered responsive questioning that allows participants to discuss and debate their views.
- Sensitive – topics of a very sensitive and personal nature would require effective questioning from the researcher as he/she will want the participants to explore feelings and emotions that may possibly have caused them previous stress and anxiety.

This research centres on Post-Graduate Certificate in Education (PGCE) students. In addition to the points identified above regarding the unique features of this study, the researcher's starting point for choosing qualitative methods was in response to Flick (2014), who advises that decisions around methodological choices should be based on whether the 'research question requires the use of this sort of approach and not a different one' (p.12). The research questions in this study could not be answered by using surveys or experiments since, as previously noted, the topic under investigation is complex and thus it was essential to 'design methods that are open to the complexity of a study's subject' where 'objects are not reduced to single variables: rather, they are represented in their entirety in their everyday context' (Flick, 2014, p.15). Prior to addressing the research instruments used to gather the data in this study, sampling measures will be discussed.

3.7 Sampling

The participants in this study were the 11 PGCE PE students from the 2017-18 cohort. As previously noted, this group represented the entire population of those enrolled for a post-primary PGCE PE in Northern Ireland. Therefore, whilst the number of participants is small, the sample represents 'the whole population in question', meaning it is a 'valid sample' (Cohen et al, 2011, p.151).

It was decided to focus solely on the PGCE PE group, since the study was investigating the use of various approaches to reflective practice in the context of PE. Therefore, purposive sampling was employed. Patton (1990) notes the strength of purposive sampling, stating that, the 'logic and power of purposive

sampling lies in selecting information-rich cases for study in depth... from which one can learn a great deal about issues of central importance to the purpose of the research' (p.169). This view is supported by Cohen et al (2011) who point out that when using purposive sampling, 'researchers hand-pick the cases to be included... on the basis of their judgement of their typicality or possession of the particular characteristics being sought... they build up a sample that is satisfactory to their specific needs' (p.156). According to Teddlie and Tashakkori (2009), the type of purposive sampling used in this study falls into the category of 'typical case sampling' (p.174) since the sample 'includes the most typical cases of the population under study' (Cohen et al, 2011, p.157).

Apart from the end of induction year focus group which involved five participants, all eleven students were participants in each of the other data collection phases. Towards the end of the induction year, the researcher invited those participants (7) who had completed one full year's teaching to attend a focus group interview. The remaining four participants had not completed their induction year and therefore did not meet the criteria. Of the seven who were invited to attend, five made themselves available. Figure 10 below provides an overview of the sample participants.

Student	Gender	Coaching experience
A	Female	5 years
B	Male	8 years
C	Female	4 years
D	Female	3 years
E	Female	1year
F	Male	2 years
G	Male	3 years
H	Male	5 years
I	Male	3 years

J	Female	4 years
K	Female	1 year

Figure 10 - Overview of student profile

Across the group, the students possessed levels of expertise in the following areas: athletics, badminton, boxing, football, gaelic football, hockey, hurling, rugby and swimming. All students competed at least senior club level, with many competing at county level, a few competing at provincial level and one at international level.

3.7.1 Ethical Issues

According to Cohen et al (2011, p.76), 'ethical issues may stem from the kinds of problems investigated by social scientists and the methods they use to obtain valid and reliable data'. The researcher adhered to the research ethical guidance provided by the School of Education, Ulster University and obtained ethical approval for all stages of the research. One of the key ethical aspects of this research was 'obtaining the consent and cooperation' (Ibid, 2011, p.77) of all participants in the study. Miller and Boulton (2007, p.2202) note that 'informed consent is based on the ethical principles of respect for the dignity and worth of every human being and their right to self-determination', a view supported by Howe and Moses (1999) who regard it as the main component of ethical behaviour.

All participants in this study were fully informed as to the purpose and protocols associated with the research. They were also made aware that they could refuse to take part or withdraw from the research at any time (Cohen et al, 2011). All participants were assured that they would not be identified in the study. As the

study was solely focused on the PGCE PE group, it was important to make them aware that they would be identified by a coded letter, an approach encouraged by Frankfort-Nachmias and Nachmias (1992). Being aware of his dual role, as PGCE PE tutor and researcher, it was important for the researcher to assure students from the outset that this study would involve a critique of reflective practice approaches. The researcher was open and honest with the group, outlining the many problems and complexities associated with reflection and that he was still learning about this concept. Therefore, it was hoped that this would ease any concerns or worries that the students may have in terms of feeling the need to agree with the views of the researcher, since the researcher did not possess views as to what constituted effective reflective practice. The researcher also reassured the students that their responses to weekly reflections would not impact their performance on the course by stressing that it was important for them to be open and honest when reflecting. The weekly reflections were not formally assessed so the students were not under any pressure to complete these to a particular standard.

As noted above, the students engaged in video-assisted reflection, which involved video recording a taught lesson during SE2. Post-primary pupils were involved, meaning that the researcher had to obtain parental consent and pupil assent. According to Al-Sheyab et al (2019, p.7), 'Protecting children's and adolescents' rights and welfare is the main reason to seek both parental consent and child assent'. The researcher provided all parents with a clear description of the research protocols, meaning that they were fully informed prior to consenting or not consenting. The parents were made fully aware as to how the video recordings would be stored and that once analysed, they would be destroyed.

Parents were approached before the pupils were approached, which Cohen et al (2011) cite as being good practice. If a parent or guardian consented to their child being part of the research, then this child was approached. Each child was provided with an information sheet that clearly outlined the nature of the research and what their role would be. The language used in the information sheet was tailored to suit the pupils' ability levels, ensuring that the pupils understood what they were assenting to or not assenting to (Fine and Sandstrom, 1988). The pupils were made aware that they did not have to take part and if they did agree, they could change their mind at any time. For those pupils who did not receive parental consent or for whom consent or assent was withdrawn, it was important to ensure that they were not in any way educationally disadvantaged. These pupils were accommodated by 'placing them in a video black spot' (Hackling, 2014, p.3) where they completed appropriate non-participant learning tasks. Hackling (2014) notes that one of the greatest concerns for participants is that the video may capture them in 'circumstances that would be embarrassing' (p.3). It was agreed that if such a situation arose during one of the recordings that the particular section(s) of the video would be deleted. It is important to emphasise that the use of video recording in PE lessons is common practice (Kibble and Cayley, 2003) and that the ethical dimensions associated with its use is different to the use of video recording in traditional classroom contexts.

Even though the students were completing their teaching practice in the schools involved, it was important that written approval to conduct the research was obtained from the school. The researcher obtained written approval from the schools involved prior to contacting parents and pupils, an approach that is supported by Bell (1991). Ethical approval documentation and sample consent

and assent forms can be found in appendix 3. Figure 11 below provides an overview of the AR cycle and how it helped to shape the data collection process.

3.8 Data collection and research instruments

2017-18	Reflective approach	Students' work	AR cycle
Semester 1 and 2	<p>Peer teaching: After each session, the student who taught the lesson received verbal feedback from his/her peers and the course tutor. The student recorded the feedback on their phone for the purpose of helping them to reflect on their practice. However, the students were encouraged but not required to post a reflection to the online discussion board.</p>	<p>Semester 1</p> <p>Students did not have to complete a lesson reflection.</p>	<p>At the end of semester 1, student feedback on this process was positive.</p> <p>Based on the researcher's ongoing engagement with review of literature and his analysis of student comments, he felt there was a need to discover how the feedback was shaping or changing the views of those who taught each lesson as they seemed to be simply accepting the comments without question.</p>
		<p>Semester 2</p> <p>During the peer teach sessions in semester 2, each student who taught the lesson would complete a 5-minute individual reflection whereby they noted strengths of the lesson and areas for development. They gave this to the researcher prior to the beginning of the post-lesson feedback discussion which was again recorded on their phone. Each student was therefore tasked with comparing their initial reflection on the lesson with the feedback. They were given 3 days to complete the comparison and</p>	<p>Feedback on semester 2 approach was positive with students commenting on how the feedback made them rethink their reflective thoughts, something they did not do during first semester</p>

2017-18	Reflective approach	Students' work	AR cycle
		upon completion send what they learned from the process to the researcher.	
SE1 and SE2	Online weekly reflections: in semester 1, students began reflecting on two lessons, one lesson deemed to have been poor and one that was fairly good. Gibbs' cycle was used to help students structure their reflections.	During SE1 , majority of reflections were categorised as low-level (pre-reflective and surface) with just 2 students managing to produce a pedagogical reflection.	Student feedback reported that they found the process time-consuming and that the reflection on the better lesson was not useful. Based on this feedback and the researcher's analysis of reflections, it was decided that for semester 2, students would reflect on just one lesson that they deemed required much improvement.
		SE2: students reflected on one lesson that required much improvement. Quality of reflections were higher with fewer pre-reflections and more pedagogical reflections.	Student feedback was positive on the switch to just one reflection with 'saving time' being the greatest benefit. Researcher's analysis of reflective work and student feedback resulted in the decision to maintain this for semester 1 of 2018-19.
SE1 and SE2	Peer review: students were required to observe a peer teach as well as have their own teaching observed. Students were required to reflect on this and share reflections with peers and tutor via online discussion board – to use as their weekly reflection.	SE1: majority of reflections were low-level (pre-reflective and surface level) with just one pedagogical reflection from student G.	Student feedback was positive with most comments referring to picking up 'tips' and making them think about their practice and the opportunity to experience a 'different' PE department. Based on this feedback, the researcher's reflection of the process it was decided to change the process for semester 2. Students would follow the same protocols as semester 1 but in addition they would audio record the post lesson feedback discussion and send this

2017-18	Reflective approach	Students' work	AR cycle
			to the researcher. This was in an attempt to investigate the influence of the post lesson discussion and the reviewer's feedback on each reviewee's lesson reflection.
	SE2: Students engaged in peer review and audio recorded the post lesson discussion. After the lesson the reviewee completed their initial lesson annotation and then they engaged in the post lesson discussion. Students then shared their reflection via the online discussion board.	SE2: quality of reflections increased with just one pre-reflective reflection, seven surface level and three pedagogical	Student feedback was positive, with the majority of students noting that the audio recording helped them to reflect better on the lesson. It was decided to continue this approach in 2018-19.
SE2	Video-assisted reflection: students had one lesson during SE2 video recorded by their mentor. When the lesson concluded the student was to complete initial reflection by annotating lesson plan. Then the student and mentor observed the video and recorded their observations. The mentor and student then engaged in a feedback discussion of the lesson. The student then completed a lesson reflection and posted to online discussion board.	Only six students engaged with this process with four students producing pedagogical reflections and two producing surface level reflections which did contain pedagogical segments.	The decision to introduce this approach was based on the researcher's ongoing review of literature and suggestion by one of the students who had noted in his discussion with the researcher that he would like the opportunity to video record and watch himself teach. This approach was the most successful and was introduced to the 2018-19 cohort.

Figure 11 - AR cycle during data collection phase (2017-18)

Apart from the end of induction year focus group which took place in June 2019, all other data were collected from October 2017 – June 2018. The following data collection tools were used :

1. Online weekly reflective accounts
2. Peer review lesson reflections and audio recorded feedback discussions
3. Video- recorded assisted reflections
4. Lesson observations
5. End of PGCE focus group interviews (June 2018)

3.8.1 Weekly reflective accounts

The first phase of data collection (October 2017 – January 2018) involved each PGCE student completing two weekly reflections during SE1, which focused on one successful lesson and one lesson deemed to be less successful. Due to Christmas exams and end of term activities, the students each completed 20 weekly reflections (10 weeks x 2). Using their annotated lesson plan notes, they used Gibbs' Reflective framework (appendix 2) to compose each weekly reflection which when completed was posted to the online discussion board, iTunesU. The purpose of having students post their reflections to an open group forum was based on the premise that students would benefit from sharing their reflections with others in the hope that the shared goals of the group would create a positive learning environment for the students. Students were also encouraged to comment on each other's reflections, with a view to making peers think more deeply about their reflections. The students were provided with sample

comments from previous cohorts, thus giving them an insight into how comments should be posted in terms of online interaction and what constituted appropriate etiquette in such environments. The researcher also highlighted good practice from previous online discussions in relation to the use of appropriate questioning to help stimulate further discussion and debate, thus preparing the students for engagement in the online environment. The students were to post their weekly reflection anytime from Friday evening until Sunday night at 9pm.

As noted in the overview of the AR period of study, the students completed just one weekly reflection during SE2 (February – May 2018) where the focus was on lessons that required improvement. Each student completed 11 weekly reflections and similar to SE1, they were to post these anytime between Friday evening and Sunday night at 9pm. During the 2nd university teaching block (January 2018 – February 2018), in preparation for SE2, the researcher conducted two reflective practice workshops. The content of these sessions was based on the researcher's reflection of the first semester whereby he focused on developing students' depth of reflection. For example, in one of the sessions, the students were given 10 sample weekly reflections (using Gibbs' framework) of varying quality and using Larrivee's (2004) reflective framework, were tasked with assigning a level to each reflection. The exercise was completed in pairs and once students had the time to review and assign a level to each reflection, each one was taken and reviewed as a group whereby each pair would confirm the level they provided and why. Student feedback on this session was positive where the students commented on being able to see the difference in the levels of reflection. Another change to the process for SE2 was the creation of a buddy system whereby each student would read and comment on their buddy's

reflection rather than feeling under pressure to read and engage with all group members. Since the process would be less time-consuming, it was hoped that students would engage with their buddy in a meaningful way.

Cohen et al (2011) argue that 'accounts focus on language in context' and highlight that 'the field of language and language use is vast' (p.444). These reflective accounts are 'personal records of the events' (Cohen et al, 2011, p.445) experienced during and after the lessons they taught and help to explain their past actions (ibid). Whilst it was noted in the review of literature that different authors had different views regarding the use of written reflective accounts, the researcher believed that having the students produce written reflections was the best way to capture their thoughts (Fund et al, 2002). Handy and Ross (2005) note that the 'relationship between the spoken and the written word has been discussed by many linguists, philosophers and social scientists; with a wide range of views being expressed' (p.41). Ong (1982), cited in Handy and Ross (2005), argues that because written accounts are permanent records of participants' thoughts, they are more coherent and self-reflective than oral accounts. Handy and Ross (2005) support this view, stating that, 'Written accounts are therefore likely to be more self-consciously ordered and more reflective than verbal accounts' (p.41). However, Atkinson (1997) points out that both oral and written accounts are unlikely to be fully accurate and should not be viewed as unproblematic. Polkinghorne (2005, p.138) agrees, stating that, 'data, whether in oral or in written discourse, are not identical to the experience they are describing'.

Handy and Ross (2005) emphasise that because all data are produced in particular social contexts, 'respondents' accounts will therefore be influenced, consciously or unconsciously, by...factors such as social norms concerning the way feelings and behaviour should be portrayed, the desire to present themselves in a particular light, ...and level of rapport with the researcher' (p.41). Polkinghorne (2005) notes that a self-reflective account 'about human experience has inherent limitations...Because experience is not directly observable, data about it depend on the participants' ability to reflectively discern aspects of their own experience...effectively communicate what they discern through the symbols of language' (p.138). Whilst it is clear that both oral and written accounts are not entirely accurate, Handy and Ross (2005) point out that in oral responses, individuals can 'forget earlier responses, lose their train of thought or be unprepared... and therefore unable to answer, verbal questions', whereas 'written questions can be considered before being answered... answers can be written at a time and pace of the respondent's own choosing' (p.41). Therefore, considering that the weekly reflections were designed to encourage deeper reflective thinking, it was decided that written accounts would allow students the best opportunity to consider their experience in a more in-depth manner.

3.8.2 Peer review process

The main feature of this study was the investigation of different approaches to reflection, a key one being the use of peer review as a means of developing students' reflective skills. This approach was adopted based on the review of literature where positive empirical findings were cited in relation to the use of peer review and the findings from the reconnaissance study, where students reported

that they found the process to be beneficial. In order to help answer research questions 1 and 2, it was important that the researcher designed a protocol for peer review that ensured each PGCE student completed the process in a similar format, thus helping to validate the findings emerging from the process. The researcher designed the following protocol for the peer review process which took place during SE2.

1. Plan

Arrange each lesson through Heads of Department (HODs) and your peer reviewer. Ensure schools and HODs are informed well in advance (at least 1 week).

2. Minimise Disruption

When observing, choose a time when you will not miss any teaching. Arrive promptly and ensure you sign in at the school at reception. Your peer review partner should escort you throughout the school at all times during your visit.

3. Observe

Observe your peer review partner and complete the Peer Observation Template similar to that used by your tutor. Keep your comments evidence-based and focused on competences.

4. Wait then Listen

When the lesson has concluded allow your buddy to complete their initial reflection on the Initial Reflection Template. Then complete your annotation or make a list of main points (strengths and areas for development). Listen to your peer review partner: have they identified aspects of their practice that you did not pick up on during your observations?

5. Feedback

When your peer review partner has completed their initial reflection, then provide your feedback. Be sensitive when providing feedback but tell the truth which you must be able to support with evidence. Begin with strengths and then areas for development, explaining why you have identified the latter. Aim to generate a two-way discussion – avoid being completely didactic by posing questions that will make your buddy think more deeply about their practice.

6. Take Note

The student who taught must then write down any issues raised by the reviewer that they had not noted as part of their initial reflection. This must not be a paper exercise to create the illusion of a 'successful' process. The record should present a true reflection of the points for development identified through the process.

7. Identify Focus

The student teacher then selects the main issues highlighted by the reviewer and reflects upon these in greater detail – answering why these aspects did not go so well. Was it poor planning? Poor choice of activity? Wrong teaching strategy?

Impact on pupil learning? How might you approach this aspect differently if teaching this lesson again? Use Gibbs' framework to help you structure your reflection.

8. Record & Share

As reviewee, you must audio record the conversation between you and your peer review partner and send to your tutor using your agreed sharing mechanism. You must also post your reflection to the online discussion board.

The data emerging from this process was in the form of the audio recorded feedback conversations and the completed reflections, using Gibbs' reflective framework. All 11 students engaged with the peer review process both as a reviewer and a reviewee. Each reviewee emailed their audio feedback discussion to the researcher and posted their reflection to the online discussion forum, iTunesU. All students had access to an iPad and used the 'voice recorder' app to record the feedback discussions. The shortest recording was 4 minutes 32 seconds and the longest recording was 11 minutes 37 seconds with the average recording being 6 minutes 45 seconds. The students had engaged with the peer review process during SE1 when the same protocol above was in place apart from 1 key difference:

(1) The post lesson feedback discussions were not audio recorded.

As noted in the overview of AR and data collection phases (p.145-7) it was decided that in order to measure the true impact of the peer review process, it was important to analyse how the feedback discussion impacted each reviewee's

reflection. Therefore, the most accurate way of doing this was to capture these discussions. Since the peer review reflections from SE1 did not capture the audio recorded conversations, it was decided to only analyse the reflections from SE2. In order to help prepare the students for this process, the researcher delivered two x 2hr feedback workshops where the focus was on modelling various types of feedback and addressing effective and ineffective feedback, as well as some basic advice regarding etiquette and protocol when giving and receiving feedback. It was hoped that by engaging in these sessions that the students would feel more confident in delivering appropriate feedback to their peer and that when receiving feedback, they would welcome it in a professional manner.

According to Kyprianou et al (2016, p.273), conversations 'are fundamental to the study of both language and human action and represent an important source of data in social sciences'. They regard such data as 'naturally occurring' whereas interviews are more scripted, since 'Interview responses may be shaped and filtered to some degree by the logic of researchers' questions' (Ibid, p.274). Creswell (2007) agrees, noting that the spontaneous nature of conversations helps to illuminate the meaning that individuals attach to the area under discussion. However, Wyatt et al (2007) point out that when such conversations are audio recorded, this can stand 'in the way of collecting truly natural data' (p.213). This view is supported by Miltiades (2008) who notes that respondents may be inclined to provide socially desirable responses. It is important to note that whilst the post lesson discussions between peers in this study were conversations, it is possible that knowing their discussions were being audio recorded, impacted how they interacted and responded, meaning that the discussions may not have been a fully accurate account of their thinking. The

purposeful nature of these conversations means that they cannot be classed as an 'everyday conversation' (Dyer, 1995) but they are different to an interview which is often '... constructed and usually a specifically planned event' (Cohen et al, 2011, p.409). The reviewers in these post-lesson discussions shaped the conversations via what they observed in the lesson and what they considered to be important areas to explore. However, unlike an interview, they did not have carefully constructed pre-planned questions and in some cases, some reviewers will not have used questions during their discussion. Whilst the use of audio-recording is selective and 'filters out important contextual factors, neglecting the visual and non-verbal aspects' (Ibid, p.426), it was important to record these conversations so the researcher had access to the actual spoken words of the participants in order to make an accurate comparison between these discussions and how they impacted the students' reflections. The next sub-section discusses the data collection process for video-assisted reflections.

3.8.3 Video-assisted reflection

The researcher received ethical approval from Ulster University's research ethics committee to permit the video recording of each PGCE PE student's teaching practice. From the 11 students, six managed to have one lesson video recorded. From the remaining five students, two completed a Special Educational Needs (SEN) placement where they were not engaged in formal teaching and due to the specific nature of SEN schools, it was decided that video recording in this context would not be appropriate. The other three students all encountered difficulties with the scheduling of junior exams and, therefore, did not manage to conduct this process. The decision to have students video record their lessons emerged

from the review of literature where all empirical data relating to video use and reflection highlighted positive findings. The researcher was therefore keen to explore this area with the PGCE students and the data emerging from this approach was used to help answer research questions 1 and 2. Similar to the process of peer review above, the researcher produced a protocol for the students to follow when having their lesson recorded. The protocol was as follows:

1. Students select one class to teach whilst being video recorded by their school mentor (PE staff member)
2. Information sheets, consent forms and pupil assent forms to be delivered to parents and pupils.
3. Upon receiving consent and assent forms, the student plans their lesson. Each reviewee returns the consent and assent forms to the researcher.
4. The student's mentor video records the lesson.
5. Immediately after the lesson, the student completes his/her normal lesson annotation reflection.
6. The student and their mentor observe the video as soon as is possible after the lesson. During the observation of the video, both the student and the mentor take notes on what they observe.
7. When the lesson observation has concluded, the student and the mentor discuss their notes. The mentor gives a copy of their notes to the student to help facilitate further reflection.
8. The student completes their lesson reflection using Gibbs' reflective cycle and shares it to the online discussion board.

9. The lesson annotation, student notes and mentor notes to be emailed to the researcher.

Adherence to this protocol was crucial as the step-by-step approach allowed the researcher to assess the impact of the approach. The students' written reflections were subjected to content analysis. Similar to the assessed weekly reflections and the peer review reflections, each reflection was assessed against Larrivee's (2004) reflective framework. In order to increase the accuracy of this process, the experienced teacher educator colleague assessed four of these reflections, choosing four different students than he chose for the peer review comparison.

According to Cohen et al (2011, p.531), 'moving images are powerful in a range of methodologies of educational research...They can catch both the everyday routines and practices of participants'. Penn-Edwards (2004, p.267) agrees, noting that video 'enables spontaneous and transitory information to be captured'. The students in this study utilised the videoing category of 'subject viewing', whereby they viewed a recording of themselves (Ibid). Penn-Edwards (2004) notes that this type of video-recording is most suitable for areas such as 'teacher reflection and student learning' (p.269) thus indicating that its use in this study was appropriate. According to Shi et al (2001, p.269), video-recordings are 'authentic communication data without question', a view supported by Feak and Salehzadeh (2001). Cohen et al (2011) note, however, that whilst 'the data are rich... they are also selective depending on the focus and angle of the camera' (p.531). The teacher mentors were responsible for recording the lessons in this study and all recordings were completed via the use of an iPad, meaning that it was a moving camera. Cohen et al (2011, p.531) note, the latter, 'whilst it may

catch close-up detail, is highly intrusive and artificial'. Penn-Edwards (2004, p.273) also acknowledges that the use of video can affect the behaviour of the subject, in this case the student teachers, in that they are likely to alter their behaviour, 'even if they are convinced their behaviour patterns are constant and normal' since they normally have 'a conscious awareness of a potential audience' (p. 273). In this case, the student teachers were being recorded by their mentor, someone who was evaluating their performance, therefore, it is likely that the students felt under pressure to perform and that their behaviour was not a true representation of what could be considered their normal behaviour. Given the potential for selectivity, Flick (2009) encourages the use of video as part of a wider database and not to be used as a single collection method. As noted above, video was one of five data collection tools used in this study. Issues pertaining to how the video datum was analysed, will be discussed in section 3.9.3 (p.188-9). The next section discusses the use of observations as a data collection tool.

3.8.4 Lesson Observations

The researcher conducted lesson observations of all 11 PGCE students, but it must be emphasised that these observations are part of the normal assessment procedures associated with this course. During one of these observations there was a specific focus on observing whether the student had utilised their previous weekly reflection, so the researcher deliberately planned to observe the same class that were the focus of that reflection. According to Cohen et al (2011), these were structured observations where the researcher had 'observation categories worked out in advance' (p.457). Bell (2010) notes that structured observations have been criticized for 'being subjective and biased' since researchers 'have

decided on the focus rather than allowing the focus to emerge' (p.195). Regardless of whether an observation is structured or unstructured, 'your role is to observe and record in as objective a way as possible' (Ibid, p. 195). Denscombe (2007) in acknowledging that observations can create subjective opinions, points to the importance of using an observation schedule, stating that, 'The whole purpose of the schedule is to minimise , possibly eliminate, the variations that will arise from data based on individual perceptions of events and situations' (p.209). The researcher used Ulster University's School of Education observation report schedule which includes the 27 competences as set out by GTCNI (2011). In order to fulfil his professional duties, the researcher was obliged to use this observation schedule.

The researcher conducted the observation in the normal way but with a deliberate focus on how the students had used their previous weekly reflection to inform lesson planning and subsequent teaching and learning. As is normal procedure when conducting a lesson observation, the researcher reviewed the lesson plan and accompanying resources. In addition to this, the researcher analysed the lesson plan for any evidence relating to how the student had used their previous weekly reflection to inform the lesson planning. Written notes were made as to whether or not the student had utilised the weekly reflection to inform the lesson plan. These notes were not recorded on the observation schedule, but rather in the researcher's private notebook. When conducting the lesson observation, the researcher also recorded notes relating to how the student's weekly reflection impacted the student's teaching and pupil learning. Whilst it would have been ideal to have completed this process more than once for each student, the high

level of organisation and planning that it took to observe the same class that were the focus of the previous week's reflection was considerable.

These observations were used to help answer research question 4 which aimed to measure the impact of reflections on the students' teaching practice. As noted in the review of literature, the purpose of reflecting on practice is to ultimately improve teaching and pupil learning. Therefore, a key facet of this process for the students is taking the key action points from previous reflections and using the information to positively impact future lessons. Whilst the researcher was only able to investigate if each student did this on just one occasion, it does provide a realistic perspective as to how individual students were using their weekly reflections. The researcher was, therefore, checking if the students were doing what they said they were doing (Bell, 2010) and thus examining the 'phenomenon in its natural setting' under direct observation, as opposed to relying on a 'reconstruction or contrived rendition of it' (Grove and Fisk, 1992, p.218).

For these observations, the students were fully aware that their teaching practice was being appraised, therefore, the observation was unconcealed. With such observations, there is a chance that the students can change their behaviour to suit what they feel the researcher wants to observe, known as the "Hawthorne Effect". Regardless of whether an observation is structured or unstructured, 'observers will have their own focus and will interpret significant events in their own way' (Bell, 2010, p.192) meaning that there is a danger that observers can be 'subjective and biased' (Ibid, 2010, p.195). In terms of the research focus of these observations, the researcher was simply noting whether the student had made use of their previous weekly reflection in their lesson planning and

subsequent taught lesson. Therefore, this process was straightforward and not open to misinterpretation. It is possible that the researcher may have been guilty of subjectivity and bias in the remainder of the observation where he assessed the students' teaching performance, but this information was not part of the research data. The next section discusses the use of focus group interviews.

3.8.5 Focus Group Interviews

Litoselliti (2003) says that focus groups are utilised when the objective is to explore particular topics and participants' views and experiences 'through group interaction' (p.1) whilst also acknowledging that they are unique in terms of their 'purpose, size, composition and procedures' (p.1). Lichtman (2004) supports this view by highlighting the uniqueness of focus group interviewing: 'what distinguishes focus group interviewing from qualitative interviewing with a single individual is that the group interaction may trigger thoughts and ideas among participants that do not emerge during an individual interview' (p.207). Finch et al (2014) add that the key difference between in-depth interviewing and focus group interviewing is that in focus groups data are collected as a result of interaction between participants. They elaborate by stating that focus groups not only allow participants to 'present their own views and experience, but they also hear from other people...listen, reflect on what is said' (Ibid, p.212) thus allowing them to consider their own views further. Participant interaction is seen as being "synergistic" where a range of ideas and opinions are explored in depth, producing insightful information (Litoselliti, 2003). Considering the complexities surrounding the phenomenon (reflective practice) that have been highlighted in the review of literature, it was decided to conduct focus groups to enable the

PGCE PE group to explore issues in greater depth. It was hoped that by conducting focus group interviews, the participants would stimulate each other to discuss or respond to issues in ways that would not happen during an individual interview (Lichtman, 2004).

3.8.5.1 Advantages of focus groups

Wilkinson (2004), whilst keen to highlight that focus groups can generate data fairly quickly from a large number of participants, believes that focus group settings are more 'naturalistic' than individual interviews (i.e. closer resemblance to normal conversations), in that, 'they typically include a range of communication processes, such as storytelling, joking, arguing.... persuasion, challenge and disagreement' (p.180). Kruger (1994) agrees that focus group settings are more natural where members 'are influencing and influenced by others – just as they are in real life' (p.19). Wilkinson (2004) points to a common misconception associated with focus groups, that participants will be reluctant to reveal intimate details in the context of a group discussion' (p.180). Finch et al (2014) are quick to dismiss this misinterpretation, arguing that spontaneity is at the heart of focus groups where, through interaction with one another, group members 'reveal more of their own frame of reference on the subject study' (p.213). Wilkinson (2004) therefore believes that focus group research is likely to produce 'unexpected insights', many of which are 'unlikely to have arisen in the context of individual interviews' (p.182). Litoselliti (2003) sees this interaction between the group members and the moderator as a significant positive of focus groups with the process allowing for 'a variety of responses, clarification, probing, connections among points made, nuances and deeper levels of meaning' (p.19). Morgan

(1988) acknowledges that in focus group settings participants will share views, experience doubt and reconsider their own opinions, creating a process where the moderator will have less control over the interactions, resulting in less control over the data which emerge. Moreover, Litoselliti (2003) believes that the benefits to emerge from allowing individuals to explore the phenomenon in their own words often outweigh the limitations, since the collaborative nature of this process is 'a priority for social research projects' (p.19). Additionally, when participants are given the opportunity to express views in their own words and have the chance to re-frame their views based on group collaboration, many find the experience empowering (Ibid).

3.8.5.2 Limitations of focus groups

There are occasions, however, when focus group interviewing should not be utilised, particularly when the employment of other methods is considered to be more appropriate (Flick, 2014). For example, if wanting to access narratives, focus groups should not be used since 'group dynamics will confound and disturb the narrative in its development' (Ibid, p.253). Savin Baden and Major (2007, p.389) argue that focus groups are not an appropriate research method when the goal is to find out 'how common the expressed opinions are in a community, to document behaviours or to gain a detailed picture of specific or complex beliefs', a view supported by Stewart and Shamdasani (2015) who point to the small number of participants as significantly limiting the generalisation of the findings to a greater population. They also highlight a further limitation, arguing that focus group data may be 'biased by a very dominant or opinionated member' (Ibid, p.48), a view supported by Litoselliti (2003) who claims that focus groups can

create a false consensus due to some group members remaining silent as a result of strong personalities who dominate and heavily influence the discussion. The open-ended nature of focus groups is regarded as a challenge for researchers as it makes interpretation and analysis of the data more difficult (Litoselliti, 2003; Stewart and Shamdasani 2015), whilst Stewart and Shamdasani (2015) highlight moderator bias as a potential challenge where he/she may deliberately or unintentionally provide cues as to the 'types of responses and answers' that are desirable or in an attempt to 'achieve group consensus on particular topics' (p.48). Krueger and Casey (2015) warn that the interviewer/moderator should not take up a position of power nor should they attempt to influence the participants in any way. They argue that the interviewer must encourage all types of comments, both positive and negative, ensuring that they do not 'make judgements about the responses' or display 'body language that might communicate approval or disapproval' (Ibid, p.5).

Nevertheless, the researcher was keen to discover more about reflection and its impact on PGCE students' practice hence, focus groups were chosen as being the most appropriate research instrument with phenomenological (see Fig.12, p.172) considered to be the best type for this study. A key issue of reflection, previously highlighted in the review of literature, is that collaborative approaches to reflection have been found to be effective, therefore employing focus group interviews allowed the PGCE students to interact and discuss key issues connected to reflective practice, helping them become exposed to others' viewpoints which should allow them to review and reflect upon their stance on the various issues emerging in the interview. Another reason for choosing phenomenological focus groups is that the researcher is developing his

knowledge of the phenomenon (reflective practice) and this type of interview will expose him to a wider range of viewpoints and experiences thus helping to inform his developing understanding of the research topic.

3.8.5.3 Types of focus groups

According to Savin-Baden (2013) there are five types of focus group interview that researchers can utilise. Figure 12 below provides an overview of these five types.

Type	Purpose of the interview
Exploratory focus groups	To increase researcher understanding of an issue. Some basic open-ended questions are used. Typically used when utilizing pragmatic qualitative research and action research.
Phenomenological focus groups	To explore respondent group's views and experiences. Researcher seeks to understand, through group interaction, the essence of someone's experience, their consciousness and the essential features of someone's experience of a particular phenomenon.
Clinical focus groups	To examine participants' hidden views in order to explore what might be affecting their behaviours (Calder, 1977). These types of focus groups can be exploratory or focused on particular questions. Usually used in the health and medical professions when pragmatic and action research are being used.
Storyline focus groups	To enable researchers' understanding of the issues and concerns people find most important in a given situation. Participants are provided with a storyline with missing components which they are asked to complete. Used in action research and narrative approaches.
Issue developmental focus groups	To gain an overview of the reactions of the general populace. A presentation is made on two or more competing or controversial topics and the group's responses are noted. Often used in marketing, advertising and media.

Figure 12 - Types of focus groups

Choosing the most appropriate type of focus group is critical, ensuring that the type of focus group allows the researcher the best possible chance of generating the data that he or she wants to obtain. In consideration of the types listed above and the research questions being investigated, it was decided, as noted earlier, to use phenomenological type focus groups. A phenomenological focus group aims to 'understand the issue or topic from the everyday knowledge and perceptions of specific respondent groups' (Vaughn, Schumm and Sinagub, 1996, p.25) and this is what the researcher wanted to achieve. It was hoped that the adoption of a phenomenological approach would allow PGCE students to explore the issues emerging from group discussion in appropriate depth. The decision to employ phenomenological focus groups instead of exploratory focus groups can also be justified on the basis that when employing this approach, researchers will possess some knowledge of the area in question with the aim of developing a deeper understanding, whereas when researchers use the exploratory approach, they tend to have little knowledge of the area in question (Vaughn et al 1996). The researcher in this study has acquired a good knowledge of this area, therefore, exploratory focus groups would not be appropriate. The nature of the phenomenon being investigated (reflective practice) also lends itself to the employment of a phenomenological focus group interview as the review of literature clearly highlighted the contrasting views and complexities associated with this concept. It is likely that such views will emerge in these interviews and if they do so, the researcher wants to be in the best possible position to explore these issues in the greatest possible depth.

Phenomenological type focus groups tend to be of a semi-structured nature as opposed to being structured. Whether structured or unstructured, Kruger (1988)

suggests that no more than 10 questions should be used, with 5-6 being the preferred number. According to Lichtman (2004) a structured focus group interview tends to limit the 'nature of the discussion and is used in an attempt to lend a patina of objectivity to the task' (p.208) whereas in semi-structured focus groups, the moderator will have developed a list of questions accompanied by a pre-planned route for proceeding but will use this as a guide and be prepared to adapt it when required (Ibid). The focus group interviews used in this research could be described as 'semi-structured phenomenological'. Lichtman (2004) argues that whilst it is accepted that there are different types of focus group interviews, there are common aspects applicable to all types. She points out that all focus groups should consist of between 6 and 12 people who come together to discuss a specific topic for approximately 1 hour to 1 hour and a half. Litoselliti (2003) however whilst accepting that between 6 and 12 participants is the norm, emphasises that it is sometimes acceptable to have as few as four. She argues that smaller groups may be more appropriate when aiming to explore complex topics as well as allowing more opportunities for individuals to talk. At the end of PGCE, it was decided to conduct two focus groups, with group one comprised of six participants and group two comprised of five participants. Whilst it is acceptable to have 11 in one group it was felt that smaller groups would provide an opportunity for each individual to make a greater contribution. At the end of induction year (June, 2019), one focus group involving five participants, took place.

Krueger and Casey (2015) support the use of smaller focus groups and warn against recruiting groups that are too large, emphasizing that focus groups should never have more than 10 participants since large groups can be difficult to

manage and they restrict opportunities for individual group members to share their experiences and observations. Finch et al (2014) insist that certain issues need to be considered when deciding the optimum group size, one issue being the knowledge of group members in relation to the topic and their level of confidence in articulating viewpoints. They state that if the participants have an interest in the topic and can articulate their views with confidence then a 'smaller group is desirable' particularly if the group participants are professionals who are discussing aspects of their practice. For this study the PGCE students will be discussing how reflective practice helped shape their approaches to teaching and learning which is a further justification for using smaller groups.

3.8.5.4 Designing and using focus groups

Stewart and Shamdasani (2015) emphasise that focus group research follows the same procedures as other forms of research in the social sciences. They have outlined how it should be designed and conducted (see fig.13. below):

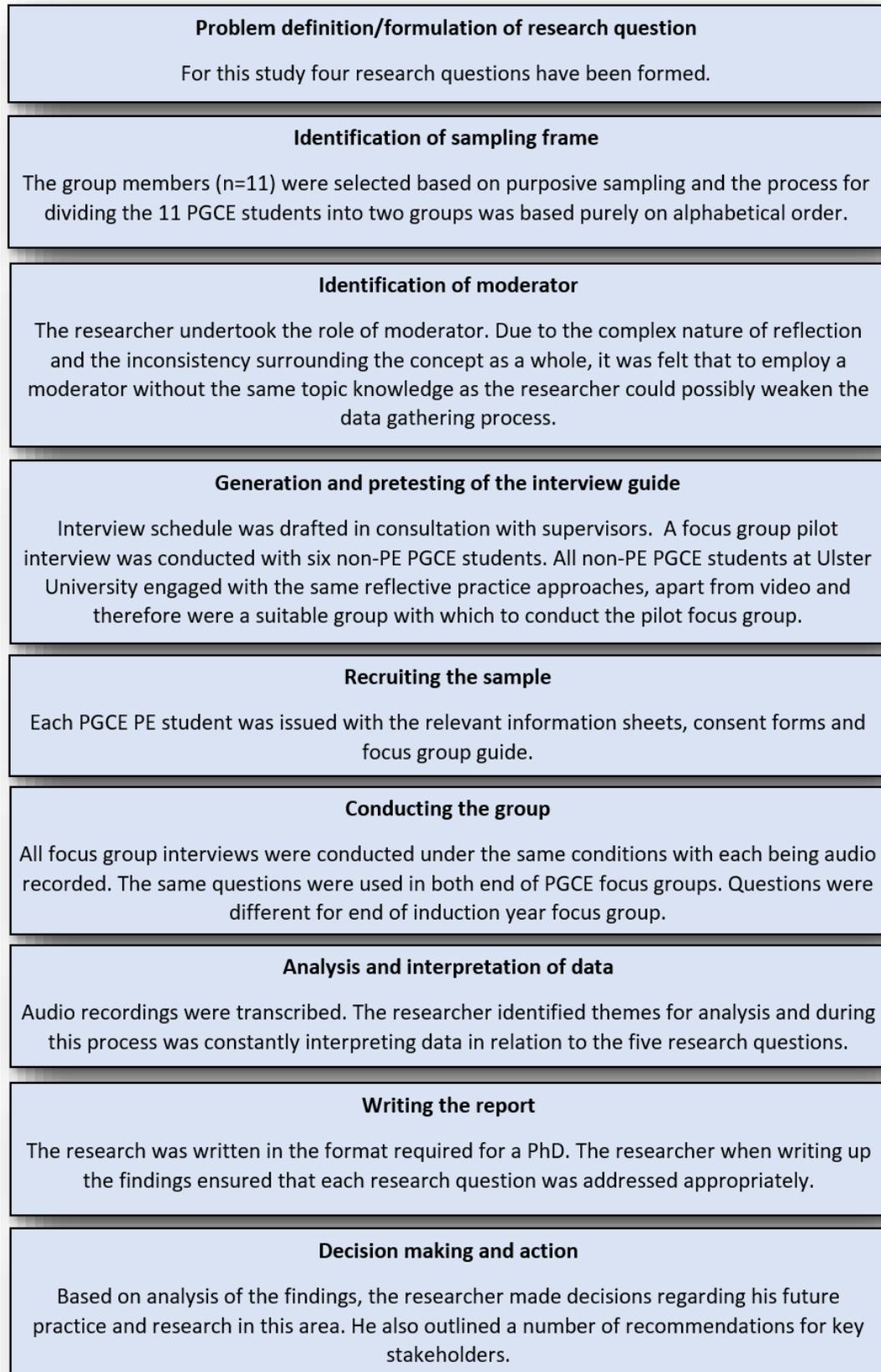


Figure 13 - Focus group design

Problem identification/formulation of research questions

Vaughn et al (1996) argue that the success of any research is 'directly related to how clearly the research problem is identified' (p.38), a view supported by Krueger and Casey (2015). Whilst some researchers often begin focus group studies by forming draft questions, they should spend longer considering the exact purpose of their research and then pose a series of fundamental questions (ibid). Stewart and Shamdasani (2015) believe that the formulation of effective questions is critical to the success of focus group research since a good question will 'elicit substantial interaction among group members' (p.69), an opinion shared by Krueger (1994, p.53) who states that, 'quality answers are directly related to quality questions'. Stewart and Shamdasani (2015) suggest that two general principles should be followed when developing an interview guide, the first being that the early questions should be more general, leading to more specific questions towards the end. The second principle is that questions should be sequenced in terms of their importance to the topic, with the more important questions positioned early in the interview with less significant questions coming at the end (ibid). The authors acknowledge that these principles appear to be conflicting but that it is possible to create a schedule that begins with general questions on a specific topic which then progresses to more specific questions before moving back to a general question on another topic. Krueger and Casey (2015, p.43) see the following as being crucial in the formation of a good questioning route:

- Begins with an easy question – one that all participants can answer
- Is sequenced so that the conversation flows naturally from one question to another
- Begins with general questions and narrows to more specific and important questions
- Uses time wisely.

It is interesting that Krueger and Casey (2015) do not advocate for a structure where the more important topics are explored before those of less importance, a position adopted by Litoselliti (2003) who believes that the most effective question route is to ensure that questions move from general to more specific, cued questions or what is also known as 'the funnel approach' (p.59).

The focus group question structure for this research followed this principle (see appendix 4) where the first question on each topic is quite general, followed by more specific questions. According to Krueger and Casey (2015), each question in a focus group does not carry equal weighting and effective researchers will deliberately use 'different types of questions at different times' (p.44). They identified five different types of questions: opening, introductory, transition, key and ending. They consider the opening question to be very important suggesting that it should be easy to answer and, therefore, should not be a discussion question but simply one that allows each group member to make an early contribution. The researcher followed this advice (see question 1 in appendix 4) where the first question required a factual response rather than a discussion. It

was easy to form and was used as a means of getting the participants to start thinking about the topic. A series of transition questions were created to serve as a 'logical link between the introductory questions and the key questions' (ibid, p.45). The researcher utilised appropriate transition questions (see appendix 4) that allowed the participants to explore issues in greater depth and help move the 'conversation closer to the key questions' (Ibid, p.45).

Litoselliti (2003) holds the view that the key questions should 'correspond to the main research questions of your study' (p.60) and that such questions should be planned in advance since they are the most significant ones to be explored during the focus group. Krueger and Casey (2015) maintain that the responses to these questions deserve very careful analysis whilst it is crucial that the moderator knows the key questions and allows adequate time for them to be fully answered. The researcher planned for key questions that related to the overall research questions (see appendix 4).

According to Krueger and Casey (2015) the ending questions are also of critical importance since they bring the discussion to a close and allow group members to reflect on their previous comments. They propose the use of three types of ending questions: 'the all things considered question, the summary question and the final question' (p.46). The researcher used the question below to bring the interviews to a close:

- Is there anything else that you would like to add before we finish?

Finishing with 'Have we missed anything'? allows the participants to make further contributions ensuring that 'critical aspects' are not overlooked (Ibid).

Stewart and Shamdasani (2015) note that questions should be worded in simple language which allow participants to respond, since complex questions can be difficult to respond to and can create irritation amongst the group members.

Identification of sampling frame

Focus groups normally consist of people who possess similar understandings of the topic in question since they are more likely to express their views and reveal more to those whom they perceive as similar to them' (Litoselliti, 2003, p.32). Finch et al (2014) believe that they are best conducted with strangers as they are more likely to speak openly and honestly in front of people who they will possibly never see again. However, they are quick to agree that the use of groups who know each other is also very common. Krueger and Casey (2015) stress the importance of identifying the precise characteristics of the people you need in your group, a view supported by Vaughn et al (1996) who comment that many focus groups involve participants who have been selected due to sharing predetermined characteristics and that, therefore, purposive sampling is the most common approach when selecting focus group participants. Lichtman (2004) supports the use of purposive sampling because in focus group research the researcher wants participants who possess either 'experience or expertise with regard to the topic' (p.209). For this research, purposive sampling was used, where each participant had to be studying PGCE Physical Education at Ulster University during the academic year of 2017/18, meaning each member had experience of reflective practice during their studies. The researcher also understands that by employing purposive sampling 'the primary goal is not

generalisability' (Vaughn et al 1996, p.58) but rather to gain a deep understanding of the topic in question.

Identification of moderator

Morgan (1998) notes that the moderator's role is crucial in determining the success of focus group interviews. They must possess sufficient knowledge and understanding of the topic in order to 'place comments in perspective and follow up on critical areas of concern' (Kruger & Casey, 2015, p.105). Litoselliti (2003) agrees, but emphasises that it is also important for the moderator to have an understanding of the culture of the group members so that they can be in a position to understand the 'potential nature of the group dynamics' (Stewart and Shamdasani, 2015, p.88). Therefore, the researcher took on the role of moderator during the focus groups since he is 'fully grounded in the purpose' of the research (Krueger and Casey, 2015, p.104) and having taught the PGCE PE students for the entire academic year of 2017/18, he has built a relationship with them and has come to know the various personalities which will help predict the group dynamics that are likely to emerge. The researcher was cognizant, however, of his dual role in this research and therefore took the necessary steps to minimise bias when conducting each focus group. Bloor et al (2001) emphasise the importance of the moderator facilitating the focus group rather than controlling the process, meaning they must ensure they do not lead the group but should aim to be as 'non-directive as is possible' (Finch et al 2014, p.223). However, Finch et al (2014) are quick to emphasise that when the researcher becomes the moderator, their role can be described as 'something of a hybrid' (p.222). In this role they are a moderator who controls the agenda in a manner that displays

appropriate restraint as well as being a facilitator who helps the discussion progress. The researcher, when moderating, made every effort to adopt a neutral and non-judgmental stance by encouraging all views whether positive or negative. He also made an effort not to 'communicate approval or disapproval' (Litoselliti, 2003, p.42) so that he avoided favouring or influencing group members towards a particular stance. The researcher is also aware that even if such a concentrated effort is made to reduce bias, it is possible that the researcher's views did have an impact on the participants in some way. He, therefore, decided to have a co-moderator present during each focus group interview, a practice endorsed by Lichtman (2004) who believes that a co-moderator can help to keep the discussion flowing as well as ensuring all group members participate. Krueger and Casey (2015) advise that selection of the assistant moderator must be given careful consideration. The researcher selected a colleague who has a wealth of experience in conducting focus group interviews in an attempt to compensate for the researcher's lack of experience in this area and to minimise unconscious bias. It was hoped that the deployment of this colleague would help to maximise the benefits that could possibly be gained from this process.

Generation and pretesting of the interview guide: The pilot study

The researcher decided to conduct a pilot focus group with six PGCE students from other subject groups (Home Economics (HE), Art and Design, Music, English, History, and Technology and Design). Considering that the researcher is inexperienced in the area of focus groups this was a good opportunity to trial the interview questions. The participants for the pilot interview were suitable considering that all members had engaged with the same reflective approaches

as the PE students, the only difference being that the PE group were the only group to have utilised video-assisted reflective work. Thus, the researcher was able to conduct the pilot focus group with individuals who were 'representative of those who will participate in the actual focus group' which is considered 'highly desirable' (Stewart and Shamdasani, 2015, p.74). The researcher was able to pilot all questions (apart from the one on the use of video) to assist with reflection. Krueger and Casey (2015) emphasise the need to conduct a pilot interview so that the researcher has the opportunity to find out if questions are easily understood as well as coming to understand which questions might require probes and the length of time required to answer each one. Upon listening to the audio recorded pilot focus group interview, the researcher identified issues that required improvement. For example, when question seven was asked, it was clear during the interview that the participants did not fully understand it. The researcher had to rephrase the question and when the interview concluded one of the participants annotated the question on her interview sheet, rephrasing it. The researcher used this information to amend question seven, showing that pretesting the interview guide is 'crucial' (Stewart and Shamdasani, 2015).

Recruiting the sample

The sample population and recruitment for the focus groups have been explained above, therefore, the researcher feels there is no need to repeat this information. Having been given the relevant information sheets regarding the purpose and nature of the research, all 11 PGCE Physical Education students consented to participating in the focus group interviews.

3.8.6 Conducting the focus group

As noted earlier, the researcher conducted each focus group interview and was assisted by an experienced colleague whose role was to take responsibility for room arrangements, logistics, interview recording and note-taking. The researcher was 'fully grounded in the purpose of the study' and had the ability to 'place comments in perspective and follow up on critical areas of concern' (Krueger and Casey, 2015, p.105). The pilot focus group highlighted an issue that the researcher addressed in each focus group. When listening to the pilot focus group interview it was noted that on two occasions the researcher revealed some personal views, an issue which Krueger and Casey (2015) argue should never happen as the moderator's role is to 'keep their personal views to themselves and focus on understanding the perceptions of the group participants' (p.105). During each focus group interview, the researcher made a very conscious effort to control his personal reactions in an attempt to ensure that the participants see themselves as the experts because 'once the moderator begins to explain or defend' (Krueger and Casey, 2015, p.105) the discussion dynamics change. Each focus group was conducted in a quiet, spacious room in the School of Education. All three sessions were recorded and then subsequently transcribed to facilitate analysis. The next section discusses how each data set was analysed, beginning with figure 14, which provides an overview of data collection, data analysis and how they align with each research question.

3.9 Data analysis structure

Research Questions	Methodological approach	Data collection	Data analysis
1. In what ways do pre-service PE teachers' reflective capacities change across the PGCE year?	Qualitative	88 weekly written and audio reflective accounts collected from Nov '17-Jan '18 and March '18-May '18.	Content analysis - use of key words/phrases to determine the level of reflection attained. Accounts assessed against Larrivee's reflective framework.
2. What approaches to reflection are most effective for developing pre-service PE teachers' reflective skills?	Qualitative	Weekly reflective accounts (as above). 11 Peer review audio recordings and completed peer review reflection collected during SE2 – March 18 – May 18. 6 video-assisted reflections during May 18. 2 Focus group interviews conducted in June 18.	Comparison of reflective approaches and the quality of the weekly reflections Larrivee's framework used to assign reflective levels. Analysis of peer review post lesson discussions and reflection. Analysis of lesson reflection against Larrivee's framework Content analysis of focus group data
3. Does having more subject knowledge allow pre-service PE	Qualitative	Weekly reflective accounts that focused on each students' area of expertise.	Content analysis of selected weekly reflections to find key words/phrases relating to the level of reflection achieved.

Research Questions	Methodological approach	Data collection	Data analysis
teachers to produce higher quality reflections?		Focus group data (as above).	Assign a level based on Larrivee's reflective framework Students' response to questions relating to their subject knowledge and how this helped shape their reflections
4. How do pre-service PE teachers make use of their weekly reflections?	Qualitative	11 Lesson observations - conducted across SE1 and SE2. Focus group data (as above).	Comparative analysis between the weekly reflection and the observed lesson – do the students use their reflections to inform planning and future practice Analysis of student discussion in relation to the impact of reflection on their practice
5. In what ways do pre-service PE teachers use reflective practice during their first year as a qualified teacher?	Qualitative	1 Focus Group interview in June 2019 with a sample of the PGCE cohort who were practising teachers when data was collected.	Content analysis of focus group data

Figure 14 - Overview of data collection and analysis linked to research questions

3.9.1 Weekly reflections

The first set of data to be analysed was the students' online weekly reflections. As noted above, the researcher selected 8 reflections for each student (n=11), meaning that 88 weekly reflections were analysed against Larrivee's (2004) reflective framework. Prior to using Larrivee's framework, the researcher read all 88 reflections so that he could become familiar with the data (Stuckey, 2015). Using the overall framework descriptors and the levels criteria (see appendix 1), the researcher coded segments within each reflection as belonging to either the pre-reflective, surface, pedagogical or critical level. Stuckey (2015) notes that this type of coding is pre-determined whereby the researcher was using 'previous coding dictionary from another researcher' (p.8), in this case, Larrivee's (2004) level criteria. The protocol employed by the researcher was as follows:

1. Read the entire reflection and make general notes regarding level of reflection
2. Re-read the reflection and highlight specific segments as being either pre-reflective, surface, pedagogical or critical using Larrivee's (2004) level criteria. Use a specific colour to identify each level
3. Count the number of reflective segments belonging to each level and if necessary, count the number of sentences belonging to each level
4. Assign a level to the reflection

In terms of assigning an overall level to each reflection, the researcher first of all counted the number of reflective segments belonging to each level. If the

numbers for a reflection were as follows: pre-reflective (10), surface (6), pedagogical (0) then the reflection was assessed as being pre-reflective. If the reflection was assessed as having: pre-reflective (5), surface (5), pedagogical (2) then because the individual reflected beyond surface, the reflection was graded as surface. If a reflection was assessed as follows: pre-reflection (6), surface (6), pedagogical (0) then the total number of sentences for each segment were totalled and the reflection level was awarded based on the level that had the highest number of sentences.

In order to increase the validity and reliability of this process it was necessary to have another experienced colleague verify a sample of the reflections. This verification process allowed the researcher to minimise the risk of imposing his own interpretation onto the textual data which helped to establish trustworthiness of the human instrument (Lincoln and Guba, 1985). Cohen et al (2011, p.199) point out that 'standardisation and moderation of results' are important in helping to increase validity. This colleague is an experienced teacher educator who has an interest in reflective practice and who is familiar with Larrivee's framework and level criteria. The colleague completed the same process as the researcher with 22 (25%) reflections, meaning 2 from each student. The researcher made all 88 reflections available to his colleague where he was asked to select any 2 for each student. It was important to make all reflections available so that the researcher avoided being selective with the data (Cohen et al, 2011). Upon confirming the reflections he wished to review, it was agreed to adhere to the following procedure.

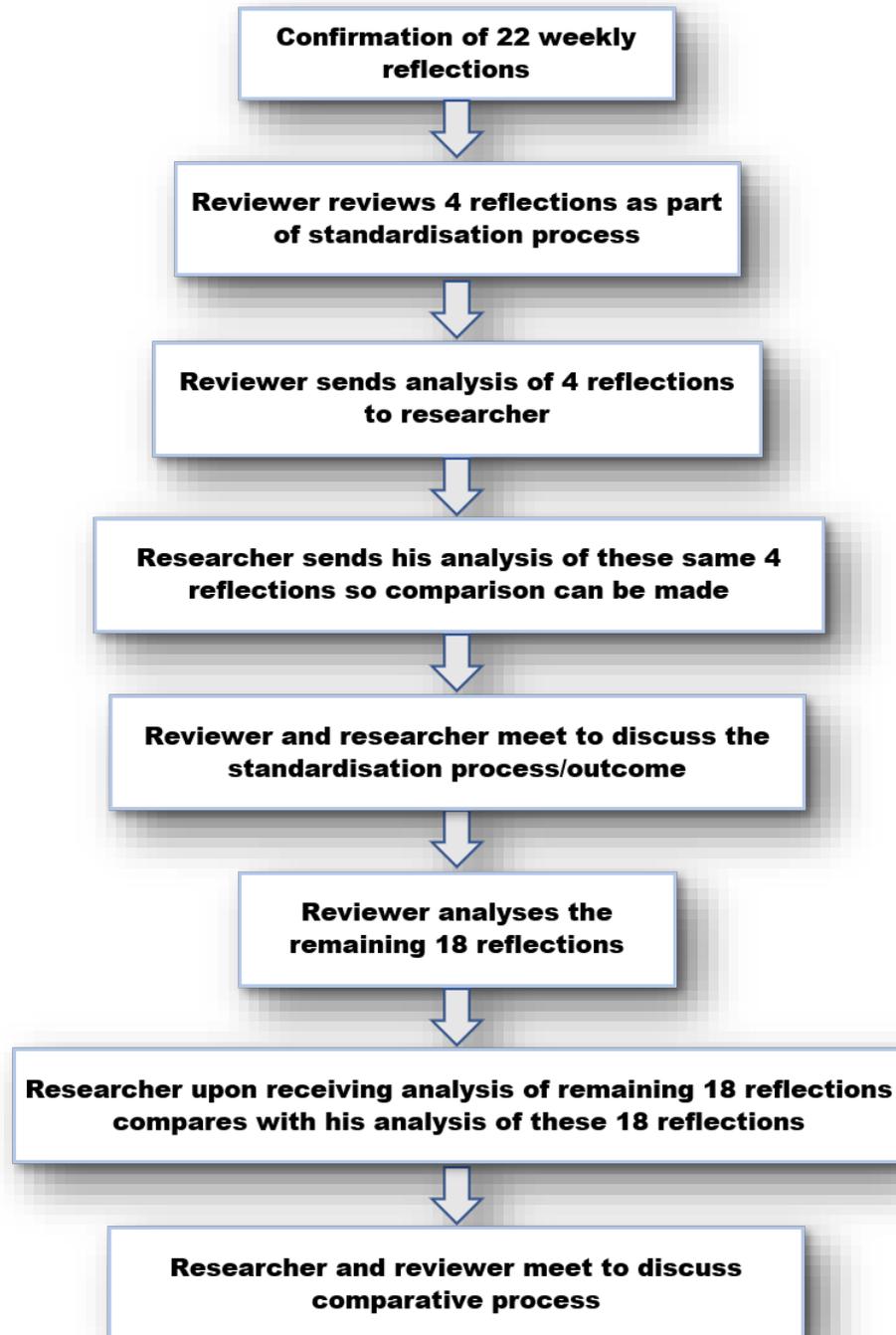


Figure 15 – Standardisation protocol for weekly reflections

On completion of the standardisation process, there was agreement on all four reflections with the reviewer and the researcher having assigned the same level for each reflection. However, there were slight differences regarding the levels

assigned to particular segments within each reflection. Agreement on assigning levels to each reflective segment was 85%. The 15% where differences occurred were debated and agreement was reached. This involved a re-analysis of the segments, using Larrivee's (2004) level criteria.

On completion of the entire review process and initial comparison of reflective levels between the researcher and the reviewer, 19 out of 22 reflective levels matched, meaning there was a difference in just three reflections. In two of these reflections, the reviewer had assigned both as being pre-reflective whilst the researcher had awarded them surface. In the third reflection, the reviewer had assigned it as being surface whilst the researcher had categorised it as pre-reflective. The researcher and the reviewer met to discuss the outcome of the review process where they did a comparison of their assessment on each reflection by noting agreements and disagreements on the levels given to each reflective segment. As above, where differences occurred, the segments were revisited and analysed together by referring to Larrivee's level criteria as a guide. This process was very important for the three reflections where different overall levels were assigned. The process allowed for a consensus and agreement on all three reflections. Three examples of how this verification process was conducted is included in appendix 5 where there are two examples of reflections that initially resulted in disagreement and how upon revisiting them, a level was agreed. The other example shows a reflection that both parties agreed on from the initial moderation.

Each weekly reflective account was subjected to content analysis whereby the researcher identified key words/phrases that matched the specific levels in

Larrivee's framework. A sample of 8 weekly reflective accounts for each student was selected with the researcher choosing one account from each quartile of the school experience, meaning that for each student a reflective account would be chosen from weeks 1-3, 4-6, 7-9 and 10-12. Thus, each student had four accounts from SE1 and four from SE2. Cohen et al (2011) refer to Kitwood's (1977) 8 methods for dealing with account data. The fourth method on this list addresses how researchers can categorize the content of each account. The researcher in using Larrivee's framework was able to categorize the content of the selected accounts based on language that aligned with each of the four levels in the framework and the levels criteria (see appendix 1). The next section discusses data analysis for the peer review process.

3.9.2 Peer review

Each peer reviewed lesson reflection was analysed using Larrivee's framework, meaning they were subjected to the same analysis process as the weekly reflections. As with the weekly reflections, the same colleague reviewed a sample (3) of these reflections, which again permitted comparison and enhanced the accuracy of the process. These reflections were analysed after the weekly reflections meaning the colleague had experience of this process. Therefore, there was no need to conduct a standardisation process. On the three reviewed reflections, the researcher and the reviewer reached agreement on the overall level for all three and had a 90% agreement rate on all reflective segments. The same process was used to debate and agree on the 10% of segments where agreement had not occurred.

The eleven audio recorded feedback discussions were transcribed word-for-word by the researcher. The quality of feedback generated in each feedback discussion was determined by analysing the type of feedback (see fig.16 below) and the content focus (see fig.17 below) of each feedback segment through the coding of key words and phrases. The researcher read each transcript so that he became familiar with the content and during this process he made notes in the margin relating to his initial impression on types and content of the feedback segments. Each transcript was then re-read and with reference to figures 16 and 17 below, feedback segments were then categorised by highlighting the segments in the colour that matched the corresponding feedback type and number 1, 2 or 3 was put in brackets in the margin beside the segment, this to determine the content of the feedback.

Feedback type	Description
Corrective feedback	Type of error is identified and suggestions are offered as how to correct the error
Noncorrective feedback	Type and extent of error are identified but no suggestions for how to improve are offered
General feedback	Feedback that is vague and non-specific e.g. "okay".
Positive feedback	Use of praise when the teacher demonstrates the use of an appropriate teaching behaviour
Specific feedback	Objective information is delivered in relation to predetermined specific teaching behaviours
Suggestive feedback	The use of prompts and questions to help the reviewee explore the issues in greater depth

Figure 16 - Types of Feedback

The audio recordings also permitted the researcher to identify the content of each feedback segment in terms of whether the issues addressed were technical, pedagogical or critical (Bell, 2001). See figure 17 below.

Technical (1)	Content that focused on basic classroom management and organisational issues.
Pedagogical (2)	Content that addressed teaching strategies and pupil learning.
Critical (3)	Critical content was identified by feedback that addressed social, political, ethical and moral issues of practice.

Figure 17 - Content focus of feedback

In order to increase the accuracy of this work, an experienced teacher educator colleague who was familiar with the six feedback categories in figure 16 and the content categories in figure 17, repeated the content analysis process for four transcriptions. This gave the researcher the opportunity to compare the analysis which produced an 85% agreement. The slight disagreements (15%) were debated, before arriving at a consensus. Armstrong et al (1997, p.598) argue that 'comparison with the original findings can be used to reject, or sustain, any challenge to the original interpretations'. Appendix 6 contains a sample analysis of an audio recorded post lesson discussion.

The other key focus of the analysis was to identify the areas of feedback each student (reviewee) chose to reflect upon in order to determine if the feedback discussion impacted students' reflections. The content of each lesson reflection was compared to the type and content of the feedback discussion in order to

determine which feedback segments the reviewees chose to reflect upon and how they reflected on them. As well as noting which feedback types and content they chose to reflect on, it was also important to note which feedback types and content they did not choose to reflect on. Appendix 6 also shows a sample analysis of the reviewee's reflection, identifying the feedback segments he chose to reflect on. The next sub-section discusses how the video-assisted reflections were analysed.

3.9.3 Video-assisted reflection

Each video-assisted reflection was analysed in the same way as the weekly reflections and the peer reviewed reflections. Each reflective segment was, therefore, assigned one of Larrivee's four levels and then based on the overall totals for each level, or if required, the number of sentences attributed to each level, the overall level for each reflection was awarded. The video-assisted reflections were analysed after the weekly reflections and the peer reviewed reflections. Therefore, considering that two successful verification processes had been previously completed for the weekly reflections and the peer reviewed reflections, it was decided not to complete this process again.

Having analysed all data relating to students' weekly, peer reviewed and video-assisted reflections, it was important to note if any of the approaches allowed students to produce higher quality reflections. This was achieved via a comparison between the dominant level of their weekly reflections, their peer reviewed reflection and if applicable, their video-assisted reflection. In order to ensure the accuracy of this process it was important to note the levels of each

reflective segment so that perhaps small increases in the quality of reflections could be noted. The next section briefly refers to the lesson observation data.

3.9.4 Lesson observations

As noted above, the only observed information relating to the study was whether the students used their weekly reflection to inform the lesson plan and their teaching on that particular day. Therefore, there was no information that required analysis, but rather the information was descriptive and factual. The next subsection discusses the analysis of focus group data.

3.9.5 Focus Group Analysis

Each focus group was transcribed by the researcher, an approach supported by Krueger and Casey (2015) who believe that it is more productive for the person conducting the analysis to prepare the transcripts as this 'allows the researcher to get an in-depth experience with the data' (p.151). Whilst this was very time-consuming, it was 'more rigorous and productive than abridged transcripts or a simple debriefing report' (Litoselliti, 2003, p.86). The researcher completed transcription very quickly after the interviews were conducted because the process of data analysis should begin as soon as possible after the interview has taken place (Morgan, 1998). The researcher sent each participant a copy of the interview transcript so that they could check whether it was a true representation of the discussion. Cohen et al (2011) argue that such an approach is necessary but none had any objections to make or revisions to suggest.

The researcher read each transcript 'for general impressions' (Litoselliti, 2003, p.87) before moving on to focus on specific topics where sections of the transcripts that related to the research questions were identified (Stewart and Shamdasani, 2015). The researcher employed a content analysis approach which according to Ezzy (2002, p.83) begins with 'a sample of texts (the units), defines the units of analysis (e.g. words, sentences) and the categories to be used for analysis, reviews the texts in order to code them and place them in categories'. As a result of listening to the audio recordings, completing transcription and the initial reading of the transcripts, the researcher identified broad categories, which according to Cohen et al (2011, p.566) 'are the key features of the text'. As a result of the coding process, other categories emerged, thus ensuring that the categories were 'exhaustive, in that all substantive statements should fit into a category' (Litoselliti, 2003, p.90), a view supported by Robson (1993) who states that content analysis 'is no better than its system of categories' (p.277). Once the coding and categorisation were completed the researcher began analysing the data, at first working 'on small samples of text rather than the whole text, to test out the coding and categorization, and makes amendments where necessary' (Cohen et al, 2011, p.567). This involved making connections between the various categories by seeking 'underlying associations' (LeCompte and Preissle, 1993, p.246), a process that resulted in the eight original categories being reduced to five, resulting in modifying the title of some categories, a process which Litoselliti (2003) regards as being 'flexible about modifying your insights, taking different perspectives and questioning your interpretations during the analysis process' (p.91). Each of the five categories were then classified as the main themes to emerge from the analysis. The next

step in the analysis process was to write up the key quotations under each of the five category headings. In selecting the quotations, it was important to 'use a representative selection' that was balanced and 'not one that confirms your expectations and ideological presuppositions' (Litoselliti, 2003, p.91). The researcher, therefore, was careful to select quotations that provided the breadth of student views. A sample of this process can be found in appendix 7, showing the initial codes and categories and with an explanation as to how the categories were modified, resulting in the identification of five key categories (themes) for the end of PGCE focus groups and five key categories (themes) for the end of induction year focus group.

As previously identified, focus group interviews are unique due to their interactionist nature, therefore it was important that the researcher made an attempt to analyse the data in such a way that the participants' interactions both verbally and non-verbally were a part of the analytic process. Stewart and Shamdasani (2015, p.117) insist that the 'transcript does not reflect the entire character of the discussion' since non-verbal communication, participant behaviours and use of gestures are not recorded. Flick (2014) emphasises the importance of using interaction and group dynamics when analysing focus group data so that participants' contributions should not be viewed as 'isolated individual statements', but rather they should be seen as being 'embedded in the group interaction and dynamic' (p.258). As noted above, the researcher made use of an assistant to make notes during the interview which focused on group interaction, specific body language, gestures, eye contact and nodding. These notes were used to help the researcher analyse the data so that the interactionist nature of the interviews is captured in the analysis. Krueger and Casey (2015), however,

warn that 'interpreting body language is tricky' (p.160) and that researchers should use it as a signal rather than jump to conclusions as to how they think the person is feeling. Having listened to the first focus group interview (end of PGCE) in conjunction with reading the additional notes, the researcher noted that he should have asked certain participants how they felt. In the second focus group interview the researcher noted that two individuals were nodding in agreement with the person who was speaking, so the researcher asked them, 'I see you are nodding, tell me why'? Therefore, rather than assuming they simply agreed entirely with what the speaker was saying, this allowed the researcher to explore the views of the other individuals, enabling them to examine the issue in greater depth. This approach was adopted on the advice of Krueger and Casey (2015) who argue that the focus group is only a glimpse of participants' behaviour and interaction meaning that the researcher does not have 'sufficient time to understand' (p.160) participants' behavioural patterns, therefore, it is best to find out what gestures and body language mean.

3.10 Summary

In this chapter the approaches to methodology have been explored by drawing on relevant supporting literature. The participants (PGCE PE group) were involved in each empirical aspect of the study.

The chapter began by analysing AR and justifying its suitability for investigating the topic of reflective practice, an area that lacks clarity and with the potential for much improvement. The researcher provided an overview of the reconnaissance period, which outlined the reflective approaches utilised during both years (2015-

16, 2016-17) and the various amendments that were made based on implementation of the Action Reflection cycle. This allowed the researcher to identify the approaches that would be used for the data collection phase of the study, during 2017-18. The remainder of this section discussed the principles of AR, the advantages and drawbacks associated with its use and how the current study relates to its key principles.

The next section addressed the qualitative nature of this study by explaining and justifying why quantitative methods would not be suitable. There is an exploration of the positivist and interpretative paradigms, outlining that this study is conducted within the interpretative paradigm. The sample population is then discussed, noting that purposive and convenience sampling were employed but acknowledging that whilst the sample size (11) is small, it does represent the entire population of PGCE PE students in Northern Ireland for that particular year.

The ethical implications associated with the study are then discussed, where the researcher's dual role as researcher and PGCE tutor is addressed. The researcher clearly outlines the steps he took to ensure the highest ethical standards were implemented in this study. Each data collection instrument is then explored by outlining the specific protocols that were utilised and a discussion follows on the noted advantages and disadvantages connected to each one. The last section provides an overview of how each data set was analysed by discussing and justifying the specific approaches used to generate the findings. The next chapter (4), provides a systematic overview of the findings that emerged from the data analysis.

Chapter 4

4.0 Findings

In this chapter, all findings relating to each data set will be presented. The first section will report findings on the quality of the students' weekly reflections which were assessed against Larrivee's (2004) reflective framework (see appendix 1). The second section will report the findings on the quality of students' reflections based on their areas of expertise which is followed by section three which reports the findings on peer review. The fourth section reports the findings on video-assisted reflection which is followed by findings on lesson observations in section five. Section six reports the findings on the two focus group interviews that were conducted at the end of the students' PGCE study and the seventh section outlines the findings relating to the one year follow up focus group interview, where a sample of the students were interviewed after one full year's teaching in schools.

Figure 18 below provides an overview of the levels of reflection attained by each student across the eight selected weekly reflections. As noted above, each weekly reflection was assessed against Larrivee's (2004) reflective framework whilst the students used Gibbs' (1988) reflective cycle to help them structure their reflections. There was no need to include a column entitled 'critical' as none of the assessed reflections were graded as critical.

4.1 Weekly Reflection overview using Gibbs' Reflective framework

Student	Mode of recording	SE1			SE2		
		Pre-reflective	Surface	Pedagogical	Pre-reflective	Surface	Pedagogical
A	Written	4	0	0	2	2	0
B	Written and audio	1	3	0	0	4	0
C	Written	1	3	0	1	3	0
D	Written and audio	0	3	1	0	1	3
E	Written	1	3	0	0	4	0
F	Written and audio	1	3	0	1	3	0
G	Written and audio	0	0	4	0	0	4
H	Written and audio	0	4	0	0	0	4
I	Written	4	0	0	1	3	0
J	Written	2	2	0	2	2	0
K	Written	4	0	0	2	2	0
Total		18	21	5	9	24	11

Figure 18 - Students' assessed weekly reflections

Eighty-eight weekly reflections were analysed and assessed against Larrivee's reflective framework. Eight reflections were selected for each student (n=11) and to ensure consistency in selection it was decided to select reflections from weeks, 3, 6, 9 and 12 across both school placements. If a student had not completed a reflection for one of these weeks, then the next chronological completed reflection was chosen. Figure 18 above shows that the majority (45) of assessed reflections were graded as surface level. Over a quarter of the reflections (27) were graded as pre-reflective with the remaining 16 reflections graded as pedagogical, thus meaning that none of the reflections were graded as 'critical'. It is important to highlight that the 16 pedagogical reflections belonged to three students with one student accounting for eight of these. The 27 pre-reflective reflections were shared amongst eight students with the three students who produced the pedagogical reflections being the ones who did not produce any pre-reflective reflections. Ten students contributed to the 45 surface level reflections. Findings relating to students' pre-reflective reflections will be reported on first, followed by the findings on surface level reflections and lastly the findings on pedagogical reflections will be presented.

4.1.1 Pre-reflective reflections

For reflective segments to be assessed as pre-reflective they were required to contain reflections that met the following criteria:

- Defensive of their practice
- Blaming pupils for lack of progress or poor behaviour
- Preoccupied with compliance and control

- No focus on pupil learning
- Describing problems simplistically.

The 27 pre-reflective reflections were categorised accordingly as each displayed an inability to reflect in any depth about teaching and pupil learning. Common areas of reflection emerged from the analysis with students focusing on classroom management and organisational issues or what can be referred to as technical issues. As figure 18 shows, students A and K each produced six pre-reflective reflections, with the remaining six students accounting for 15 pre-reflective reflections between them. All four of student A's reflections from SE1 were graded as pre-reflective, with two from SE2 also categorised as being pre-reflective. Student A was heavily focused on justifying her teaching actions, defending rather than analysing her practices. In the analysis section of her first reflection she stated, 'If teaching this lesson again I just need more space', thus indicating that all other aspects of the lesson would remain unchanged. She also stated that rather than having a stationed approach for the development of each skill, she would just 'do one activity at a time', meaning she was not in any way questioning the actual activities in terms of how appropriate they were for facilitating pupil learning, therefore, she was describing problems simplistically. The justification for teaching approaches continued to be a theme throughout SE1 and indeed SE2. In her 4th assessed reflection for SE1, she stated, 'if this lesson were to be taught again, I would ask the girls what songs they want to do aerobics to and come with different aerobic moves'. This reflective segment suggests that student A lacks the ability to reflect on her teaching and pupil learning, particularly when at the beginning of the reflection she stated, 'I have no previous experience teaching aerobics'. In her 2nd assessed reflection for SE2, student A stated, 'the

activities were well planned but did not go as well as I had planned as the pupils were messing around' showing that she was attributing problems to the pupils without considering her own contribution.

Student K's reflections were characterised by an over-focus on organisational issues where she appeared to be pre-occupied with management and control. In her first assessed reflection, she stated, 'If I was to deliver the same lesson again, I think I would incorporate a layout sheet for mats to show the class how we will set up...I also think the second lesson will go better as I will be able to take timing into consideration by the time the class gets across from the sports hall to the old school gym', thus showing that she is focused on basic issues without any consideration of how her teaching impacted pupil learning. In her 4th weekly reflection for SE1, student K when analysing a Year 8 trampolining lesson, stated, 'If I was to deliver the same lesson again, I would follow the same order of progression', showing an unwillingness to consider alternative approaches. In her 3rd weekly reflection for SE2, she stated, 'The activities were all appropriate and the warm-up was beneficial to the main activity. The demonstrations and key points were clear and the video was also useful to show pupils exactly what I was looking for in terms of key teaching points'. In this instance there is no focus on the quality of teaching and the impact on pupil learning. Student K, like student A, also attributed ownership of behavioural problems to pupils when stating, 'the lesson activities were very well structured, but the pupils were not doing their best and had a very bad attitude'.

Of the remaining 15 pre-reflective reflections, student I accounted for five of these. When reflecting upon a Year 8 throwing lesson, he stated, 'an enjoyable

throwing lesson...need to be prepared to adapt to the general issues I will face in teaching. Have a written idea if facilities/equipment is not available'. These comments show that he was self-confirming the choices he made without considering alternative approaches, nor was he demonstrating the capacity to connect teaching action with pupil learning or even showing concern for this connection. Similar to students A and K, student I attributed ownership of behavioural and pupil engagement issues to the pupils, stating, 'this was a similar lesson to the other Year 10 class which went well but these boys are more difficult and they did not want to take part' and when analysing the lesson, he stated, 'although the lesson was well planned, their class will not complete another unit of cross-country. This should be changed to reengage pupils into PE'. These comments display a lack of capacity to analyse his teaching practices where again he was using self-confirming reasoning and had not thoughtfully connected teaching actions with pupil behaviour and learning. Rather, he was describing problems simplistically. These trends continued for student I during SE2 where in his 2nd assessed weekly reflection he stated, 'these boys do not really like PE and are hard to motivate so even though the learning activities were appropriate, it didn't matter as they just didn't want to learn', again failing to recognise the link between teacher action and pupil responses/action. It is also important to note that students A, I and K, compared with the other eight students, consistently produced reflections containing low word counts. Therefore, it is likely that on occasions they could have written more but chose not to.

The remaining 10 pre-reflective reflections were shared amongst five students (B,C,E,F,J), with four belonging to student J, students C and F contributing two each and students B and E producing one each. Across these 10 reflections,

similar trends have been identified. For example, student J stated, 'the boys behaviour in the class was an issue, and they had to be reminded too often to stay on task...content is appropriate and challenging enough for the group, however,....the boys must also be more efficient when putting the mats into the store, as by messing around they delay everyone'. Student J had a very big focus on behaviour and pupil compliance, defended her practice, displayed no awareness of the connection between her teaching, pupil learning and behaviour and attributed ownership of behavioural issues to the pupils. Students C and F displayed similar traits in their reflections. Student C when reflecting on a Year 9 Hockey lesson, stated, 'many of the pupils were unable to perform a correct push pass...even though this skill has been used every week from the start of the unit...I had checked for understanding after the demonstration and whilst explaining, I made sure all eyes were watching what was happening so I could not understand why they didn't know what to do'. These extracts highlight that student C was not prepared/ready to question her teaching methods and her description of the issue was very simplistic. There were no suggestions as to how she might alter her teaching to improve pupil learning suggesting, therefore, a failure to recognise the connection between her teaching and pupil learning.

Student F when reflecting on a Year 12 basketball lesson had a significant focus on pupil behaviour. He stated, 'a few boys constantly interrupted by bouncing balls when I was giving instructions, used good class management and asked them not to bounce when I was talking...pupil attitude and application was an occurring theme with this group...overall, lesson went well, however, pupil concentration and disruption was the issue, perhaps giving certain pupils 'time out' from activity to see if that will prevent class disruption'. This comment, similar

to comments above by students, A, K and J demonstrates a failure to recognise the connection between his teaching and pupil learning. Student F is attributing ownership of the problem to the pupils and it would appear that he is preoccupied with reflecting on control and management issues. His proposal to give pupils 'time out' indicates he is intending to resolve the situation by asserting his power rather than problem-solving.

Student B and E each produced their pre-reflective reflection during SE1 with both reflections displaying similar trends to those that have been presented above. Student B when reflecting on a GCSE PE theory lesson, stated, 'similar behaviour started from the week before and became frustrated, especially having to continually ask for basic manners...they seem to like talking whenever I am, but are quieter when I'm walking around the room not delivering content'. These comments show that student B is attributing ownership of the problem to the pupils without any consideration that his teaching may be impacting pupil behaviour. In his action plan section, he stated, 'I am going to talk less and be well prepared with worksheets rather than delivering PowerPoint with them', thus highlighting that he viewed the problem simplistically. Student E who was also reflecting on a GCSE theory lesson, stated, 'overall the lesson was OK....and despite it not going as I had planned all pupils did learn new information...If I was to teach this lesson again I would check with the teacher beforehand as to what the pupils would have covered in science'. These comments demonstrate that she was not seeing beyond the immediate demands of this teaching episode and she enforced her lesson, failing to adapt or restructure based on pupils' responses.

The findings above show that common issues were identified across the 27 pre-reflective reflections. The students were attributing ownership of problems to the pupils, they were preoccupied with pupil behaviour and compliance as well as being preoccupied with management and control rather than the pupils' learning. They defended their teaching and failed to make any connection between their teaching and pupil learning. The next section will outline the findings in relation to those reflections graded as surface level.

4.1.2 Surface Level reflections

For reflective segments to be assessed as surface level they were required to contain reflections that met the following criteria:

- Awareness of need to modify teaching strategies to suit pupil needs
- Changes focused on short-term development as opposed to long-term
- Supports beliefs with evidence from past experiences
- Takes responsibility for areas that require improvement
- Some focus on pupil learning but no links to relevant theory.

Surface level reflections were the most common, with 10 students producing at least one surface level reflection. Student G was the only student who did not produce a surface level reflection. As noted above, students A and K each produced two surface level reflections, with all four belonging to SE2. Student A when reflecting on a games lesson, stated, 'the decision to employ a TGfU approach with this class seemed to work, although I would probably use 3 v 1 rather than 3 v 2 as it would allow some pupils to achieve more success with passing'. This extract highlights her awareness of the need to modify teaching

strategies. She proceeds to state, 'I tried to tailor my questions so that pupils would think but I realise that the questions should be differentiated better', thus demonstrating that she was providing some differentiated instruction to address pupils' individual differences. Her 2nd surface level reflection focused on a Year 8 shot putt lesson where she stated, 'I made effective use of space and my instructions were clear, particularly relating to health and safety...this allowed the pupils to learn in a safe environment...I think my demonstration could have been clearer, I should have taken more time'. These comments show evidence of surface level reflection whereby the focus is on instructional and organisational aspects of teaching. She proceeded to state, 'I hadn't planned on doing peer assessment but I noticed that some of the pupils were not paying attention when their partner was throwing. I then instructed them to observe and provide two stars and a wish which definitely helped them focus'. This extract emphasises that she was adjusting her teaching practices but only to the current situation with no focus on long-term development. Both reflections show development from her pre-reflection work where there is a more concentrated focus on analysing her teaching approaches and acknowledging the need to adapt and improve compared to her pre-reflective work where she regularly defended her teaching approaches. These reflections also include some awareness of differentiation, unlike her pre-reflective work, where she did not display any awareness or understanding of the differing needs of learners.

Student K when reflecting on a shot putt lesson, stated, '... possibly shouldn't have started with a lap of the track because I feel a ball related warm-up incorporating throwing action would have been better' and when identifying action points she stated the need to 'demonstrate from a range of angles....and use

more effective questions'. Both extracts show an improvement from SE1 reflections as she is beginning to reflect on her teaching practices by identifying areas for improvement that have been tentatively linked to pupil learning. However, there were no links made to relevant theory. In her week 12 reflection for SE2, she reflected on a long jump lesson by stating, '...the pupils were not active enough during this lesson...I should have incorporated an additional activity on the grass that would have helped increase participation levels but would also have helped reinforce key teaching points'. This comment shows that she is aware of the link between her teaching and pupil learning and that she is comfortable critiquing her practice, something that she did not appear to be comfortable with during SE1. She proceeded to state, '...I need to brush up on my knowledge of the long jump as when doing the demonstrations I didn't feel totally confident...pupils need to see the perfect model in order to have a good visual of what it looks like'. Again, student K is showing the ability to reflect on her teaching and the impact on pupil learning.

Student I made progress from SE1 to SE2 as three out of the four assessed reflections were graded as 'surface' whereas all four of his assessed SE1 reflections were graded as pre-reflective. When reflecting on a games lesson for a Year 10 class, he stated, 'I could see with some pupils that the soloing action was poor and I addressed this by stopping the class and reinforcing the key points with a clear demonstration...I used differentiation to target the range of abilities by modifying the rules and size of grids accordingly'. These comments show that he identified a problem and implemented a solution, albeit that it was a simplistic response that did not consider other learning factors, as well as displaying an awareness of the need to use differentiated approaches. In his 3rd assessed

reflection which focused on a Year 8 long jump lesson, he stated, 'I should have included more progressions before taking full run ups... I could have used the side of the long jump pit a lot more so pupils got more jumps which would also have increased activity levels'. This comment again demonstrates his awareness of the need to modify his teaching approaches but with no focus on a long-term plan. In identifying action points, he stated, 'I would include video analysis and set the class up in a circuit style to improve technique of the long jump as this worked with the Year 10 group'. This comment illustrates that he is proposing adjustments based on past experience, proposed modifications to teaching strategies without challenging underlying assumptions about teaching and learning. It would appear that student I became more reflective during SE2 where compared to his pre-reflective reflections he had a greater focus on making connections between his practice and pupil learning as well as identifying the need to employ appropriate differentiation approaches.

As figure 18 above shows, student J produced two surface level reflections in SE1 and two in SE2, along with two pre-reflections in SE1 and two in SE2. It would seem, therefore, that Student J was consistently reflecting between both levels, showing that she was at times progressing and then on other occasions regressing. When reflecting on a health-related lesson, she stated, 'I approached it (behaviour) with a 3-strike rule but this seemed to have no effect. I should have positioned myself that I was in full view of the class to reduce the behavioural issues' and 'I could have let pupils note their own score from the grip strength and sit and reach test meaning I could have monitored the rest of the class'. These comments display an awareness of the need to modify teaching approaches, but they are focused on technical issues. Student J's second

assessed surface level reflection focused on a Year 9 hockey lesson, commenting that the 'lesson should have involved more movement, was much too static. Warm-up should have been longer, so they were at least warm at the start... I was disappointed with myself that I didn't adapt my lesson to suit... it highlights the benefit of having alternative plans up your sleeve'. These comments show an awareness of the need to change/adapt teaching approaches but only to the current situation with no focus on long-term planning. In her 3rd assessed reflection which focused on a year 9 sprint lesson, student J stated, 'I felt confident about the delivery of the sprint start having had experience of its delivery in the past' this showing that she supports her beliefs with evidence from past experience. When identifying key action points, she stated, 'if it were to be repeated I would try to fit in more time for the specific sprint start and the peer assessment of the sprint start', again demonstrating an awareness of the need to modify teaching approaches. Student J did not produce any pedagogical reflective segments in her assessed weekly reflections.

Student H produced four surface level reflections across both school placements and as figure 18 shows, all four were produced during SE1, thus indicating improvement as the other four reflections in SE2 were categorised as pedagogical. Student H when reflecting on a Year 9 football lesson, stated, 'I think my demonstrations were better today and the use of the iPad helped some of the less able pupils...pupils were very active throughout. There were two or three times where I was able to stand back and see what was going on and then change the activities to suit the pupils' needs... just adapting the lesson. However, I can still improve my approaches to differentiation'. This extract shows that student H is reflecting by making connections between his teaching and pupil learning as

well as showing that he had the confidence to make changes during the lesson. In identifying areas for improvement, he reflected on the behaviour of the class, stating, 'I need to use more positive behaviour management techniques, these boys really respond to praise and I need to use this more, catch them being good'. This extract shows that he did not blame the pupils but is willing to consider alternative approaches. When reflecting on a Year 8 Gymnastics lesson, student H stated, 'I discovered during the lesson that I had only six mats between the groups and had to adapt quickly which was a mistake. This led to more standing around for the pupils and caused them to misbehave and lose engagement within the lesson'. When identifying action points for the next lesson he stated, 'I need to make the activities more active as the pupils were static for too long... I need to incorporate previous learning such as rolling as this would have helped the activities be more activity based... I need to differentiate the activities better and aim to employ a wider range of teaching strategies...my demonstrations need to be better'. Student H is again demonstrating a connection between his teaching and pupil behaviour/learning as well as identifying differentiation as an issue that requires attention. He has also highlighted the importance of increasing pupil activity levels. However, he has not made any connections to relevant theory and failed to mention other suitable teaching strategies. The findings relating to student H's pedagogical reflections will be outlined in section 4.1.3.

Student D also produced four surface level reflections, three during SE1 and one during SE2. When reflecting on a Year 8 hockey lesson, she stated, 'If I was teaching this lesson again, I would plan to adapt a more command and practice style teaching. This would ensure pupils were being suitably controlled, challenged and active throughout... demonstrations were performed from

different angles and I think this helped some of the weaker pupils... more emphasis on teaching through games will be emphasised in the next lesson to ensure the lesson is also fun'. These comments display an awareness of the need to change teaching approaches and whilst there is a small link to theory, the justification for using command and practice has not been properly analysed, with no link to long-term planning. She believes that her demonstrations were effective without producing any evidence, thus failing to question her approach. In her reflection of another year 8 hockey lesson, she stated, 'majority of the pupils engaged however I am looking for some new strategies to engage those pupils who were not badly behaved but just had a lack of focus or interest...I adapted my lesson to what I observed as the needs of the pupils...I set smaller targets for some pupils and ensured the lesson was differentiated...whilst my demonstrations are getting better, I can still improve in this area', thus demonstrating her ability to recognise the need to differentiate activities to suit pupil needs as well as responding to pupil responses but without a long-term focus or connection to underlying theory. Student D produced four pedagogical reflections, showing that she improved her reflective ability. These reflections will be outlined in section 4.1.3.

Students C and F both produced six surface level reflections, three in SE1 and three in SE2, with the other reflection in each placement being pre-reflective. Therefore, like student J above, they were displaying signs of progression and regression in their reflective work, although they did reflect more consistently at surface level. Student C when reflecting on a Year 9 netball lesson, stated, 'future lessons should consider the use of small-sided games to facilitate further exploration and learning as well as helping to ensure they are more active' and

when reflecting on a Year 9 badminton lesson stated, 'using a variety of differentiated activities in this class should be a priority...if I was to teach this lesson again I would ensure that every pupil was catered for'. These reflective comments highlight an awareness of the need to modify and differentiate teaching approaches, but she does not make any links to theory nor have a focus on long-term planning. The focus on catering for individual needs continued for student C as she reflected on a Year 9 hockey lesson by stating, 'If teaching this lesson again...I would alter the activities slightly to emphasise the need for control of the ball as well as develop the pupils' ability to cushion the ball so that they are not constantly chasing after it'. Analysis of each surface level reflection shows that she did not produce a single pedagogical reflective segment. Even though student C displayed the ability to progress beyond pre-reflection, she remained at surface level for the majority of her PGCE study.

Student F when commenting on a Year 10 gymnastics lesson, reflected by stating, 'If I was to repeat this lesson again I would encourage the pupils to be more detailed and precise on their feedback process by using the teaching/task cards' thus showing an awareness of and focus on pupil learning although there is no link to appropriate theory or indeed questioning the use of alternative approaches. He is assuming the use of task cards will enhance the quality of pupil feedback. When reflecting on a Year 12 basketball lesson he stated, 'If I was to take this lesson again...I could bring in conditioned rules to the games to focus on specific areas of the game', demonstrating an awareness of adapting/modifying teaching strategies but with a short-term focus. During SE2 he reflected on a Year 9 Gaelic football lesson, stating, 'I made appropriate progressions and regressions to ensure the pupils were working at a level they

felt comfortable with', showing an awareness of the need to differentiate activities to suit pupil needs. He also stated, '...think the pupils could have been more active during this lesson...need to ensure I get their activity levels up as high as possible' showing that he values increased activity levels but he did not link this point to pupil learning. His reflections were very focused on improving his practice but each one was short-term focused and had no links to relevant theory. Analysis of each surface level reflection shows that he did not produce any pedagogical reflective segments. Therefore, like students J and C, student F progressed beyond pre-reflection to surface level, but was unable to move to pedagogical level in his weekly reflections.

Students B and E each produced seven surface level reflections. Student B when reflecting on a Year 10 badminton lesson, stated, 'I was surprised the feed and net shot worked, as previously individual shot practice didn't work too well....I think reducing the amount of time spent on one activity may have been the reason' this showing that his analysis of the situation was limited to a technical question of his teaching practice as well as supporting his beliefs with evidence from experience. When reflecting upon a Year 9 cricket lesson, he stated, 'I gave some pupils a soft ball as they were struggling with the tennis ball and this definitely helped them and gave them more success...I should have changed activity 2 to a mini game as the drill did not work that well', showing that he was reacting to pupil responses differentially (but not recognising a pattern) as well as demonstrating his awareness of the need to modify teaching strategies but without challenging his underlying assumptions about teaching and learning. Each of student B's surface level reflections displayed an awareness of the need to modify approaches based on pupils' needs, where decisions are mainly based

on his past experiences and a focus on short-term results. Student B made a few connections to underlying theory and thus produced some pedagogical segments. Student B's first assessed reflection was pre-reflective, but this was followed by seven surface level reflections. It would seem, therefore, that after the initial improvement over the first few weeks of SE1, he remained at the same level.

Student E when reflecting on a Year 8 netball lesson, stated, 'whilst the guided discovery approach worked well for some groups, the groups that were struggling could have done with more specific instructions...I stopped the groups a couple of times to give them feedback and remind them to use change of pace and direction to get free but only some managed it a little bit... pupils could also have been more active throughout', these comments showing that she recognised the need to respond to pupils differentially and was implementing a solution to a problem that only focused on short-term results. When reflecting on a Year 9 gymnastics lesson, she stated, 'I should have developed jumping and landing further using the springboard....On reflection, I should have set up a station with the springboard with me at it and had the girls in small groups to come up one group at a time while the others were using benches for jumping and landing' again displaying an awareness that she should have adjusted her teaching strategies but only to the current situation. When reflecting on a Year 9 discus lesson, she stated, 'in future I will plan less activities but give the pupils more time with one before moving on. I need to also give more individual feedback to pupils to help them improve their subsequent throws...think my demonstration wasn't as clear as it should have been'. These comments again show an awareness of the need to adjust teaching practices and the importance of providing

differentiated instruction to address pupils' individual differences, but similar to her other reflections she is focused on implementing solutions to problems that are short-term, with no long-term planning involved and fails to connect specific teaching approaches to underlying theory. Similar to student B above, student E did produce a few pedagogical segments but struggled to move beyond surface level.

This sub-section has outlined the findings relating to students' surface level reflections. The students have demonstrated their ability to reflect beyond the pre-reflective stage where they are focused on how to improve pupil learning with many reflections addressing the need for better differentiation in future lessons. The students were concerned with how they might improve their practice rather than blaming the pupils (pre-reflective aspect). The students consistently provided short-term solutions to problems and simply relied on past experience to inform their thoughts, rather than linking their practice to theory to inform their reflection. The following section will outline the findings relating to pedagogical reflections.

4.1.3 Pedagogical reflections

For reflective segments to be assessed as pedagogical they were required to contain reflections that met the following criteria:

- Awareness of the impact of their teaching on pupil learning,
- Demonstrating a connection between theory and practice,
- Demonstrates an awareness of how pupils learn and the need to differentiate learning for all pupils

- Displays an awareness of their teaching weaknesses by constructively critiquing their practice
- Provision of solutions that focus on long-term development as opposed to short-term fixes.

As previously noted above, students D and H each produced four pedagogical reflections, with student G producing eight pedagogical reflections. In student G's 2nd assessed weekly reflection, he stated, 'implemented the use of reciprocal and self-check teaching styles for the first time with this class and based on the work they produced it was clear that some pupils struggled....on reflection, I believe that my delivery was not good enough which stems from my lack of understanding as to how these styles should be implemented... looking back it is now obvious that my instructions were not clear as the pupils appeared confused and this resulted in reduced learning time... pupil feedback reinforced this as they said that the lesson was slow and a little disorganised... I need to revisit the theory on these styles and continue to experiment with their use... I also need to consider other teaching approaches as inclusion style may have been more appropriate for this lesson. I need to sharpen my feedback skills to support pupil learning although it is clear that I need to increase my pedagogical content knowledge in gymnastics... aiming to complete my level 1 next year but am continuing to observe a teacher in the department who is a gymnastics specialist and this should help me move forward'. These comments demonstrate an awareness of the link between his practice, relevant theory and pupil learning, whilst also showing that he can constructively critique his own practice with a view to developing his practice through appropriate CPD. When reflecting on a year 10 basketball lesson, he states, 'introduced the use of cooperative learning with this

group and felt that it was well planned but on reflection I underestimated the difficulty in implementing this model effectively... it was my first time using it and the pupils' first experience of it. I did talk the pupils through the lesson in the changing rooms but I now realise I should have adhered to the theory where it states that the pupils need at least one full lesson where I take them through the principles of this model... will continue to make use of it but need to do more research on its use across different areas of the curriculum. It may not have been the best approach to take with this class... guided discovery may be more suitable and when comfortable with this approach, then move to cooperative model... too ambitious I think with this lesson although some pupils stated they enjoyed the 'freedom' but others said they didn't like it and it didn't seem like 'proper' PE'. These comments display his ability to constructively appraise his own practice with a link to relevant theory and pupil learning. He is also willing to take risks with a view to his long-term development. Student G produced the highest quality of reflections amongst this cohort, but it is significant to note that an analysis of each pedagogical reflection revealed that he did not produce any critical reflective segments.

Student H produced four pedagogical reflections during SE2. The first reflection was completed at the end of week 3 where he reflected on a high jump lesson. He stated, 'I had a clear focus on developing pupils' feedback skills... but I still need to improve this area... I need to extend pupils' feedback skills so that they are providing clear feedback... I need to be better at modelling effective feedback so that I can teach the pupils what good feedback sounds like... it would be good to observe the PE staff doing this so I can learn from them... I also need to revisit the theory on this and consider how I might structure the learning activities more

appropriately so that the pupils have the best opportunity to improve their feedback skills'. This statement shows that student H is aware of his weaknesses, openly critiquing his practice and identifying how he might take his practice forward to improve pupil learning. When looking at what else he could have done to improve this lesson, he stated, 'I need to improve my demonstration skills... Fosbury flop is difficult to execute but it is good if pupils can see me do it up close... I need to attend a CPD course in athletics such as athletics 365... this would improve my knowledge which should allow me to observe pupils better which will help me spot and fix and this should help pupils learn more... whilst the stationed approach appeared to engage the pupils, it would be worth experimenting with other teaching approaches, perhaps implementing guided discovery or the cooperative model'. Student H is making a strong connection between his teaching and pupil learning and in doing so, he is very aware of his weaknesses and the impact on pupil learning. He has also identified what he needs to do to take his practice forward and has made appropriate links to theory, thus considering his long-term development.

Student H's third pedagogical reflection was completed at the end of week 9 of SE2 where he was reflecting on a javelin lesson which he taught to a year 8 class. When reflecting on the positive aspects of the lesson, he stated, 'I could see that some pupils were struggling so I had to adapt the activities there and then so I moved at the pupils' pace and not the pace of the lesson plan...I was really glad I did this as I wouldn't have done this a few weeks ago... however, I feel that my lack of subject knowledge meant that my feedback to pupils was not as accurate as it should have been'. This comment demonstrates student H's awareness of how pupils learn, the need to cater for all pupils and the ability to constructively

criticise his own teaching. When analysing why the lesson was not as successful as he originally hoped it would be, he stated, 'looking back I should have given the pupils more time to explore the javelin by using guided discovery or reciprocal learning...this would have allowed the pupils time to work out the technique...I will try out these approaches when teaching javelin to year 9 on Wednesday...it has also made me think about how I approach all elements of athletics and this is something I will have to continue to work on as I begin teaching in September'. Student H is making a strong theory/practice connection and identifying how to make his future practice better.

As is noted above, student D produced four pedagogical reflections, one during SE1 and three during SE2. Her second pedagogical reflection was completed at the end of week 3 (SE2) where she reflected on a relay lesson. She stated, 'the pupils did not make enough progress during this lesson...I should have planned this lesson in a way that suits this class since they are generally high ability pupils and I failed to stretch and challenge too many of these pupils considering that they are year 10... it is my fault for not having completed a baseline assessment at the beginning and then adapting accordingly', displaying her ability to critique her practice with an appropriate focus on pupil learning. She proceeded to state, 'I talked too much during this lesson...perhaps because my knowledge of the relay exchange and how to progress the lesson was not as good as it should be, I maybe talked more to convince myself that I knew what I was talking about...I should have utilised pupil knowledge more... on reflection I should have used guided discovery by setting the pupils the initial problem of passing the baton around the track in a team of 4, allowing them to explore the most effective way and work it out for themselves as I was too didactic at times... some pupils

progressed as their times improved but some did not and I realise that there may have been other contributing factors as to why they didn't such as external motivational issues... I need to ensure that all pupils learn... I have noted the relay as an activity where I need to increase my knowledge and understanding and then link to what teaching strategies would suit best, bearing in mind that approaches will differ depending on the class and pupils I will be teaching'. These comments demonstrate student D's ability to critique her practice in an honest manner, highlighting her awareness of how pupils learn and the link between her teaching, theory and pupil learning. She also sees the long-term need to improve her delivery of this activity. The findings presented in this sub-section show that students D, G and H demonstrated their ability to reflect at pedagogical level.

Summary

This section clearly shows how each individual student reflected differently on their practice both in terms of the issues they chose to reflect on and indeed the depth of their reflections. For those students who consistently reflected at the pre-reflective level, it would seem that they are defensive of their teaching and not open-minded enough to consider that weak aspects of their lessons could be their responsibility. It is important to note that this is not uncommon for PGCE students who have little experience to reflect on. When students reflected at surface level, they were demonstrating an awareness of the need to accept responsibility with some focus on differentiating the learning experiences for pupils although they failed to make connections between theory and practice. Any solutions or improvements were very short-term focused with no link to long-term development. It is possible these students were able to reflect beyond the pre-

reflective stage due to drawing on their experience or it is possible they were getting good support and guidance from their school mentor who perhaps helped them to reflect at this level. Eight students failed to reflect beyond surface level which again is very common for pre-service teachers.

Those students who reflected at the highest level (pedagogical) demonstrated the ability to reflect on practice by making links to relevant theory where their focus was on improving the learning experiences of all pupils by critiquing their practice and in many instances with a long-term view in mind. It is possible that these individuals invested more time and effort in their reflective work or that they possessed higher levels of intellect that allowed them to reach this level of reflection or that they benefitted from effective mentor support that helped to improve their reflective work.

It is clear from the evidence presented above that the students in each category and indeed within categories reflected at different levels and chose to reflect on different aspects of their practice. However, the evidence above also shows that across all groups the students reflected on common aspects of practice, mainly the quality of their demonstration skills, the extent of pupils' physical activity levels and differentiation. It is possible that the students chose such areas as these are the areas that they believe are central to an effective lesson or it may be that they reflected on these areas as the course content had focused on these areas. The issues identified here will be discussed in greater detail in the discussion chapter (5). The next section outlines the findings relating to students' reflections on areas of expertise.

4.2 Students' reflections on areas of expertise

Due to the wide range of activities that students are expected to teach in PE, the author was keen to investigate if students reflected differently on their area of expertise compared to other reflections on less specialised areas. Ten of the students chose to or had the opportunity to reflect on their area of expertise, with student K being the only one who did not reflect on her area of expertise. Figure 19 below provides an overview of the levels attained by each student.

Student	Number of reflections	Reflective level(s)	Area of expertise	Dominant reflective level	Reflect more deeply or not?
A	1	Pre-reflective	Swimming	Pre-reflective	Yes (marginally) contained more surface level reflections than all other pre-reflective reflections
B	1	Surface	Badminton	Surface	Same level - no pedagogical segments
C	2	Surface and pre-reflective	Hockey	Surface	Lower
D	3	2 surface, 1 pedagogical	Football	Pedagogical	Lower
E	2	Both surface	Athletics	Surface	Yes – contained pedagogical segments
F	2	Both surface	Gaelic Football	Surface	Yes – contained pedagogical segments
G	1	Pedagogical	Rugby	Pedagogical	Same level – no critical segments
H	1	Surface	Hurling	Pedagogical	Lower
I	1	Surface	Boxing	Pre-reflective	Yes

Student	Number of reflections	Reflective level(s)	Area of expertise	Dominant reflective level	Reflect more deeply or not?
J	1	Surface	Hockey	Surface	Same level – no pedagogical segments
K	N/A				

Figure 19 - Reflections on areas of expertise

Student A's area of expertise is swimming and her dominant reflective level was pre-reflective. This reflection was also graded as pre-reflective and her comment in the 'area for improvement' section highlights the lack of reflection, when she stated, 'I need to get to know more of their names'. When compared with her other pre-reflective reflections during SE1 and SE2, it is important to emphasise that this reflection did contain more surface level segments. For example, she stated, 'If this lesson was to be taught again, I would spend longer on their leg kick as normally I never progress a child on if they have a weak leg kick'. It would appear that her expertise in swimming allowed her to reflect marginally better.

Having performed at elite level, student B's main area of expertise is badminton and his most frequent level of reflection was surface level. Across both placements he chose to reflect on one badminton lesson and this reflection was graded as surface level. The lesson was disrupted by another staff member removing 10 boys and replacing them with 10 girls to which student B reflected, 'It helped that this lesson disruption was in my area of expertise. I don't think it would have went so smoothly in a different lesson'. Student B is acknowledging how his level of expertise allowed him to handle the situation effectively thus highlighting his confidence in teaching this area of the curriculum. It is important

to note that this reflection was similar to other surface level reflections that focused on non-expert areas where he concentrated on how to improve his teaching by adapting to suit pupil needs, albeit the focus was short-term and without links to relevant theory. This reflection did not contain any pedagogical reflective segments.

Student C's main area of expertise is hockey and her dominant level of reflection was surface. During SE1 she reflected on two hockey lessons. The first of these reflections was graded as surface level where her focus was on how to improve pupil learning. She stated, 'I found it difficult to keep all pupils engaged at this stage as it was an activity that required more focus...If teaching this lesson again...I would alter the activities to suit pupils' ability levels', thus showing her ability to constructively critique her practice and her awareness of the need to address pupils' needs. This reflection did not contain any pedagogical reflective segments and is of a similar standard to her other surface level reflections that addressed areas of less expertise. Her 2nd reflection was graded as pre-reflective and whilst the reflection contained some surface level segments, the majority were pre-reflective. She reflected, 'many of the pupils were unable to perform a correct push pass in hockey even though this skill has been used every week from the start of the unit...this class are usually very unsettled, it is vital that this level of effort is improved in order for the pupils to receive any benefits in what they are learning...I made sure that all eyes were watching what was happening, so I could not understand why they didn't know what to do', thus showing that she was blaming the pupils rather than analysing her own practice with a view to seeking alternative teaching approaches or explanations that might improve pupil

performance. Therefore, Student C reflected at a slightly lower level on her area of expertise.

Student D's area of expertise is football and across both placements she reflected on three football lessons. Her dominant level of reflection is pedagogical and just one of these reflections were graded as pedagogical with the other two graded as surface level. In her two surface level reflections, the common issues reflected upon related to adapting the lessons to suit pupil needs. For example, during SE1 she reflected by stating, 'If I was teaching this lesson again I could introduce more visual guidance such as videos and demonstrate the defending stance in a games situation' and during SE2 she reflected by stating, 'It was also important to be adaptable to the lesson and recognise if something was not working... this was the case with the small-sided overload games... after 2 minutes I recognised the area was too small and the game was not working so I changed the activity'. This segment highlights that she was responding to pupils' learning needs although there was no link to relevant theory. However, in her 3rd reflection during SE2, she stated 'I adopted a TGFU approach in this lesson and during the lesson I thought this worked very well but when I look at the pupil feedback, I now realise that it didn't go as well as I thought... I now realise I progressed too quickly and didn't give them enough time to explore the defending activities. My observation skills need to be better as this is a critical part of TGFU. Perhaps TGFU was not the best approach in this lesson and I need to consider alternative approaches that meet the needs of all pupils in this class. Will discuss this with my mentor'. In this reflection, student D was making a connection between her practice and relevant theory by critiquing her teaching and linking this to the pupils' learning. Her willingness to use pupil feedback, consideration of the need to use a different

teaching strategy and intention to discuss with her mentor shows her ability to reflect at a pedagogical level. Whilst both surface level reflections did contain a number of pedagogical segments, it would seem that Student D reflected at a slightly lower level than her dominant level (pedagogical) of reflection.

Student E's area of expertise is athletics and her dominant level of reflection is surface. She reflected on two athletics lessons across the 2nd school placement. In the first of these reflections, she stated, ' I would like to have spent more time on each activity to give the pupils a better chance of getting familiar with the discus and how the movement feels before actually throwing...I also need to give more individual feedback to pupils to help them improve their subsequent throws', showing an awareness of the need to improve pupil learning. The segments have not been linked to relevant theory nor do they focus on long-term improvement, highlighting that the reflection was surface level. In her 2nd lesson she reflected on a sprinting lesson which was also assessed as surface level. However, in this reflection she did produce more pedagogical reflective segments compared to any of her other surface level reflections. For example, she stated, 'looking back, I realise that my approach was too didactic, probably rushing it too much...I should have let them explore the shot putt in more detail, considering they are year 10...I mean I should have let them engage in some guided discovery or divergent learning where they would have had greater opportunity to learn more...this is an area I really need to work on moving forward and will be a focus for me during my induction year, having the confidence to use these strategies and weigh up what approach best suits the learners'. This comment shows that student E recognised a problem with her practice and was seeing the solution as

being long-term. Therefore, student E reflected to a slightly higher level than her dominant (surface) reflective level.

Student F's area of expertise is Gaelic Football and across both placements he reflected on two Gaelic Football lessons. His dominant level of reflection is surface and both these reflections were assessed as being of surface level, although he did produce a number of pedagogical segments. In the first reflection, he stated, 'I feel my feedback to pupils needs to be better in order for the pupils to learn from it. At times I definitely overloaded them with too many points and I need to tailor my feedback to suit the needs of each pupil, meaning that I need to consider changing my mode of feedback, for example some pupils in that group seem to respond to visual feedback from the iPad whereas others seem to respond better to verbal'. This segment demonstrates his ability to focus on his teaching and how it relates to pupil learning. As well as showing that he can constructively criticise his own approaches, he also recognises the need to adjust his practice to suit the needs of all learners. In the second of these reflections he stated, 'I used differentiated questioning to assess pupil learning and...appropriate progressions and regressions were used to ensure all pupils were working at their own level'. This reflection shows an awareness of the link between his practice and pupil learning and the latter part of this segment shows his focus on ensuring all pupils learn which is pedagogical. He produced another pedagogical reflective segment in this reflection when he stated, 'I had the pupils take the warm-up in groups of five, giving them the chance to lead their peers', thus showing his awareness of what pupils can bring to the learning process. Overall, these reflections were of a similar standard to his other surface level reflections, however, these were the only surface level reflections where he

managed to produce pedagogical segments, showing that he did reflect to a slightly higher level in his area of expertise.

Student G's main area of expertise is Rugby and his dominant level of reflection is pedagogical. This reflection was also assessed as being pedagogical, did not contain any critical segments and was very much in line with his other pedagogical reflections. In the analysis section he stated, 'Whilst this lesson was good in parts as evidenced by the pupils' performance and progress, I feel it could have been better. Looking back, I realise that I pushed some pupils on too far and that they needed more time exploring the tackle... I could have broken this skill down more as well as making the activity more game related so that they got the chance to work things out for themselves... should have created a more problem-solving lesson and used TGfU more effectively...will chat to my mentor how I might develop this more effectively... some gifted and talented pupils could have been used to greater effect... also a greater appreciation needs to be taken into consideration that this is a PE lesson...and not a rugby coaching session'. These segments highlight how he can critique his practice and that he is focused on the learning of all pupils with links to theory. However, it is clear that his reflection was not of any higher quality than his other pedagogical reflections.

Student H's main area of expertise is hurling and across both placements he reflected on one hurling lesson. His dominant level of reflection is pedagogical and this reflection was assessed as being surface level, although it did contain some pedagogical reflective segments, meaning he reflected at a slightly lower level. For example, he reflects by stating, 'moving forward I need to keep activities as basic as possible for the majority of the class at the same time as challenging

the eight boys within the class who do take part in hurling...more time needs to be allowed for each activity, activities must remain basic and the use of classroom assistants will be needed in the future', showing that these reflective segments are at the same level of his other surface level reflections. In one pedagogical reflective segment, he stated, 'In future, bigger balls for some pupils, classroom assistants used appropriately and use of video for the more visual learners should help delivery of this lesson along with the use of more discovery type learning activities, perhaps by using TGfU' showing that he is aware of adjusting his teaching to suit the needs of all pupils and not just a particular group. There is also a link to underlying theory regarding learning styles and teaching strategies. Similar to students above, when reflecting on his feelings about the lesson, he stated, 'I was confident about teaching this class as hurling is one of the sports I play and am very knowledgeable in this area', thus demonstrating his confidence in teaching this area of the curriculum.

Student I's area of expertise is boxing and he reflected on one boxercise lesson across both placements. His dominant level of reflection was pre-reflective and this reflection was graded as surface level. He stated, 'more feedback during the exercises would help these students as I focused mostly on the boxers/pad holders...for the next lesson I will add in an extra circuit to stretch and challenge some individual pupils'. These comments demonstrate an improvement from his pre-reflective work where the focus is on improving pupil learning with an awareness of differentiating to suit pupil needs. The reflection did not contain any pedagogical segments. Similar to the students above, when reflecting on his feelings, he stated, 'having extensive experience in boxing, along with teaching this unit before in a more difficult school I felt very comfortable teaching this

lesson'. Comparing this reflection with his other two surface level reflections shows that they are of the same level. It is important to point out though that this reflection on boxercise was produced during SE1 when all his other assessed weekly reflections were graded as pre-reflective, perhaps indicating that he was able to reflect to a higher level in his area of expertise.

Student J's main area of expertise is hockey and across both placements she reflected on only one hockey lesson. Her typical reflective level was surface and this reflection from SE1 was also assessed as being surface level. She reflected, stating, 'I could see pupils were cold during the hitting in pairs... demotivated therefore moved into the 4 v 1 quicker than I intended' showing her awareness of responding to pupil needs/responses. In conclusion she stated, 'I was disappointed... that I didn't adapt my lesson more to suit', showing her ability to focus on her inadequacies rather than blaming the pupils. Compared to her four pre-reflective reflections, student J had a greater focus in this reflection on pupil learning and was not blaming pupils which was a characteristic of all four pre-reflections. However, this reflection is at the same level as her other four surface level reflections and did not contain any pedagogical segments, therefore, indicating that she was unable to reflect to a higher level on her area of expertise.

The findings from this section show that three students reflected at the same level as their dominant reflective level, whereas four students managed to reflect to a higher level, albeit for some the improvement was marginal. The other three students reflected at a lower level. It is possible that those students who reflected at a lower level took their knowledge of the area for granted and felt that they knew what they were doing and therefore did not feel the need to critique their

practice. For those who reflected at a higher level, it is possible that their in-depth knowledge and understanding of the area allowed them to form deeper reflective views of what they taught and this allowed them to reflect during practice (in action), demonstrating confidence and an insight into their practice that is less likely to be there when teaching an area of less expertise. For those who reflected at their dominant level, it is possible that as they gain more experience, they may be able to reflect on these areas in greater depth or their level of expertise did not have any influence on their ability to reflect. The next section will focus on the findings relating to the use of peer review as a reflective approach. It is important to remember that these findings are based on a small number of lessons, therefore, judgements must be tentative. The next section presents the findings relating to peer review.

4.3 Peer Review

As noted in the methodology chapter, each student engaged in the process of peer review, whereby they observed a peer teaching as well as having their own teaching observed. When in the role as reviewee, each student completed a lesson reflection. The reflective levels attained in these reflections are presented in figure 20 below. Central to the process of peer review is the post lesson discussion between the reviewer and reviewee and in order to capture the nature of these conversations, it was decided to audio record these discussions.

An analysis of each student's reflection was conducted to ascertain the level of reflection they attained and to identify if the peer feedback discussion had any impact on the reflection. In order to determine if the feedback discussion impacted

the students' reflections, each audio recorded feedback discussion was analysed and transcribed in order to capture the feedback that reviewers provided to their peer and what use the reviewees made of the feedback they received. The findings relating to the quality of the students' reflections will be reported on first, followed by the findings on how the students utilised the peer feedback they received. The last part of this section will report brief findings on reflections where students highlighted the direct impact of the peer review process. Figure 20 below provides an overview of the students' assessed peer review reflections.

Student	Dominant reflective level	Peer review reflection level	Reflect more deeply?
A	Pre-reflective	Pre-reflective	Same level– no surface level segments
B	Surface	Surface	Marginally – did contain some pedagogical segments
C	Surface	Pedagogical	Higher than dominant level
D	Pedagogical	Pedagogical	Same level – no critical segments
E	Surface	Surface	Marginally – did contain some pedagogical segments
F	Surface	Surface	Same – no pedagogical segments
G	Pedagogical	Pedagogical	Same – no critical segments
H	Pedagogical	Surface	Lower
I	Pre-reflective	Surface	Higher
J	Surface	Surface	Same – no pedagogical segments
K	Pre-reflective	Surface	Higher

Figure 20 - Peer review reflections

The table above highlights that five students reflected to a higher level than their dominant reflective level, with three reflecting to a full level higher and two producing a few higher-level segments. Five students reflected at the same level as their dominant reflective level, meaning just one student reflected at a lower level.

Of the 11 reflections, three were graded as 'pedagogical', seven were graded as 'surface' level and one was graded as 'pre-reflective'. The pre-reflective reflection was produced by student A, where most of the reflection focused on the reviewer's positive feedback segments. She stated, 'my demonstrations were clear as was my questioning' and 'voice projection was good as was my time management'. Student A also attributed ownership of problems to the pupils, stating that, 'the girls could have given more effort'. Student A failed to analyse her teaching therefore her reflection content almost mirrored a lot of what the reviewer said, thus she repeated the positive comments and failed to analyse the corrective and indeed suggestive comments in appropriate depth.

Across the seven surface level reflections, produced by student B, E, F, H, I, J and K, students displayed an awareness of the need to cater for ability levels but these reflections were characterised by instances where changes and improvements to address immediate problems had a lack of focus on long-term development, with such proposed improvements made on the basis of previous experiences. Student E stated, 'I now realise that ... and ... could have been challenged more' and student I stated, 'I should have organised the groups based on ability as this would have allowed the pupils to be appropriately challenged'. Student B stated, 'I should have had 3 activities instead of 2 as I did this with

another year 10 class and it worked' and student K stating, 'I need to ensure my instructions are crystal clear so that all pupils understand the task'. These example statements highlight that the students are willing to change practice but proposed modifications are made without questioning underlying assumptions or by failing to connect methods to underlying theory.

The three pedagogical reflections produced by students C, D and G displayed an awareness to reflect on issues at a deeper level. Student C when reflecting on a cricket lesson, stated, 'I doubt if the pupils actually achieved the LIs. I should have used the TGfU model whereby the pupils had the opportunity to explore bowling and focus on developing their technique' thus displaying an awareness of the relationship between teaching approaches and pupil learning. Student D stated that 'the wording of my questions were good but I could have given pupils more waiting time thus allowing me to accurately assess pupil learning' and 'I should have changed the 3rd activity as it did not allow the pupils the opportunity to explore the pass in the way that I thought it would and even though I recognised this during the lesson, I should have had the confidence to modify the activity there and then so that the activity was more pupil-centred'. Student D has demonstrated the ability to constructively criticise her teaching with a focus on adjusting teaching strategies based on pupils' performance. Student G reflecting on a Javelin lesson, stated, 'I should have challenged xxx whilst xxxx was finding it too difficult. I could have regressed xxxx but even had I realised xxx required stretch and challenge, I wouldn't have known what to do. This has highlighted a lack of subject knowledge that I must urgently address. This comment highlights the students' commitment to continuous learning and improved practice as well as a desire to enhance learning for all pupils.

Feedback utilised for peer review reflection

Each reflection was analysed with a view to identifying the types of feedback that appeared to impact each student's reflection and how the students chose to reflect on the feedback segments. The low number of segments chosen from specific, non-corrective and general feedback show that these feedback types had little impact upon students' reflections. In contrast, the other three feedback types (positive, corrective and suggestive) were frequently chosen by students as areas for reflection. It was also important for the researcher to identify the content of each feedback segment. For example, if the feedback type identified was positive, it was important to identify whether the nature of the content addressed technical issues, pedagogical issues or critical issues. Figure 21 below describes the types of feedback and the content nature of feedback. These descriptions allowed the researcher to accurately categorise each reflective segment.

Type of feedback	Description	Nature of content	Description
Corrective	Type of error is identified and suggestions are offered as how to correct the error	Technical	Content that focused on basic classroom management and organisational issues
General	Feedback that is vague and non-specific e.g. "okay".	Pedagogical	Content that addressed teaching strategies and pupil learning.

Type of feedback	Description	Nature of content	Description
Non-corrective	Type and extent of error are identified but no suggestions for how to improve are offered	Critical	Content that addressed social, political, ethical and moral issues of practice.
Positive	Use of praise when the teacher demonstrates the use of an appropriate teaching behaviour		
Specific	Objective information is delivered in relation to predetermined specific teaching behaviours		
Suggestive	The use of prompts and questions to help the reviewee explore the issues in greater depth		

Figure 21 - Types of feedback

Figure 22 shows a complete overview of the types of feedback and content focus of feedback provided by reviewers as well as the types of feedback and content focus chosen by reviewees for reflection.

Type of feedback	Total Reviewer feedback provided	Reviewers	% total reviewer feedback	Technical focused feedback	Pedagogical focused feedback	Total Reflective segments used by reviewees	Reviewees	Technical focused feedback	Pedagogical focused feedback
Corrective	36	All	19.45	25	11	21	All	13	8
Non-corrective	15	A,B,C,D,F,H,I,K	8.10	10	5	4	A, C, E, I	2	2
General	19	A,B,C,F,G,H,I,J,K	10.27	14	5	3	A, F & K	2	1
Positive	80	All	43.24	56	24	27	All apart from C & H	16	11
Specific	5	D,E,H,J	2.70	2	3	1	E	0	1
Suggestive	30	B,C,D,E,F,G,H,I, J,K	16.21	12	18	13	B,D,E,G,H,I	4	9
Total	185		100	119	66	69		37	32

Figure 22 - Overview of feedback provided by reviewers and utilised by reviewees

Figure 23 below provides an overview of the type of feedback given and received by individual students.

Reviewee	Reviewer	Positive	Corrective	Non-corrective	General	Specific	Suggestive
A	B	8	3	2	1	0	3
B	C	5	4	2	2	0	4
C	A	9	3	3	4	0	0
D	E	9	4	0	0	1	3
E	D	8	3	1	0	2	4
F	J	8	3	0	1	1	4
G	K	10	2	3	3	0	1
H	I	6	4	1	3	0	2
I	H	7	4	1	1	1	3
J	F	6	1	2	3	0	1
K	G	4	5	0	1	0	5

Figure 23 - Feedback given and received by each individual student

Nine students chose to address at least one positive feedback segment in their reflection. Six (A,B,F,I,J,K) of these students basically repeated what their reviewer had said to them without reflecting more deeply on the issue. For example, student A having been told that her 'voice projection was very good', stated, 'my voice projection was very strong', student F was told that his 'classroom management was very good', referring to this in his reflection by stating, 'I managed the class very effectively' and student K was told that her 'demonstration was very clear', stated, 'my demonstrations were very clear'. These sample statements show that these students produced very descriptive reflective segments with each one being assessed as pre-reflective.

The remaining three students used the positive feedback to good effect by analysing the segments in greater depth. Student D having been told by her reviewer that the 'warm up was relevant and fun' (technical) reflected by stating, 'the warm up was very relevant to the javelin and it prepared the pupils both mentally and physically for what was to come. When questioned, the pupils were able to explain the links between the warm-up and the opening development activity... I asked the pupils what other activities you could do to prepare for javelin and they came up with some good ideas and I will definitely use some of these in future lessons'. Student D chose a positive, technical feedback segment and reflected on this by producing a deeper reflection whereby she made links between her teaching and pupil learning as well as acknowledging what the pupils can bring to the learning process. Student E responded to being told that 'the pupils engaged well with the 2nd activity' (surface) by stating, 'I think the 2nd activity was good as it allowed the pupils to explore the components of the shot

putt at their own level and the stationed approach helped them to see how each element could be worked on separately... although I could have perhaps used reciprocal learning', thus producing a pedagogical reflection to a surface feedback segment. Student G having received the comment, '...I liked the way you broke the skills down, this was very clear for the pupils' (pedagogical focus) stated that, 'the whole-part-whole approach worked well as the pupils had the opportunity to explore the skill in a realistic way before breaking it into the various components, although I should have differentiated the tasks better to suit some of the weaker kids... when I look back, some of the weaker kids struggled a little and I should have modified the activity there and then to ensure that all pupils receive the best chance of maximising the learning opportunities'. Student G having received a positive (pedagogical) feedback segment reflected on the issue more deeply by making relevant theory/practice links and analysing why this approach was effective, thus producing a pedagogical reflection. These students have shown an ability to reflect on positive feedback segments, both technical and pedagogical, in greater depth.

Twenty-one corrective feedback segments were addressed across eleven student reflections, with students A, F, I and K each choosing just one corrective segment to reflect on. Seven students (A,C,E,F,I,J,K) reflected on technical feedback by simply repeating what their reviewer told them, therefore, failing to reflect on the issues raised in any depth. For example, student C received the comment, 'your classroom management could have been better. It is important to gain attention before speaking and use some of the less intrusive strategies such as proximity praise, the look' to which she responded in her reflection by stating, 'I need to improve my management of this class and ensure I always gain

their attention. I should be using less intrusive strategies'. Student I having been informed that, 'there appeared to be some confusion amongst the pupils, you need to be more organised so that transitions are smooth', reflected by stating, 'I need to be more organised and plan for my transitions so that the lesson runs more smoothly'. Both reflective segments were assessed as being 'surface' level since the students may have repeated the feedback they were given but they did accept responsibility, identifying aspects of their practice that require improvement.

The remaining four students (B,D,G,H) displayed their ability to reflect on pedagogical corrective feedback segment(s) in greater depth. For example, Student H having been told, 'you should have lowered the basket for the less able pupils', stated, 'I could have possibly lowered the basket for the weaker pupils as some did experience difficulty. However, it might actually have been more appropriate to have used the coloured hoops before progressing to the basket as this may have allowed them to refine their technique and develop more confidence. This is something I can certainly try if this situation arises again'. Student B having been told that 'you should have provided more individual feedback, particularly to those pupils who were struggling' stated, 'providing more feedback to these pupils may have helped but the bigger issue is that I thought they were ready for this activity but they weren't, so it would probably be better to think of what I should have done to prepare them better or should they have been doing this activity at all? A more suitable activity for their needs is actually what they needed'. These reflective extracts from students H and B highlight their ability to reflect beyond the feedback they received therefore showing that the corrective feedback segments impacted their reflections. Both reflected extracts

were categorised as being 'pedagogical' since both comments focused on how their teaching was impacting pupil learning with a focus on catering for all pupils' needs.

Participants B, D, E, G, H & I all addressed suggestive segments in their reflections. Student B having received four suggestive feedback segments, decided to address three of these in his reflection. His reviewer asked, 'what could you have done with the two boys who were struggling with bowling'? and in his reflection he stated, 'I should have differentiated the bowling activities much better. I was aware that *** and **** were struggling a little but looking back I realise that I should have allowed them to revisit their technique by breaking the skill down and using a slower ball'. The reviewer also asked, 'what other teaching strategies might you have employed as it was too teacher led at times'?, with student B stating, 'I should have utilised a TGfU approach whereby the pupils had the opportunity to explore bowling and focus on developing their technique'. Student B used these pedagogical suggestive feedback segments to good effect whereby he considered the questions and then provided a reflective thought that was pedagogical in nature. Student I was asked, 'what might you have done to help you measure pupil progress more accurately'? and in his reflection he states, 'I suppose I could have assessed them more accurately at the beginning by timing them and then by timing them again during and at the end, I would have been able to assess their progress as well as their technique. This evidence would have informed my teaching and pupil learning. This is something I will try out although I will discuss with my mentor if there are any better ways of doing it'. Student I was also showing that he was able to reflect more deeply on the issue by producing a pedagogical reflective segment.

It is important to note that all six students who chose to reflect on suggestive segments managed to reflect more deeply on the issue raised, whereas as previously noted, this was not the pattern for all those who reflected on positive and corrective segments. Students A, F, J & K each received suggestive feedback but failed to address any of the segments in their reflections. Considering how some of the participants used this feedback to good effect, it would seem that the decision to not reflect upon this type of feedback segment is important. Students A and K both produced low quality reflections and their overall reflections were graded as pre-reflective. A and K also addressed the highest number of positive, technical segments in their reflections compared to the other participants.

Only eight reflective segments were addressed from non-corrective, general and specific comments. Those students who reflected on general segments simply repeated what the reviewer had stated, thus failing to reflect more deeply on the issues raised. Of the four students who reflected on non-corrective segments, two basically repeated what their reviewer stated whilst the other two students reflected more deeply on the issue raised. For example, student C was told by her reviewer that 'the 2nd activity could have been better' and she reflected by stating, 'the 2nd activity did not go as I had planned and I could see this during the lesson but I only now realise that it was much worse than I originally thought. The obvious issue was that most of the girls were struggling since I pitched the activity too high and did not plan thoroughly for differentiation. It is important that all pupils learn... I should have employed a more suitable teaching strategy for the less able pupils... could have relaxed the rules for them so that they could explore the movements more and increase their confidence. I am really

disappointed with myself but I will aim to improve this going forward'. Student C was showing her ability to reflect on the issue in greater depth by producing a pedagogical reflective segment.

Student E was the only student that reflected on a specific feedback segment and having been told, 'I loved the way you broke the skill down by doing whole-part-whole', reflected by stating, 'whole-part-whole worked very well as pupils were well engaged during all related activities and probably for the first time I felt very comfortable using this approach. It may be to do with the fact that I was teaching a sport I was comfortable with but my questioning after the mini-games allowed the pupils to work out the areas that they needed to address rather than me simply telling them... this strategy worked with this group although it may not work as well with a different class so I need to think of other ways of teaching this activity'. Student E reflected more deeply on the pedagogical specific segment, offering an analysis of why this aspect appeared to go well, showing her awareness of the link between theory and practice and acknowledging that different strategies may be needed to suit the needs of different learners, thus producing a pedagogical reflective segment.

Direct influence of peer review

Across the 11 written reflections, four students directly referred to the positive impact of the peer discussion upon their reflection, each noting how their thoughts changed as a result of the feedback discussion. Student B stated, 'my initial lesson annotation and evaluation was very positive but the peer discussion has highlighted issues that having reflected upon, I now realise that certain aspects

could have been much better' and student F stating, 'In my lesson annotation I noted that the non-participants were well engaged but having discussed this with *****, I now recognise that they were busy but I'm not sure that they learnt anything?'. Student C and D also highlighted how the feedback discussion changed their initial reflections of the lesson. These findings highlight that there was a tangible reflective benefit from the peer review process.

From the evidence presented on peer review it would appear that the students are comfortable providing positive feedback to their peers and to a much lesser extent, providing corrective feedback. Critiquing your peer's practice can be an awkward experience for some individuals and it is possible that it was easier for them to focus on positive aspects of the lesson rather than seeking to deliver more critical points. It may also be the case that due to their lack of experience in observing someone's practice, they struggled to observe accurately and did not know how to provide more critical or constructive feedback. The low focus on suggestive feedback by reviewers may possibly indicate that the students did not have the confidence to question their peers or they lacked the knowledge and understanding that would permit them to provide such feedback. The delivery of a higher number of technical segments compared to pedagogical, would appear to be normal for PGCE students since they are more focused on managing a class and 'getting through' with less focus on pupil learning.

When reflecting on the feedback they received, the students showed that they can reflect deeply on both low-level and high-level feedback as well as reflecting poorly on low-level and high-level feedback, perhaps indicating that the reflective abilities of the reviewee dictates the quality of reflection rather than the type and

nature of the feedback. Reflecting on suggestive feedback was beneficial for students showing that this type of feedback has the potential to make individuals think more deeply about their practice. The next section will address the findings emerging from the use of video-assisted reflection.

4.4 Video-assisted reflection

During SE2 students had the opportunity to video record one lesson from their practice which became the focus for their reflection that week. Owing to five students from the cohort undertaking a choice SEN placement in May 2018 and thus not being able to complete this process, six students (D, E, F, H, I, K) engaged with video-assisted reflection. The findings relating to the quality of each students' reflection will be reported on below.

Student	Reflective level attained	Dominant reflective level	Comparison
D	Pedagogical	Pedagogical	Similar level
E	Pedagogical	Surface	Higher - only pedagogical reflection she produced
F	Pedagogical	Surface	Higher - only pedagogical reflection he produced
H	Pedagogical	Pedagogical	Similar level
I	Surface	Pre-reflective	Higher - only reflection where he produced pedagogical segments
K	Surface	Pre-reflective	Higher - only reflection where she produced pedagogical segments

Figure 24 - Overview of video-assisted reflections

Video-assisted weekly reflections

Student D reflected on her video recorded javelin lesson and the reflection was graded as pedagogical. She reflected by stating, 'it was obvious that some of the pupils were struggling with executing the correct technique and even though I could see it wasn't right, I was struggling on the spot as to how I should regress...when I watched the video I became more aware of the difficulties that some pupils were having, in fact there were kids struggling that I thought were ok during the lesson so the video really brought this out'. She proceeds to state, 'If I were teaching this lesson again, I would do a number of things differently. Firstly, I would use a stationed approach where pupils could explore the technique by using equipment that makes it easier to begin with such as bean bags or large balls thus allowing them to build up their confidence in this area... a more guided discovery approach with safe equipment as I was too caught up with H & S and as a result it was too command and practice style. Secondly, I need to be better prepared and do my research on javelin as it is not my area of expertise but it has made me realise that I must do this for all other areas I am weaker in before I teach them poorly, it is best to have the research done beforehand meaning I should make less mistakes. I realise I need more CPD in this area and this is something I will address asap. Thirdly, I would use pupils' phones or iPads to capture their technique so that they can identify the areas they need to work on'. This reflective segment demonstrates an awareness from student D of the need to modify her teaching and learning approaches with a link to relevant theory and a recognition of the need to address lack of subject knowledge by expressing a commitment to improve her practice in this area.

Student E reflected on a tennis lesson and this reflection was graded as pedagogical. She stated, 'I initially thought the lesson was good but when I looked at the video, I quickly realised that it was actually quite poor. I did far too much talking but more importantly, I could see that the biggest majority of the pupils did not learn anything with many not improving their actual forehand technique and that the peer assessment activity was a real disaster, watching with my mentor I was embarrassed'. This comment demonstrates the power of video since the student was unaware of these issues after having taught the lesson but the opportunity to watch the lesson has changed her whole view of the effectiveness of this lesson. She stated, 'If I was to teach this lesson again I would change almost every single aspect from the warm-up to all actual activities...the pupils were far too static, I did not pitch the lesson at their level as I could see on the video that many pupils were struggling with some of the basic racquet skills. I need to regress and concentrate on some of the fundamental racquet skills whereby the pupils work on grip, stance etc. in a fun way before progressing them to actual forehand rally games...there were three pupils who were also miles ahead of the others and they were clearly bored, although I didn't notice this during the lesson as I now realise I spent so much time with the other pupils that these three pupils were neglected'. These comments show that student E was able to constructively critique her teaching and the impact of her teaching on pupil learning. She proceeded to state, 'I also realise that I need to improve my subject knowledge in tennis and this is something I will address before September by gaining access to a certified course... it was hard watching it with the teacher mentor but at the same time it was the best thing I could have done as her feedback was great... she saw things on the video that I didn't even notice and

she asked me lots of questions so she was forcing me to think about what I was seeing'. These comments show her honesty, highlighting a willingness to engage with appropriate CPD courses (which shows her focus on long-term development) and an acknowledgement of the benefits to be gained by having an experienced practitioner observe the video and provide feedback.

Student F reflected on his video recorded year 9 football lesson and this reflection was graded as pedagogical. He stated, 'I thought this lesson went really well until I watched the video. The pupils were very active but when I looked at them on the video, too many were not learning. **** really highlighted this and when I studied what they were doing I realised that too many were not challenged and whilst it appeared during the lesson that they were learning, many were not...I would not have realised this without watching the video and having **** point this out'. He proceeded to state, 'if teaching this lesson again, I would make many changes. To start with, I would scrap the warm-up activity as it was too general and not specific enough for this lesson. I would also change the activities, too many were drill orientated and did not allow pupils to explore the skills – I would use a TGfU approach where the focus needs to be on developing pupils' tactical awareness because in the video I was constantly instructing the pupils to get wide, find space etc. and I only realised that some pupils were not able to do this and didn't understand the concepts, it's my job to teach these aspects, not assume they can...again, I only realised these weaknesses from watching the video and receiving ****'s feedback'. These comments show that student F recognises the link between his practice and pupil learning as well as acknowledging the links to theory. It is important to note that this was the only

pedagogical reflection that student F produced, showing that the video-assisted approach to reflection helped student F to reflect more deeply.

Student H reflected on a Gaelic football lesson and the reflection was graded as pedagogical. He stated, 'I was a little shocked as to how much I missed during this lesson...It is clear that my observation skills are not good enough at present. I will seek advice from my mentor and my PGCE tutor as to how I can work more effectively on this area' thus showing the impact of the video in highlighting an aspect of his practice that he did not realise was a weakness. He is also reflecting on how he can improve this aspect by seeking help as he moves forward. In identifying what he would do to improve this lesson, he stated, 'some pupils did not make the progress that they should have and that includes pupils of weak ability and my gifted and talented pupils who were clearly not stretched and challenged. I could have grouped the pupils better by ability as well as differentiated the tasks more effectively to ensure all pupils were challenged at their level...I would also use the TGfU model whereby rules could be modified to suit pupil needs which will only work if I monitor pupil performance effectively by conducting accurate observations'. These comments show that student H is reflecting at a pedagogical level where the focus is solely on pupil learning with links to relevant theory. This reflection contained the highest number of pedagogical segments and lowest number of surface level segments compared with his other pedagogical reflections.

Student I reflected on a relay lesson which was assessed as being of surface level. It is important to note, however, that it is the only reflection where he produced pedagogical segments. He stated, 'looking at the video I realise that

whilst the lesson was good, it was not as good as I originally thought...I was so caught up in the lesson that I failed to notice that 4-5 pupils needed their running technique corrected and in the video this is so clear', thus highlighting the benefits of video. In identifying how to improve this lesson, he stated, 'I agree with ***** in that I must concentrate more on observing the pupils' technique as their physical execution is really important in this event...I also think it would be good to do a stationed approach in this lesson where activities address various elements of the relay so that pupils can appropriately explore the various components at a level that suits them...it was too command and practice based and needs to be designed in such a way that pupils take ownership of their learning through a guided discovery approach' thus showing his ability to critique his teaching and make links to relevant theory. He also stated, '***** made a good point when watching the video in that she suggested I do an initial baseline assessment of the pupils after the warm-up since they were year 10 and will have completed relay before as this would then allow me and the pupils to chart their progress across the lesson...this is something I would never have thought of doing but it makes so much sense'. It would seem that video-assisted reflection has helped student I reflect to a slightly deeper level and whilst the overall reflective level has not increased, the production of three pedagogical segments shows improvement.

Student K reflected on a long-jump lesson with a year 9 group and this reflection was assessed as surface level. She stated, 'the video was good as it let me see things that I always thought I did well but I could see that they could be much better...my spotting and fixing could be better as I missed opportunities for providing corrective feedback' thus showing the benefits of video. She reflected

on how to improve this lesson by stating, 'the video showed that the pupils were inactive at times and this is something I need to work on, maximising their activity levels...but as ***** said, active but still learning is key and this is probably a weakness in my practice in that I sometimes focus on them being active and they may not be learning but in this case I could see they were inactive and some were also not learning but during the lesson I thought it was going well'. This comment demonstrates the benefits of video for student K and has allowed her to reflect on an area of her practice that relates to all aspects of PE. She proceeded to state, 'I need to give the pupils more time to perfect their technique – they need more jumps so I need to be more creative with the space I have, I could have four different stations with equipment of various heights to encourage greater take off and height, allowing pupils to be challenged at their level' thus showing her ability to reflect on her teaching approaches and the impact on pupil learning as well as recognising the need for all pupils to learn and taking responsibility for her teaching. It is significant to note that this was the only reflection for student K where she produced any pedagogical reflective segments.

Video-assisted reflection helped each of these students reflect to a deeper level with some reflecting to a full level beyond their dominant reflective level, whilst others produced more reflective segments belonging to the level above their dominant reflective level. Being able to replay the video is important as it allows the students the opportunity to view aspects of the lesson as many times as they need to. It is also important to note that many of these students referred to the impact that the mentor had on their reflection in that the mentor noticed issues in the video that they did not notice. It would seem that viewing and discussing the

video collaboratively with a more experienced practitioner has allowed these students to think more deeply about their practice.

These findings will be subjected to further analysis in the discussion chapter (5). The next section addresses the findings emerging from lesson observations where the researcher observed how students were using their weekly reflections in subsequent lessons.

4.5 Lesson observations

In order to capture how effectively students were using their weekly reflections to inform future practice, the researcher deliberately chose lessons to observe that focused on the same class for which they completed their weekly reflections. The lesson observation followed the same format as all other observations but the researcher was deliberately looking for evidence of how each student used the weekly reflection to inform their planning and subsequent lesson delivery. Figure 25 below shows how each student used their previous weekly reflection.

Student	Area taught	Reflection used to inform planning	Reflection used when teaching
A	Hockey	Yes	No
B	Cricket	Yes	Yes
C	Netball	No	No
D	Hockey	Yes	Yes
E	Athletics	Yes	Yes
F	Tennis	Yes	Yes
G	Basketball	Yes	Yes

Student	Area taught	Reflection used to inform planning	Reflection used when teaching
H	Gymnastics	Yes	Yes
I	Athletics	No	No
J	Badminton	Yes	Yes
K	Athletics	Yes	No

Figure 25 - Students' use of weekly reflections

Student A was observed teaching a hockey lesson to a year 9 class during week 5 of SE1 where she was teaching the same class that were the focus of her week 4 reflection. The key action points emerging from this reflection were for her to implement a less didactic style of teaching and move away from a drill-based approach to a more games based-approach. In the observed lesson, student A had highlighted these points in her lesson plan but continued to adopt a drill-based approach that was very much teacher led, indicating that she did not act upon the key points that were detailed in her week 4 reflection. Therefore, student A used the reflection to inform planning but the planning for these elements did not transfer to action within the lesson.

Student B was observed teaching a cricket lesson during week 3 of SE2 where he was teaching the same class that were the focus of his week 2 reflection. In this reflection he identified the need for him to implement more effective differentiation strategies as well as the need for him to reinforce key teaching points through more frequent teacher demonstrations. These points were highlighted in the lesson plan and indeed it was clear that a range of differentiated activities had been planned for and implemented. He also used effective

demonstrations regularly throughout. Therefore, student B used the reflection to good effect.

Student C was observed teaching a netball lesson during week 4 of SE1 where she was teaching the class that were the focus of her week 3 reflection. The key action point emerging from this reflection was the need for her to use small-sided games that would allow pupils the opportunity to explore the skills in a realistic way. This action point was not noted in the lesson plan. In the observed lesson, student C did not utilise a games-based approach but similar to the previous lesson (focus of week 3 reflection), adopted a very drill-based approach. This would seem to indicate that student C did not use the reflection to inform her planning or delivery of this lesson.

Student D was observed teaching a hockey lesson during week three of SE1 where she was teaching the class that were the focus of her week two reflection. The key action points emerging from this lesson were the need to use a TGfU approach and improve approaches to differentiation, particularly for the more able pupils. In the observed lesson student D had planned for the employment of a TGfU approach (evidenced in lesson plan) and whilst her employment of the approach required improvement, she was using this approach. Differentiation was noted in the lesson plan with a focus on Gifted and Talented (G&T) pupils but in the actual lesson there was no evidence of her catering for G and T pupils through differentiated activities. Student D clearly used her previous reflection to help plan this lesson showing that her reflections were informing future practice. The transference of planning to reality was also in evidence and whilst the implementation of TGfU needs improving, this is not of any significance in the

context of this study since student D was putting her reflective thoughts into action. Differentiation for G and T pupils did not take place, showing that this aspect of her plan did not result in action.

Student E was observed teaching an athletics lesson during week six of SE2 where she was teaching the same class that were the focus of her week five reflection. The key action points emerging from this reflection were to increase pupil activity levels and to employ more pupil-centred teaching approaches. These points were noted in the lesson plan and indeed during the lesson it was clear there was a focus on maximising pupil activity levels. Therefore, it would appear that student E made use of her weekly reflection.

Student F was observed teaching a tennis lesson during week four of SE2 where he was teaching the same class that were the focus of his week three reflection. The key action points emerging from this reflection were to improve his observation skills (to help his spotting and fixing skills) and to improve his subject knowledge. In the observed lesson these points were highlighted in the lesson plan and during the lesson it was clear that student F had a significant focus on spotting and fixing. It was difficult to assess whether his subject knowledge had improved but, in this lesson, it would appear his subject knowledge was good, based on his ability to demonstrate with accuracy and spot and fix. It would seem that student F did use his weekly reflection.

Student G was observed teaching a Basketball lesson during week 9 of SE1 when he was teaching the class that were the focus of his week 8 reflection. The key action points emerging from this reflection were to plan and implement

appropriate progressions and use conditioned games for less able pupils. Student G had identified these points in his lesson plan showing that he was using the reflection to inform future planning. Observation notes show that these points were also addressed in the lesson where the observer noted 'progressions were clear...effective use of small-sided, conditioned games for less able pupils'.

Student H was observed teaching a gymnastics lesson during week 9 of SE1 where he was teaching the class that were the focus of his week 8 reflection. The key action points emerging from this reflection were to have a greater focus on quality of movement and to plan more appropriately for differentiation. Both of these action points were identified in the lesson plan and there was strong evidence during the observation that he had an increased focus on pupils' quality of movement and activities were well differentiated. Therefore, student H appeared to use the reflection to good effect.

Student I was observed teaching an athletics lesson on shot putt during week 8 of SE2 where he was teaching the class that were the focus of his week 7 reflection. The key action points emerging from this reflection were to improve his demonstration skills and to place more of an emphasis on peer assessment. The lesson plan did not highlight these points and during the observation student I only performed two demonstrations and did not utilise peer assessment. It would therefore appear that student I did not use this reflection.

Student J was observed teaching a badminton lesson during week 7 of SE1 where she was teaching the class that were the focus of her week 6 reflection. The key action points emerging from this reflection were for her to stretch and

challenge the more able pupils and to implement a TGfU approach. Both these action points were highlighted in the lesson plan and during the observation it was noted that there was a key focus on challenging the more able pupils but that there was no evidence of adopting a TGfU approach. It would seem that student J implemented one action point and not the other, therefore, making some use of the reflection.

Student K was observed teaching an athletics lesson on relay during week 9 of SE2 where she was observed teaching the class that were the focus of her week 8 reflection. The key action point emerging from the week 8 reflection was for her to improve pupils' peer assessment by modelling effective feedback. This point was identified in the lesson plan but during the observation it was noted that student K did not model effective feedback on any occasion even though she had ample opportunity to do so. Therefore, it would appear that student K did not use the weekly reflection effectively.

Nine students appear to have used their weekly reflection to inform future planning and seven of these students implemented the action points when teaching the lesson. Two students did not use the reflection to inform planning or teaching and two students having used the reflection to inform planning did not use the action points when teaching the lesson. These findings suggest that the majority of students valued their reflection and saw the connection between the reflection and the next lesson. It is also possible that of those who did use the reflection, some may have used it to inform planning and subsequent lesson delivery simply because that is what they were expected to do, so they did it to fulfil course requirements. For those who did not appear to use the reflection to

inform planning or lesson delivery, it is possible that they did not see or value the connection to the next lesson or it may be the case that during the time between completing the reflection and the next lesson, further reflection on other lessons and aspects of their practice allowed them to identify other priorities that they did plan for and address in their lesson. For those who used the reflection to inform planning but did not address the action points during the actual lesson, it is possible that they had intended to address these points but the direction of the lesson changed or they simply forgot to or they thought they were addressing them but did not manage to do this as well as they thought they would. These issues will be discussed in greater depth in chapter 5. Figure 26 below provides an overview of each student's reflective work across weekly, peer reviewed and video-assisted reflections, showing how each student reflected when using different approaches and whether or not they improved their reflective skills. The figure also shows how each student used their weekly reflection to inform their practice in relation to the observed lesson.

Student	Dominant weekly reflective level	Did their reflection skills improve?	Ref level on area of expertise	Did they use their weekly reflection to inform planning and teaching?	Peer review	Video-assisted ref level
A	Pre-reflective	Yes – produced 2 surface level reflections	Pre-reflective - marginally higher	Planning only	Pre-reflective - similar	N/A
B	Surface	Yes – moved from pre-reflective to surface	Surface - similar	Both	Surface – marginally higher	N/A
C	Surface	Yes - marginally	Pre–reflective - lower	Neither	Pedagogical - higher	N/A
D	Pedagogical	Yes – moved from surface to pedagogical	Surface – lower	Both	Pedagogical - similar	Pedagogical - similar
E	Surface	Yes – moved from pre-reflective to surface	Surface - marginally higher	Both	Surface - marginally higher	Pedagogical - higher
F	Surface	Yes - marginally	Surface - marginally higher	Both	Surface - similar	Pedagogical - higher
G	Pedagogical	No - remained at pedagogical	Pedagogical - similar	Both	Pedagogical - similar	N/A
H	Pedagogical	Yes – moved from surface to pedagogical	Surface – lower	Both	Surface - lower	Pedagogical - similar
I	Pre-reflective	Yes – produced 2 surface level reflections	Surface - higher	Neither	Surface - higher	Surface - higher
J	Surface	Yes - marginally	Surface – similar	Both	Surface - similar	N/A
K	Pre-reflective	Yes – produced 2 surface level reflections	N/A	Planning only	Surface - higher	Surface - higher

Figure 26 - Overall summary of students' reflective work and progress

The next section reports the findings from the end of PGCE focus group interviews.

4.6 Focus group

As noted above in the methodology chapter, two focus group interviews were conducted in June 2018, two weeks after the course had concluded. The timing of these interviews was important in that the students had officially passed the course and, therefore, the researcher felt that this may be likely to increase students' willingness to be honest with their opinions. Additionally, the course had fully concluded, therefore the students were able to reflect on the entire course and not just parts of it, meaning the researcher was allowing the students the best opportunity to make informed opinions when responding to questions. Focus group 1 comprised of six students and focus group 2 comprised of five students.

An analysis of the focus group data revealed several key themes. The findings on each theme are presented below.

4.6.1 Teaching and learning Issues

Teaching and learning issues were identified based on any reference to the impact of their reflections on future planning, differentiation and teaching and learning. When asked to consider their general thoughts on the role of reflection, seven respondents (across both focus groups) made direct reference to the importance of reflection in helping to inform their future planning. Student F stated, 'whenever you are working with classes at different levels and abilities and if you see something that didn't work with one class it might work with another

class, it depends on the ability level, so it does really help prepare for maybe future planning or future lessons'. Student D supported this view, stating, 'reflecting back on what went well and what didn't go so well, it will also help with why that maybe happened, so you get a better insight as to why something worked well and that it was something that you could maybe use in the same group in the coming weeks'. These views were typical of the other five respondents who referred to the impact upon future planning. Reference to the impact on future planning was made by two respondents when asked to comment on their use of video-assisted reflection. Student H stated, 'there was stuff that you wouldn't notice in your initial reflection which you would have picked up on and improved on then by watching the video itself' and student B commented, 'when we actually watched the video back you could actually see that there were different levels of ability in the group so... you could future plan to see how you could make it more achievable or more suitable for the ability levels of the group'.

Across both focus groups there was a clear awareness of the distinction between reflecting on their teaching and on pupil learning. Student E stated, 'the protocol we went through really made me actually think about the effect it had on the pupils and what their learning was and being able to separate the teaching and the learning for me was something that did really help'. When asked their views on the value of completing lesson annotations, respondent I stated, 'the teaching and learning boxes at the end is where I really thought about why this lesson went well, why this lesson went bad... you could see what parts you were going to take forward and what parts maybe not', a view supported by student D who commented, 'yeah, I just found the reflection of the pupil learning was the most beneficial'. In response to their views on the use of video-assisted reflection, three

respondents highlighted how the use of video allowed them to reflect on their teaching and/or pupil learning. The following quotation from student D reflects the typical views of the other two respondents, ‘...beneficial in terms of me looking at me as a teacher because something I was doing the same the following week on javelin and it was my movement about the class spot and fix so that is something I was focusing on in the video...also found it beneficial looking at the pupils and the pupil learning because I was picking up on some things that I maybe hadn’t observed whenever I was actually teaching the lesson... as well as focusing on myself, allowed me to reflect on the learning as well as the teaching’.

4.6.2 Collaboration and support

The students identified collaboration with peers and teaching staff as having a positive impact upon their reflective experiences, whereby they identified different facets of collaboration. Some students highlighted teacher support as being of great value. Respondent G stated, ‘when you were getting that added support of people that were actually in the profession giving you a wee bit added extra of what you can work on, I found that really, really beneficial’, a view that was echoed by student B, who commented that, ‘you were getting your feedback and your Head of Department was being critical at the same time, so you are being given a really good insight of how effective your lesson actually was like, so I thought it was beneficial’. When asked about their views on completing a weekly reflection, three respondents highlighted the benefits of sharing ideas. Student H stated, ‘sharing the reflections, you could maybe share ideas if somebody was struggling with say class management... being able to see reflections... you can maybe help each other and stuff like that’, a view echoed by student C who stated,

'it was beneficial you know as was saying to look at other people's and see what they had done, so I am sure that potentially my reflection would have been useful to somebody else, but I didn't find any additional benefit of my own weekly reflection to myself'.

Just under half of the students made reference to some type of emotional and/or moral support generated from their peers through the online community of practice as being of value. Student D stated, 'I thought it was nice though that there was an openness about the group... to offer advice rather than feeling nervous within the environment to offer that support', a view echoed by student I who stated, 'there were some lessons that I was struggling with and then seeing that everybody else had maybe been in the same boat... so it is nice to see... that they are struggling as much as you are'. The respondents recognised the supportive nature of the online discussion board as a source of comfort in that they did not feel alone in this process. It would seem that some students recognised the emotional support as being of more importance than the actual sharing and reading of each other's reflections.

4.6.3 Formal versus Informal processes

Across both focus groups, the respondents made numerous references to the benefits they received from engaging in informal discussions about their practice. Student A highlighted the group's WhatsApp chat as being just as effective as their online discussion board, when she stated, 'in our WhatsApp group if you had an issue or whatever... we were kind of doing the same thing but in an informal kind of way...', a view that was supported by student I who stated, '...also

more informal... through the WhatsApp group and stuff like that definitely helped... did make you feel a lot better’.

Five students highlighted the WhatsApp group as being more relaxed and a safe space where they could share straightforward, practical advice. Student E stated, ‘it was nearly more conversational, whereas I suppose when we are putting it in, I suppose you feel that you have to be more formal about it whereas... somebody had a disaster lesson, I suppose you might have laughed a wee bit with them and then... ‘why don’t you try this?’, a view supported by student G who commented, ‘you weren’t worrying about trying to make it sound very pedagogical...for example one of the people may be struggling with behaviour, it was just like, they are trying to test you, get through the week and you will be alright and that was sometimes that is all you need and then you move on... I think if you are trying to word that more formally it would lose its meaning almost... I found the WhatsApp group almost more beneficial’. Student I identified the WhatsApp group as a safe space where they could express themselves in an honest way, stating, ‘I think a lot of people in the class thought it was a safe net where...you can’t see it, so it is kind of informally between all of us and there is not that sort of scrutiny... on the sort of message that you put in, and I think that was quite beneficial’. Student F when discussing peer review also saw this process as being less formal, stating, ‘it was good, just to get another set of eyes on a lesson that is maybe less, less formal than a tutor coming in or a teacher... you would obviously be less nervous coming in as well’. The students saw the WhatsApp group to be at times more effective than the online discussion board. The findings above would seem to indicate that the students appreciated the support from peers in what appears to have been a relaxed but supportive environment, albeit, the advice

and support relating to teaching issues would seem to have been based on basic practical tips and moral support when faced with challenging circumstances.

4.6.4 Subject expertise

Numerous references were made across both focus groups in relation to the students' expertise or lack of expertise.

Seven students commented that they found it easier to reflect on areas of the curriculum that were a strength for them. The following quotation from student I represents the typical opinion of the other six students, 'I definitely think it was easier to reflect on the ones that you were more stronger on, because you knew what you were trying to get to, you knew what a good basketball shot looked like, whereas the likes of gymnastics... I wasn't overly confident on what was a really good forward roll and how to improve that... so I think having more knowledge on the subject, more knowledge on that area you can reflect on it deeper because you know what is right and what is wrong and how you can change it'. Being able to reflect to a deeper level was also highlighted by respondent E, who stated, 'I reflected differently in something that was my own strength to something else... I was able to go a little deeper because I knew I was able to analyse it better, whereas in my weaker lessons maybe were a lot more evaluative, I knew what didn't go well but it took a lot more to work out why'.

Three students made direct reference to their level of subject expertise allowing them to adapt their lessons when teaching. Student E stated, '...triple jump lesson that I had taught but I had to completely adapt it because then it was too windy outside... if I hadn't had that strength I don't really know what I would have done...'

so my strength in athletics helped me with that', a view that was supported by student D, who commented, 'even in the lesson I did if something wasn't going so well... I was able to... adapt the lesson to what was happening', a view that was immediately supported by student J who stated, 'I would agree with what **** said in terms of reflection-in-action... hockey and you are going like, hold on, this is way too static, I need to change this straight away and you had to reflect there and then... gymnastics... I probably would have freaked out but whenever it was something that I had a good background knowledge in, I can reflect there and then, change it up'.

Students D and C both commented on the difficulty associated with reflecting on an area of weakness, claiming that they could not do this effectively without the support of a teacher. Student D stated, 'whenever I was reflecting upon an area that I maybe wasn't so confident with, I preferred to reflect on it with the class teacher because I found her knowledge of the skill... very beneficial to me reflecting in those aspects of the curriculum rather than sitting by yourself and sometimes you didn't know how to improve', a view supported by respondent C who stated, '...found it harder to reflect because... they (teacher) didn't know, they didn't have as much knowledge ... but yet I know deep down that there was stuff that one hundred percent I would never do again'.

When commenting on the process of annotating lesson plans, only respondent B referred to their expertise, stating, '...more difficult to annotate lessons that I had expertise in... like I know what will work and what won't work, so I found those annotations maybe more difficult to be critical of my teaching... whereas if I was doing an activity that was new, like swimming or gymnastics, I would find it a lot

easier'. Seven respondents believed that it is easier to reflect on an area of strength, with only one respondent stating that they found it more difficult to annotate lesson plans on areas of strength. The next section reports the findings on issues relating to time.

4.6.5 Time

Time was another key theme that emerged during the analysis. Five students referred to aspects of the reflective work being time-consuming. Student J stated, 'although they were time consuming... they were very useful and probably mine were very, very detailed' when referring to her annotation of daily lesson plans. When discussing the weekly reflections, student I stated, 'there was some lessons where I maybe rushed it a little bit... there was more of an exercise just to get it done, rather than really focusing in on it, but then a few lessons that we did focus on and you meant what you were writing in the reflection, you did see a big, big benefit...so if the time and effort is in it, very, very beneficial I found them', a view that was instantly supported by student D, who commented, 'weekly reflections were very time consuming especially in the written forum, so sometimes you probably didn't give it your full attention to complete them as in-depth and you probably should have...whenever it changed to one you gave it more of a focus and more of your attention'. Respondent K in reference to reflecting through the online discussion board, stated, '...in terms of giving the feedback as I have said before, like everything is so time consuming, so to actually sit down... and scroll through and really take it all in and then comment underneath... it was a lot of work at times'.

When asked to consider which reflective approach they were likely to continue with, five of them stated that they prefer to audio record their reflections. Out of these five, four highlighted that the process of audio recording was less time consuming than doing written reflections. Student B stated, 'my preference was also audio... first of all, I think it took 45mins to write up...one written reflection, whereas you could do an audio one in ten minutes... I also think it is sometimes easier to speak your real thoughts and opinions rather than sort of formally write it down and express it', a view that was supported by D who stated, '...prefer the audio, just in the terms that I found it less formal than the written version...I did find that maybe a combination of making a few notes and then talking through it more in-depth I found it more beneficial'. The other six students stated that they preferred written reflections, with student C stating, '... more things come to my head when I am writing it down whereas if I were doing an audio I would just try and go through it quicker, and not think into it as much... writing things down you can always come back to it later after you have thought of something else and add it into the written, whereas with the audio you just have to make a fresh audio', a view that was supported by student I, who stated, 'I like having it written down and so I can go back to it, I will probably not go back and listen to my voice... in terms of future sort of professional practice... you are not going to have time to do an audio, I think it is just going to be a matter of writing down your three or four points'. The five who opted for audio as their preferred choice may possibly have answered based on the approach they preferred during PGCE but did not consider the practicalities associated with reflection when in a full-time teaching post, whereas the other six students appeared to have considered the realistic approaches that may work when teaching.

Three students made reference to the weekly reflections being repetitive. Student J stated, 'I was annotating so heavily when it actually came to weekly, it was just very repetitive for me', a view that was shared by student C who stated, '...because my individual lesson plans I annotate them very detailed, so I found that I wasn't really writing anything extra in the weekly reflection from the one that I had already written, so I was almost repeating what I had said and going over it again'. Student E shared a similar view, but was quick to stress the need for her to improve her reflective work, stating, 'sometimes I felt you were saying the same things over and over and over again, ... your weekly reflections would probably sound the same every single week... I think that is just where we need to improve on our reflection a bit more and go a bit more in-depth into specifically the area that we are looking at'. In addition to her response above, student J stated, 'there were just a couple of bits that were very repetitive and you sort of found yourself copying and pasting until you really gave it a bit of time', a view supported by student K who stated, 'to be honest, there were times I just copied and pasted from the previous week's reflection as I was generally writing the same things'. These comments would appear to indicate that students J and K did not value the weekly reflections. Combined with the comments from students D and I above, where they said they did not always invest maximum effort, some of their reflections were not fully authentic.

It is important to note that whilst some of the students found the daily lesson plan annotations time-consuming, all students agreed that the daily lesson plan annotations were more useful than the weekly reflections. Student G stated that the lesson annotations help to 'identify certain aspects that were really, really good... or...that didn't really work well, it helps you sort of pick up wee bullet

points on things that you can possibly improve on', a view supported by student D who stressed that 'we could talk about it in more depth and use actually what we have written about, ... the first form of activity didn't work and then you wrote beside it what could have worked'. Four students commented on the importance of completing annotations or reflections as quickly as possible. Student H stated, 'it is important if you can get it down as quickly as possible... when it is fresh in your mind... and then you can come back and refer to it when you are planning'. Respondents B and E supported this view when stating, 'try to get it done as quickly as you can after the lesson, the longer it is left...' (B), 'the more you forget' (E). The immediacy of receiving advice was also highlighted by student B who stated that he preferred the WhatsApp over the online discussion board because he received 'instant replies', to which the other five members of focus group 1 stated, 'yeah'.

The findings indicate that the issue of time is a key factor relating to their reflective work. The next sub-section provides a summary of these focus group findings, outlining the key issues that will be addressed in the discussion chapter (5).

Summary

This section provided the findings on the two end of PGCE focus group interviews. Findings relating to the impact of reflection on teaching and learning highlighted how the students saw a link between their reflections and improving future practice. Seven students identified how they used their reflections to improve future planning, whilst just under half of the group emphasised the importance of their reflective work helping them to distinguish between their

teaching and pupil learning. The students identified video-assisted reflection as being the most effective approach, followed by peer review. The next sub-section provided the findings relating to the theme of collaboration and support. The students highlighted the importance of collaborating and discussing their practice with both teacher mentors and peers, where discussions with mentors were more teaching and learning focused compared with the peer interactions via the online discussion forum which the students mainly recognised for its moral support.

The third sub-section addressed the findings relating to formal and informal reflection where the students highlighted their preference for the informal WhatsApp group chat as opposed to the online discussion forum, noting that the WhatsApp group was more accessible, less formal and a safe space where they could receive at times instant, practical and emotional support. The next section presented the findings relating to the theme of subject expertise. These students reported that it was easier to reflect on areas of expertise as opposed to areas of non-expertise, with some students noting how they were able to reflect-in-action. When reflecting on areas of non-expertise, the students emphasised the important role of the teacher mentors in helping them to shape their reflective thoughts, again highlighting the importance of collaboration. The last sub-section outlined the findings relating to the theme of 'time' where just under half the group identified the weekly reflections as being time-consuming and three students admitting that on occasions, they approached their reflections with less than maximum effort. Even though some students considered the daily lesson plan annotations to be time-consuming, all students found them to be more useful than the weekly reflections. Five students preferred to audio record their reflections with the other six opting for written reflections. Those who opted for audio

recordings appear to have made this decision based on it being less time-consuming, whereas those who chose written, appear to have considered that this approach will be more useful when they begin their teaching career. The next section presents the findings from the end of induction year focus group.

4.7 End of induction year focus group

As previously noted in the methodology chapter, the researcher believed it was important to gain access to the views of the PGCE cohort after having taught for one full year. From the original sample (n=11), seven of these students had completed one full year's teaching and from these seven, five participants attended the focus group interview. The five participants were students B, D, F, I and K, who in these findings will be referred to as teachers. An analysis of the focus group data produced key themes and subsequent sub-themes which will be presented below.

4.7.1 Reflective approaches

Considering that a major motivation for conducting this interview was to determine their use of reflection or not during their first-year teaching, it was inevitable that their approaches to reflection would be discussed. However, under this broad theme, the researcher has identified several sub-themes.

4.7.2 Conversations/dialogue

When asked to consider how they reflected during their induction year, four teachers (B, D, F & K) stated that their main way of reflecting was by having daily

conversations with other members of the PE department. The following quotation from teacher D represents the typical views of the other three, 'for me it wasn't written or formal, it was conversations I had with members of the department...verbally bounce a few ideas off each other'. In response to how the researcher might make the focus on reflective practice (during PGCE) more effective to prepare the respondents for their first year of teaching, teacher D made reference to the online group discussion as being important, stating, 'the group discussion...maybe not reflecting on a full lesson but maybe just have within a group a few things that went well and them that didn't go so well...two points each and maybe have a discussion amongst the group about that cos I do think that encourages good practice cos you kind of need to be able to do that when you go into a department, so you aren't scared to ask for help when you start working'. Teacher D not only appears to value the daily face-to-face discussions but recognises the value in discussing online through the discussion forum. Her recognition of the need to be willing to seek help was supported by teacher F, who stated, '...at the start I had all these bright ideas thinking I was going to change things and do it my way but it was only from chatting to the PE teacher and observing him and listening to his advice that I improved... made me realise the importance of having someone there who you can go to for advice'.

4.7.3 Brief written notes

Having made it clear that conversations with staff were the more prominent mode of reflection, all five teachers also utilised written reflections. These teachers made direct reference to making written notes with teacher I stating, '...just a couple of lines on what went wrong, why it went wrong...', and teachers B and F

referring to 'notes' in their 'planner'. They were keen to emphasise that these notes were 'brief', with teacher I stating that his written reflections were '7-8 words... so before the class comes in I go to the planner, this is what happened last time, then this is what I'm going to do today', an approach supported by teacher B who stated that his written reflections may just be a 'sentence' long. All five respondents agreed that whilst reflection was beneficial, it was almost impossible to reflect in any type of depth due to time restrictions. Teacher D stated, 'when you are teaching full time it's almost impossible to do the in-depth reflection', a view supported by student K, who stated, '...now I'm in the real world and I can see that I don't have the time, maybe if it was summarised to a couple of lines it would be more beneficial'. Teacher F also made reference to the 'real' world, stating, 'if you do have time to reflect straight away it's great but it doesn't really happen in the real world...when pupils getting changed can make voice recording and then it's always there for you to listen to the following week, plus I'd rather talk it than write it'. These comments show that having little time to reflect is an issue for beginning teachers during their induction year whilst teacher F's comment also highlights that individuals will have a preference for the way in which they record their reflections.

4.7.4 Reflection process easier

Whilst it is clear that these individuals had very little time to reflect during their induction year, all respondents stated that they found the process of reflection to be easier compared to their PGCE year. Teacher B stated that it was '...a lot easier to reflect during practice compared to PGCE', a view supported by teacher I, who stated, 'I agree with xxxxxx ... much easier now to reflect during the lesson

whereas in PGCE...we sort of forced through the lesson plan... wasn't someone sitting observing so you felt totally comfortable...reflecting in practice and totally changing the lesson'. Teacher K stated that she found reflection easier during PGCE due to having 'more time', but that the process of reflection is now easier, stating, 'reflection is easier now because you did so much during PGCE', a comment that was immediately supported by teacher I, who stated, 'similar to lesson planning...used to be 3 -4 pages, now for me it's 3 lines...because we were novices at it...now we have a year behind us, not experienced but it's easier and can get the best out of it now so reflection is the same, much easier to do'. Teachers F and D also stated that they found it easier, with both highlighting that they now knew what to focus on in their reflections.

4.7.5 Impact on practice

A common theme during this focus group discussion was their references to how reflection was helping to shape their teaching approaches. When asked to consider examples of when reflection positively impacted their practice, teacher I stated, 'I had a very high ability year 9 boys group and they were very into their hurling and I wanted to focus on taking each skill per week... all the boys wanted to do was games...what we agreed on was game, drill, game...worked a lot better...much more focused...worked far better for high ability group'. This comment shows that he changed his approach to teaching games, from a very traditional approach to a Teaching Games for Understanding model as well as showing he was willing to take pupil views on board. Teacher B points to the value of teaching the same lesson to three or four classes from the same year group on the same day, stating, 'days last year I had 3 or 4 classes of the same year

group in one day...maybe the first class there was bits and pieces I would tweak then I brought that into the next class, maybe more like slight refinement and then by the third and fourth class, then I think they probably got the best teaching', with teacher K giving a similar example, stating, 'I would agree...I had all the sets of year 9s so usually at the start of the week I would have tried the lesson that I had planned and then just made the changes...end of the week the classes were definitely receiving a better class'. Teachers B and K were demonstrating how they were reflecting on an ongoing daily basis in order to improve their practice.

Three respondents (B, D and I) had the opportunity to observe a more experienced colleague teach a lesson and each of them found this process to be very useful in helping them to think about their own practice. Teacher D stated, 'I was just picking up different ideas about how she organised the class, going into the changing rooms, coming out of the changing room and just picking up different wee ideas from her to take into yours, it was small stuff but I found it very helpful', a view supported by teacher B who stated '...I observed two PE lessons, it was beneficial obviously just seeing how the PE teacher managed the class and it was very much army style esque...picked up some good tips on how to deal with disruption but not so much on the actual learning'. Teacher I had a similar experience, stating, 'it was good ya know to see how she structured her lesson...she had some very good ideas for gymnastics that I will definitely use...we discussed the lesson for about 30 minutes after and that was really useful...it was nice to hear her thoughts on it'. It is important to note that teachers D and B highlighted issues relating to classroom management and organisation whereas teacher I focused more on ideas he could take forward to improve his

teaching of gymnastics as well as his reference to the lengthy post-lesson discussion.

All respondents, apart from teacher D were observed by either their HOD, teacher tutor (teacher in charge of beginning teachers), the VP (who sometimes was the teacher tutor) or, in one case, the principal. All four found this process to be beneficial with teacher I stating, 'yeah it was useful, I was observed by the principal for a theory lesson, he had 2 pages of notes, good points and bad points, things to improve on...yeah it was good to see what the principal was looking from you...telling exactly what he thought of it...changed the way I teach the level 3 BTEC'. Teacher F also found the process beneficial, stating, 'my feedback from the VP was very detailed compared to the likes of the HOD...everything she gave back it was constructive and it did get you thinking of just wee small things that you just tweak to make your lesson that wee bit more engaging, interactive'. Teacher K also found the process to be of benefit but her experience was different from student F's, stating, '...it was my VP and then the HOD but actually I found it was the other way about because the VP in that school was technology and some things that he was maybe saying to change weren't practical for a PE lesson, so I found my HOD's feedback a lot more like I could take it on board and put it into the next lesson'. The comments from teachers F and K highlight that the quality of the review process very much depends on who is conducting the observation and the level of expertise they possess in relation to the subject and indeed the particular area of the subject being taught. Teacher B echoed the same view as teacher K, stating, 'I had 2 VP observations and...she wasn't a PE specialist so like xxxx said, there were some things that I thought went quite poorly, she thought they were great and then the other way around, there were

some things I thought were quite good and she wasn't really that pleased with it'. Based on these comments it is possible that teachers B and K disregarded the feedback they received and therefore did not use it for reflection purposes.

When asked to consider why his views were very different to the VP's, teacher B stated, 'She's not a specialist so really doesn't understand how it should be taught' to which student K stated, 'yeah, I agree, they don't fully understand the nature of our subject so I think it has to be hard for them to make certain judgements, say when looking at gymnastics or athletics that are very specialised areas, suppose all areas are specialised...but it's hard to observe someone teaching those if you don't have the knowledge to know what you are looking for'. Teacher D had a very different experience from the other four students, stating, 'reflection/induction wasn't very high up on the priority list in my school so there was no chance of a VP or principal watching your lesson so I only had members of the department looking in, it was good but it was, it probably wasn't anything new that you hadn't already heard before...so it probably would have been nice to have maybe heard another point of view'. This comment from teacher D would appear to highlight an inequity in terms of a beginning teacher's induction experience where she has not had the same potential learning opportunities as the other four respondents. Another theme to emerge from this discussion was the induction process for beginning teachers and how this appears to differ across schools.

4.7.6 Induction and reflection

When asked about the process of induction, how it was organised and did it encourage them to reflect, all five teachers reported that the induction process was not very effective. Teacher I's comment reflects the typical views of the others, stating, 'I think it depends on the effectiveness of your VP and how engaged they are with it, most of them from what I see, it's last minute, do it in June and get it out of the way, not really a massive focus on it from the start of the year and trying to do it step by step, it was more fill out this booklet, we'll come and observe you and get it out of the way rather than learning something from the process, basically a tick box exercise'. Teacher K echoed this view stating, 'certainly didn't help me reflect any better, just a matter of getting it done and dusted' with teacher B agreeing, stating, 'if the school aren't clued into this, it's up to you if you want to learn anything from it... just seems that there should be more of a focus on it considering we still have a lot to learn'. It would seem that the approach to induction in these schools lacks direction where beginning teachers do not have the opportunity to receive the maximum benefits that such a process has the potential to create.

This section provided the findings on the end of induction year focus group. The first key issue to emerge is that these teachers adapted their approach to reflection to suit full-time teaching, where daily conversations with colleagues and brief written notes were mainly used. All teachers valued having the opportunity to observe colleagues and having their own teaching observed by more senior staff. The teachers agreed that the induction process did not focus on developing their reflective skills. The section below provides a summary of the key findings

presented in this chapter, which will be used to inform the discussion in chapter 5.

Overall summary

This chapter has presented the findings emerging from the data analysis. The chapter began with a presentation of the findings relating to the quality of the students' weekly reflections whereby the researcher outlined how these students reflected differently both in terms of the level they attained and the rate at which they progressed, highlighting that reflection is different for each individual. It was also noted, however, that regardless of their level and rate of progress, each student reflected on common areas of practice, namely differentiation, demonstration skills and pupils' physical activity levels.

These findings were followed by findings relating to the students' ability to reflect on their areas of expertise which showed that four students reflected to a level that was higher than their dominant level of reflection, with three students reflecting at their dominant level and three students reflecting at a level that was slightly lower than their dominant level. The findings from the peer review process were then presented, showing that five students reflected to a higher level than their dominant level, with five reflecting at their dominant level and just one student reflecting below their dominant level. When providing feedback to their peers, these students prefer to provide positive and to a lesser extent, corrective feedback. When using the feedback as a reviewee, these students prefer to reflect on corrective feedback and to a lesser extent, positive feedback, whilst

those who reflected on suggestive feedback were able to reflect deeply on their practice.

The fourth section presented findings relating to video-assisted reflection which show that this was the most effective approach, with all six students who utilised this approach managing to reflect at either pedagogical level or produce pedagogical segments. This was followed by the findings on lesson observations where it shows that nine students used their weekly reflection to inform lesson planning, seven used it to inform their teaching and two students failed to make any use of it. Section six presented findings relating to the end of PGCE year focus group data where the students valued reflective practice but saw it as time-consuming. Some students noted that they were able to use their subject expertise to reflect-in-action with all students emphasising the importance of collaborating with teacher mentors and peers and that their subject WhatsApp group was the preferred choice of communication.

The final section contained the findings that emerged from the end of induction year focus group data. The teachers reported that they continued to use reflective practice which mainly consisted of daily conversations with colleagues and the use of brief written notes. They valued being observed by senior staff, but they agreed that the induction programme did not allow the opportunity to develop their reflective skills. The next chapter (5) discusses these key findings.

Chapter 5 - Discussion

This chapter discusses the main issues emerging from the data analysis with appropriate links to literature and points towards the conclusion and recommendations. The discussion of findings has been completed in line with the research questions, which are detailed below:

1. In what ways do pre-service PE teachers' reflective capacities change across the PGCE year?
2. What approaches to reflection are most effective for developing pre-service PE teachers' reflective skills?
3. Does having more subject knowledge allow students to produce higher quality reflections?
4. How do pre-service PE teachers make use of their weekly reflections?
5. In what ways do pre-service PE teachers use reflective practice during their first year as a qualified teacher?

The first section discusses key issues pertaining to the different reflective abilities that exist amongst the group, whereby the researcher has grouped individual students based on their dominant level of reflection. The second section discusses the common areas that members from all three groups chose to reflect on and this is followed by section three which addresses key issues relating to formal and informal reflection. The fourth section addresses the theme of time, followed by the fifth section which focuses on the theme of collaborative reflection and the final section discusses the induction process and its link to reflective practice for beginning teachers.

5.1 Different types of reflectors

An analysis of the findings indicates that there are clear differences amongst the group in relation to how they reflected at the beginning of the course and indeed as to how they progressed or not in their reflective work. This permitted the researcher to categorise them into three groupings based on the dominant level of reflection attained by group members.

5.1.1 Group 1 – The ‘defenders’

Students A, I and K belong to this group and they were given the name ‘defenders’ because they regularly defended their teaching practices, even when lessons did not go well. Each of these students consistently produced low-level reflections, reflections characterised by an over focus on organisational and behavioural issues and often with little or no focus on pupil learning. Failure to question their own practice and the impact on pupil learning resulted in weak reflections where any identified problems were attributed to pupils. The low quality, descriptive nature of their reflective work is common for many beginning teachers as they tend to reflect on aspects of their teaching that permit survival by drawing on existing beliefs (McGarr and McCormack, 2014).

These three students did not possess the reflective skills that enabled them to reflect in any depth on their practice. It is possible that they were not able to reflect at a higher level since they had such limited experience to reflect upon. Hobbs (2007) notes that student teachers struggle to reflect critically since they do not have a full understanding of what teaching entails and how pupils should behave. It is also possible that all or some of the group invested little time and effort when

doing their reflective work as they simply disliked it (Ibid). Therefore, it may be the case that some of these individuals are more capable than their reflections might suggest. Farrell (2014) insists that if individuals do not approach reflective work with a sense of whole-heartedness, then the work is meaningless. We cannot say for certain whether any of these students were more capable than what they showed, but student I's comments in the focus group (p.271) where he admitted that not all of his reflections were completed with maximum effort, shows that he could have invested more time and effort, meaning he did not approach the task whole-heartedly. It is also possible that the University-based sessions and their teaching practice experience were not sufficient to allow these students to reflect with any depth and thus they struggled to acquire the required reflective skills (Boulton and Hriamiak, 2012). It is important to recognise that their focus on classroom management and organisational issues may simply be an indication of their general inexperience and not just ineffective reflective skills.

Of the twenty-four reflections belonging to the 'defenders', it is important to note that in addition to having a significant focus on classroom management and organisational issues, these students frequently reflected on the quality of their demonstration skills, the amount of time that pupils were active during their lessons and, when they progressed to reflecting at surface level, they had a big focus on differentiation. Demonstration skills were mentioned in seventeen of these reflections and in just three of these seventeen was there an admission by the students that their demonstration skills could have been better or that they needed to complete demonstrations more regularly. In the other fourteen reflections, the students were stating that they performed accurate or clear demonstrations and that the pupils were likely not paying attention if they could

not perform the skills correctly, thus showing no awareness of other possible factors for poor pupil performance. Larrivee (2008) associates such limited views with low-level reflection where individuals offer simplistic explanations that are not focused on their own inadequacies as a teacher, but rather, they attempt to protect themselves from any type of criticism and in the process, they attribute blame to others. In fourteen reflections there was reference made to pupils' physical activity levels and in nine of these reflections, the students were claiming that the lesson was effective on the basis that the pupils were highly active throughout. In the other five reflections it was claimed that the pupils could have been more active but no explanation as to why they should be or how they could be. It would seem that each of these students believe that increasing pupils' physical activity levels will automatically make for a more effective lesson, thus showing how students' beliefs influence their practice (Hobbs, 2007). From the seven surface level reflections produced by these students, five had a reference to differentiation, thus highlighting that they view this as a key facet of effective teaching and learning. It is important to note that whilst they often highlighted the need to improve differentiation, they rarely suggested how they might do this, indicating that they had not identified the true extent of the problem, a view supported by Akbari (2007, p.199) who notes that the 'Identification of teaching problems is not an automatic process'.

The noted progress of each student during SE2 when they produced surface level reflections, would appear to indicate that they improved their reflective work. It is possible that by this stage on the course they had gained more experience and therefore were better equipped to rely on that experience when reflecting (Roberts, 1998, Hobbs, 2007). It is also possible that exposure to the online

discussion forum where they could read their peers' reflections helped improve their ability to reflect at a slightly deeper level (Rodgers, 2002, Shoffner, 2008).

When the students were given the opportunity to experiment with different modes of recording their reflections, each of these students continued to write their weekly reflections and thus did not engage with audio recorded reflections. Whilst the focus group data (p.272) indicates that these students preferred written reflections due to the fact that they could be amended after further reflection and considered as a point of reference, other evidence would seem to contradict this view. Consistent low word counts from each of these students and an admission to copying and pasting of reflections from one week to the next, highlights that for certain students in this group, the weekly reflections did not appear to be a priority and were merely a task to fulfil to ensure they were complying. These findings support the work of McGarr and McCormack (2014) who found that the pre-service PE teachers in their study were likely to have complied with the task since it would 'impress the assessor and display compliance with perceived expectations' (p.277). McGarr and McCormack (2014), however, emphasised that merely by completing their reflections, the students were hoping to show 'commitment and dedication to the profession' but two of the students in this group demonstrated the opposite, by producing unauthentic reflections.

The improved reflections on areas of expertise for students A and I would seem to suggest that they were able to reflect more deeply on their respective specialisms. Such an outcome may appear to be logical, considering their deeper understanding of the specific area (Evans et al 2008). However, it is important to note that for student A, the improvements were marginal. Student I's

improvement is more significant, particularly when this surface level reflection was produced during SE1 when all his other assessed reflections were graded as pre-reflective. It would, therefore, seem that in this instance the greater knowledge and expertise allowed him to reflect more deeply on the emerging issues. Student I's comments in the focus group (p.269) would appear to support this where he refers to the importance of subject knowledge allowing him to reflect at a deeper level. Schempp et al (1998) believe that teachers' expertise in particular activities allow for a deeper insight into how the activity should be taught and an increased ability to identify problems in pupils' learning. However, Capel (2007, p.498) notes that pre-service PE teachers often 'do not explore different ways of teaching the content through developing their pedagogical content knowledge' when considering areas where knowledge of an activity is good and that they are 'likely to teach this content the way they were taught themselves'. As noted in the findings, student K did not get the opportunity to reflect on an area of expertise and, therefore, it is not possible to form any views on her ability to reflect on an area of strength.

Peer review appears to have had some impact on two of these students (I & K) whereas for student A it would seem that the process had little to no impact. It is encouraging that students I and K produced surface level reflections, although it is important to note that these reflections were the same level as their last two assessed weekly reflections. All three students over-used positive (technical) feedback segments when reflecting, at the expense of other feedback types. As noted in the findings (p.243) each of these students addressed just one corrective feedback segment whilst student I was the only one to address a suggestive feedback segment (p.245). Therefore, it is possible that students A and K found

the content of corrective and suggestive feedback to be beyond their current level of knowledge and understanding, perhaps suggesting that they may not be developmentally ready to reflect at a higher level (Griffin, 2003 and Hockly, 2000). Another reason worth considering is that each student may not have agreed with some of the reviewer's feedback and thus became defensive and resisted the suggested changes (Cosh, 1998).

It is important to highlight that when acting as reviewers, each of these students provided a high number of low-quality (general and non-corrective) feedback segments (see fig.23, p.241). Scheeler et al (2004) note that it is best to avoid general feedback since it lacks specificity and is therefore often very vague, providing little benefit for the reviewee, a view supported by Stevens & Loring (2008). Scheeler et al (2004) also pointed out that non-corrective feedback can be of little help to reviewees, since it does not offer ways to improve the identified issue. It is possible that when acting as a reviewer these students did not possess the required subject knowledge that permitted them to critique their peers' practice and thus provide more corrective and suggestive feedback. Copland (2010) points out that many beginning teachers do not possess the required skills to accurately observe the teaching of others, consequently resulting in the delivery of low-quality and sometimes inappropriate feedback. Jryhmma (2001) agrees, emphasizing that it can be very difficult for beginning teachers to ask the right questions to their peers, since they lack expert knowledge and are more concerned with subject delivery rather than the pupils' learning. It is also possible that they did possess the necessary subject knowledge that allowed them to form corrective and suggestive feedback, but they found the process of observing and

giving feedback to their peers to be an uncomfortable experience (Jones and Gallen, 2016).

As noted in the findings on p.249, students I and K engaged in video-assisted reflection. For both students, these reflections were the most reflective, with both producing some pedagogical reflective segments, something they did not manage to do in any of their other assessed reflections. It must be noted that the video-assisted reflections were completed during the last three weeks of SE2, therefore, it is possible that the improved reflections were a result of their natural reflective development. However, their week 12 reflections for SE2 were assessed as surface level and did not contain any pedagogical segments. It is possible that the benefits associated with watching the video and the discussion with their mentor helped them to reflect more deeply. Yerrick et al (2005) note that being able to replay the video numerous times allows those observing to reflect on issues that they are likely not to have noticed when reflecting from memory alone, a view supported by Rhine and Byrant (2007) who found that video-assisted reflection helped individuals to progress their reflective abilities. It is also worth considering that the feedback from their mentors could have been of high quality and this helped them to reflect more deeply. Harford et al (2010) believe that if individual teachers are to maximise the benefits from video-assisted reflection, then they will watch the video alongside a mentor or peer who will help to shape and develop the individual's reflective thoughts. The dialogic nature of video assisted reflection is a key feature of CST. However, there are those who report that because teachers can replay the video as often as they require, they do not need a mentor or colleague to be present for feedback purposes (Tripp, 2009, Brouwer, 2011).

The findings on classroom observations (see fig.25, p.256-57) would seem to indicate that each of these students made little use of their reflection. Whilst two of them had noted the points in their lesson plan, none of the students appeared to be implementing the action points during the lesson. It is possible that each student intended to implement the action points and perhaps thought they were doing so. It may also be that their lessons created a different pathway than what they had intended in their lesson plan and this resulted in amendments that impacted the implementation of the key action points. It is also possible that each of these students completed the reflective tasks purely out of compliance (Senge, 1992) and were not focused or concerned about bringing the key action points forward into their planning and teaching. These students appear to have implemented the first three stages of ELT but failed to implement the fourth and final stage of active experimentation.

These findings would suggest that for the 'defenders', weekly reflections had minimal impact upon their teaching and pupil learning. Allen et al (2018) argue that reflection should allow student teachers and teachers to 'form plans with specific steps and purposes for future action' that should lead to 'purposeful action...learning and change' (p.82). These students had developed a plan for future action, but the plans did not translate to meaningful action. Therefore, based on the classroom observations, these students were not using their reflections to inform future teaching and learning, deeming their reflections as having no impact. Considering that these findings were based on one observation, it cannot be claimed that these students consistently failed to make effective use of their weekly reflections. It is also possible that these students required more help in making use of the key action points emerging from their

weekly reflections and that the researcher needs to provide more advice and guidance in this area.

Each of these students made some improvement with their reflective skills in that they progressed from pre-reflective work to producing surface level reflections. This finding will help to inform the conclusions to research question one. For students I and K, their engagement with video-assisted reflection was the most effective approach they used, followed by peer review. They both benefitted from collaborating with peers and teacher mentors, findings that will contribute to the conclusions on research question two. Student I reflected to a higher level on his area of expertise showing that the greater subject knowledge allowed him to reflect more deeply on the issues, whilst student A's expert knowledge also appeared to help her reflect to a slightly higher level. These findings will help shape responses to research question three. Whilst two students made use of their reflections to inform future planning, none of these students appear to have used their weekly reflections to inform future teaching practice, findings which will inform conclusions to research question four. The next section will discuss the second specific group, the 'surfers'.

5.1.2 Group 2 - The 'surfers'

Five students, B,C,E,F & J were categorised as belonging to this group based on the judgement that the majority of their assessed weekly reflections were surface level. They were given the name 'surfers' since their reflections failed to explore issues in depth, meaning that they remained on the surface. Figure 18 (p.201) shows that student J had 4 surface level reflections whilst the other four students

produced between 6-7 surface level reflections each. Each student progressed from pre-reflective reflection to surface level very early in SE1. The surface level reflections were characterised by a focus on catering for differentiation with an acknowledgement of areas of their practice that required improvement. It would seem that these students recognised very early in their teaching practice that they needed to take responsibility for their own actions and that blaming pupils was not effective reflection. Many of the solutions identified were short-term, where students relied on their limited experience and did not make links between theory and practice. It is possible that these students made the quick transition from pre-reflective work to surface level reflection based on having built up teaching experience across 5-6 weeks, meaning that these accumulated experiences were enough to progress their reflective skills (Griffin, 2003). It is also possible that each student received high quality feedback and support from their teacher mentor and that this helped to progress their reflective skills, since the provision of quality feedback to facilitate post lesson discussion and reflection is crucial (Bolton, 2010; McFlynn, 2019).

Across the 30 surface level reflections belonging to these students, only students B and E managed to produce a small number of pedagogical segments. Larrivee (2008) argues that it is very difficult for pre-service teachers to move beyond this level of reflection. In these reflections, the students focused on a number of common issues. All five students, in at least one of their reflections, reflected on the need to increase pupils' activity levels. Each of these reflective segments acknowledged that increasing pupils' activity levels would be a focus in their future lessons. It is important to emphasise, however, that none of these reflective segments made any reference to an increase in pupil learning as a result of

increasing pupils' activity levels. Therefore, it would appear that these students see high levels of physical activity as a barometer by which to measure the effectiveness of a PE lesson, indicating that the students' underlying values and assumptions were influencing the content of their reflections. Dymoke and Harrison (2008) point out that it is only when they start to question their underlying beliefs and assumptions that authentic reflection can begin. Failure to analyse these underlying values and assumptions appears to be common amongst many beginning teachers, often resulting in poor quality reflections (Roberts, 1998). These students' reflections were clearly underpinned by ELT and not CST.

Similar to the 'defenders', another common area reflected upon was the need to improve their demonstration skills, with all five students reflecting on this aspect in at least two of their reflections. A common feature of these reflective segments was the assumption that an improved demonstration would lead to improved pupil performance. The students did not offer alternative approaches as they did not seem to consider that their demonstrations would not lead to improvement. These students were not ready to question or analyse their teaching and its impact on pupil learning (Welsch & Devlin, 2007). Only one of these students emphasised the importance of an accurate demonstration, whereas the others simply assumed that it would be accurate. It is possible that their initial demonstrations were not clear, meaning that particular pupils did not fully grasp the complexities of the movement or that the pupils required an opportunity to explore the skill in more depth by engaging in different practices. It is also likely that these students relied on their past experience of using the same demonstration and did not have the skills required to assess their own performance (Too, 2013).

The third common feature identified in these reflections was the numerous references to improving their approaches to differentiation, with the majority of reflective segments failing to identify particular differentiation strategies. It is possible that these students have been able to recognise that particular pupils were not working at the correct level of challenge and quickly ascertained the need to improve differentiation. However, the lack of examples and specificity in their reflections may possibly indicate that they were lacking confidence in this area. It is important to note that when the students recognised that particular pupils were struggling with the set tasks, improving differentiation seemed an obvious answer for many of them. However, the students did not consider that there were perhaps other factors impacting pupil progress. It would seem that these students were demonstrating a limited understanding (Mezirow, 1983) where they were unable to consider different perspectives (Ross, 1989), indicating that their engagement with stage three of ELT (abstract conceptualisation) was limited.

As noted in figure 18 (p.201), each of these students made some improvement in their weekly reflections with students B and E moving from pre-reflective to surface level. Students C, F and J displayed evidence of progressing to surface level and regressing to pre-reflective level although, students C and F mainly reflected at surface level. Brookfield (1994) regards such instances of 'incremental fluctuation' and occasional regression as being normal when developing reflective skills, meaning that progression is often not linear. Therefore, it could be argued that these students were developing their reflective skills and thus progressing at a slow pace. Similar to students I and K (defenders), student J's admission to copying and pasting means that some of her reflections

were unauthentic and perhaps with increased effort she could have made more progress. These students were unable to reflect beyond surface level in their weekly reflections, which as noted above, appears to be very common for many pre-service teachers. Therefore, it may be the case that it is going to take more time for these students to move from surface to pedagogical levels of reflection (Griffin, 2003). It must also be noted that reflective development is not necessarily guaranteed when students enter full-time teaching positions. These students could remain at this level unless they begin to teach in a school environment where a culture of reflective practice is encouraged and fostered. Capel (2007) argues that many practising physical education teachers see the practice of teaching as being 'more important than theorizing' and thus many beginning teachers accept that the theoretical concepts and alternative approaches to pedagogy that are delivered in university taught sessions are 'necessary to qualify as a teacher, but not relevant to them...later as a teacher' (p.500). Zeichner and Liston (1996) point out that this perspective can also be influenced by 'traditional teacher educators' who believe that 'teachers practice but do not theorize' (p.38). This view is shared by Clarke and McFlynn (2019) who refer to such teacher educators as 'proto professionals', preferring to 'focus on the practicalities of survival in the classroom... focus on training rather than education' (p.6).

As noted in figure 19 (p.225-26), two of these students (E, F) appeared to reflect marginally more deeply on their area of expertise, whilst the other three students did not manage to reflect more deeply. For those who reflected more deeply, it is possible that they have developed a better understanding of their area of expertise than those who did not manage to reflect more deeply. It could also be

argued that those who did not reflect more deeply, perhaps take their knowledge and understanding of this area for granted and may not question their practice to the same extent (Penney & Evans, 2005). For those who did manage to reflect more deeply, it is possible that they were able to use their extensive knowledge and understanding to make sense of what happened in the lesson and identify areas for improvement. Thus, they understood the importance of using their knowledge to reflect, demonstrating how Kolb's (1984) ELT was underpinning their approach.

The level of reflection achieved by students B, E, F & J for the process of peer review was similar to the dominant level (surface) of reflection achieved via their online assessed weekly reflections. Student C was the only one of these students who produced a deeper reflection as her reflection was categorised as pedagogical. This was the only reflection where student C produced pedagogical segments and it is important to highlight that she reflected on a cricket lesson which for her would be considered an area of non-expertise. It is possible that the timing of peer review (mid- May) meant that student C was beginning to reflect at a pedagogical level, although her week 12 reflection was assessed as being surface level. As figure 23 (p.241) shows, the quality of feedback student C received was considered to be of low quality with her reviewer delivering 9 positive, 3 non-corrective and 4 general feedback segments. Student C's ability to reflect pedagogically on a non-corrective segment demonstrates her capacity to reflect deeply on low quality feedback. She also received the lowest number of high-quality feedback segments (3 corrective, 0 suggestive and 0 specific) thus, perhaps, indicating that the quality of feedback did not impact her reflection. Gun (2011) argues that whilst providing feedback to teachers is 'undeniably useful' it

is often insufficient in helping 'teachers reach a level of reflection that will optimise their professional development' (p.127), a view echoed by Brandt (2008).

Students B and E, whilst producing surface level reflections, did produce a number of pedagogical reflective segments in their reflection. It is important to note that this was the only reflection where student B produced pedagogical reflective segments, whilst for student E, this was one of three reflections where she managed to produce pedagogical segments. It is possible that the high-quality feedback (see fig.23, p.241) allowed these students to reflect on issues in greater depth (Higgins et al 2002) or as noted above, completing peer review in May meant that they had improved their reflective skills and were beginning to display signs of moving from surface level to pedagogical level. It is important to emphasise that both these students seem to prefer to reflect on high-quality feedback (corrective, suggestive and specific segments) rather than low-quality feedback (positive, non-corrective and general). It would appear, therefore, that both these students recognised the higher quality feedback as being more useful (Scheeler et al, 2004) and that they were willing to accept and consider the peer feedback, thus demonstrating a sense of responsibility and open-mindedness (Dewey, 1933; Farrell, 2014). Considering that they both opted to reflect on a high number of suggestive feedback segments, it may also be the case that they both understood the feedback they were given, perhaps indicating that they had developed a deeper insight into their practice.

When acting as reviewers, students B and E did provide high-quality feedback, although it is important to note that they preferred to provide positive feedback (see fig.23, p.241). It is possible that the high number of positive comments were

merited, considering that they were observing their peers towards the end of their 2nd teaching practice, only a number of days away from course completion, when students would be expected to be teaching at a fairly high level. It may also be the case that both students found it easier to provide positive feedback compared to providing corrective, suggestive or specific feedback, in that it requires less thinking on their part or they were reluctant to provide more corrective, suggestive and specific feedback since they may have been 'tentative about making negative or constructive comments' (Wilkins-Canter, 1997, p.236). It is also possible that they delivered all the corrective and suggestive feedback segments that had occurred to them. Non-corrective and general feedback were not used by Student E, showing that her overall quality of feedback was higher than student B's. Student E clearly does not value low-quality feedback, indicating that she recognises the importance of providing feedback that has the potential to stimulate reflective thinking (Hattie and Timperley, 2007).

The peer review process did not appear to positively impact the reflective skills of students F and J. Both failed to produce any pedagogical reflective segments and their strong focus on positive feedback when reflecting resulted in low-level (surface) reflections. Their inability to reflect deeply on feedback seems to indicate that they willingly accepted the feedback without question and thus did not see the need to reflect more deeply on the issues raised. Failing to reflect on suggestive feedback segments could perhaps indicate that they did not understand the content of the feedback and thus they avoided reflecting on these areas. It may also be possible that they did not agree with the suggestive feedback they received and thus dismissed it (Kulhavy, 1977, Greenwald, 1980). When reviewing their respective lessons, both students were comfortable

delivering positive feedback thus perhaps indicating a positive correlation between their high focus on positive feedback as a reviewer and as a reviewee. Considering that student J, relative to the other students, delivered a high number of suggestive feedback segments, this would indicate that she was able to think critically when reviewing the lesson and capable of providing high-level feedback, also indicated by her low focus on delivering non-corrective and general feedback. Student F delivered a high number of low-quality feedback segments perhaps indicating that he lacked the subject knowledge that allowed him to deliver higher quality feedback or he did possess the knowledge but opted to be more supportive (Timperley, 2001) rather than 'providing feedback that might be perceived as critical' (Shortland, 2010, p.296).

As noted in the findings chapter, students B, C and J did not engage with video-assisted reflection. It is clear that video-assisted reflection positively impacted the reflective work of students E and F with both reflections being assessed as pedagogical. For student F, this was one of only two reflections where he produced any pedagogical reflective segments and for the overall reflection to be assessed as pedagogical indicates the higher quality of this reflection. It is possible that the video allowed both students the opportunity to be more objective where they were able to analyse their pedagogical practice in greater depth (Cummins et al, 2007). It is clear that both students benefitted from observing the video alongside their teacher mentor. Both mentors were able to identify issues in the video that their respective student had not noticed and in student E's case it would seem that the mentor delivered suggestive feedback that encouraged her to reflect more deeply on the identified issues, thus demonstrating the importance of an experienced perspective on the video (Dori and Herscovitz,

2005). Video-assisted reflection, therefore, can be very beneficial in facilitating students' reflective practice. It would seem in both these cases that the mentors were thorough in their observation of the video and provided quality feedback. It is possible, therefore, that if these students had not observed the video alongside their mentor, then the process would not have been as effective for facilitating reflection. It would seem that the dialogue generated during this process allowed these students to reflect beyond ELT towards aspects of CST. It is important to note that mentors are likely to observe the video and provide feedback on aspects of practice that they value and believe in (Capel, 2007), meaning that a beginning teacher 'accepts and implements... the customary strategies' (Stroot and Ko, 2006, p.427) without questioning (Tsangaridou, 2006). Therefore, it may be the case that these students were reflecting on aspects of their practice that the mentor thought were important (Walkington, 2005) and it may well be that there were other priorities that went unnoticed, aspects that if reflected upon could have been more beneficial for the students.

Based on the evidence emerging from conducting lesson observations, these students utilised their reflections much better than the 'defenders'. Students, B, E, F and J all made use of their reflection both in terms of informing their planning and practice. It may well be that these students recognise and value the importance of using their weekly reflections and they are able to see a link between reflection and improving their practice. Finlay (2008) suggests that developing this awareness between their reflections and practice is critical if student teachers and teachers are to 'gain new understandings' that help to 'improve future practice' (p.1). It is also possible that since each of these students was informed of the researcher's planned observation that they were simply

adhering to what was expected from them in order to satisfy course requirements (Hobbs, 2007) and, therefore, it cannot be stated for certain that this was normal practice for each student. Student C's decision not to use her weekly reflection to inform planning or practice is worth highlighting. It is possible that she simply did not look back on her weekly reflection when planning her observation lesson or she did refer to the reflection but identified different priorities. Other priorities could have emerged over the course of the week as a result of reflecting on other lessons and she thought it best to focus on these, perhaps indicating that she recognised reflection as an ongoing process and not an isolated event (Farrell, 2012) where she needed to seek 'recipes and answers' (Klein, 2008, p. 112). As a group, it would seem that these students adopted a more mature approach to utilising their weekly reflections or it may be that their ability to reflect more deeply than the 'defenders' means that they have acquired a deeper insight in to their teaching, whereby they are beginning to monitor their thoughts and understandings about their own teaching practice (Parsons and Stephenson, 2005, Boulton and Hramiak, 2012).

Each of these students marginally improved their reflective skills by moving from pre-reflection to surface level. As previously noted, it is difficult for student teachers to move beyond surface level reflection thus perhaps explaining why none of these students moved to pedagogical level in their weekly reflections. These findings will help inform the conclusions to research question one. Similar to the defenders, the most effective approach to reflection was video-assisted reflection, followed by peer review, since all students, apart from student J, produced at least one reflection that was of a higher level than their weekly reflections. Collaborative approaches to reflection are clearly more beneficial and

this will be reflected in the conclusions to research question two. Two students reflected more deeply on their areas of expertise whilst three did not, again highlighting the individual differences that exist amongst the group, findings that will be used to conclude on research question three. The majority (4) of these students clearly used their weekly reflections to inform planning and subsequent lesson delivery, whilst the decision of student C not to use her weekly reflection highlights the different approaches made by individuals. The surfers are clearly much more willing to make use of their weekly reflections compared to the defenders. These findings will inform the final conclusions to research question four. Similar to the 'defenders', these students reflected on common areas, notably pupils' physical activity levels, their demonstration skills and approaches to differentiation which have been perhaps influenced by what they see as being important or the central message of the PGCE PE course content. Having reflected on this finding, the researcher realised that his underlying values and beliefs as to what constitutes quality PE may have influenced the students' thinking when forming reflections. The next section discusses the key issues relating to the third group, the 'divers'.

5.1.3 Group 3 – The 'divers'

Students D, G and H comprise this group and as noted in figure 18 (p.201) they were the only students to produce pedagogical weekly reflections. They have been given the name 'divers' since they went beneath the surface, managing to reflect more deeply on their practice. Student D produced four surface level reflections and four pedagogical reflections, with three pedagogical reflections occurring during SE2, showing that she made the transition from surface to

pedagogical. Student H's profile is very similar in that he also produced four surface level reflections and four pedagogical reflections, with all pedagogical reflections produced during SE2. Student G produced eight pedagogical reflections, demonstrating that he began the course with the ability to reflect at a high level and continued to reflect at this level but crucially he never progressed to any form of critical reflection.

As noted in the findings, the surface level reflections from students D and H contained some common themes. Both students consistently reflected on improving pupil learning but with a focus on short-term improvement. They also consistently referred to instances where they adapted the lesson whilst teaching, suggesting that they were reflecting in-action (Schon, 1983), a sign that they were developing a deeper insight into their teaching and pupil learning. Failure to expand and analyse these reflection-in-action moments meant that students D and H still reflected at surface level. It would have been interesting to know what made them adapt and whether their thoughts about the issues were at a deeper level.

Improving differentiation was a common theme for each student in that improving approaches to differentiation was mentioned in three of student D's surface level reflections and mentioned in all four of student H's surface level reflections. These references to improving differentiation were linked to the first theme above, improving pupil learning. It is important to note that both students when referring to differentiation simply mentioned the need to make it better and like the 'surfers' above, they did not discuss any particular differentiation strategies. Whilst it is recognised that effective differentiation is central to effective teaching and

learning (Bajrami, 2013), these students continually made reference without presenting an analysis or justification that addressing differentiation was necessary. On occasion, both students appear to contradict themselves by stating that changes were made to the lesson activities based on pupil needs, using appropriate progressions and regressions, indicating that the activities were pitched correctly to match ability levels. Considering that differentiation was identified above as a common theme for the 'surfers', it is possible that due to a constant importance being placed on planning effectively for differentiation by the researcher in his role as PGCE PE tutor, the students may have included 'improvement of differentiation' as they thought it would impress the tutor. It is, therefore, possible that the course content or indeed tutor beliefs and values were influencing what students chose to reflect on (Mewborn and Stanulis, 2000, Prater and Devereaux, 2009).

Both students also made reference to enhancing pupils' physical activity levels and the quality of their demonstrations, but these themes were not as prevalent as they were amongst the 'surfers'. They had a more definite and deliberate focus on pupil learning compared with the 'surfers' and they were more inclined to think about theory, and as a result, they moved their reflections towards a more pedagogical focus. As noted in the findings, both students did produce some pedagogical reflective segments in their surface level reflections. These pedagogical segments were mainly focused on the use of particular teaching strategies (linked to theory) where they were able to justify why they were proposing such an approach. Even though their reflections were assessed as surface level, they were beginning to move towards pedagogical level, thus demonstrating progression in their reflective skills. Butler (1996) sees this

progression as part of 'the journey from novice to expert' (p.279) with both students beginning to understand the connections between theory and practice, an understanding that can be difficult to achieve for pre-service teachers (Orland-Barak and Yinon, 2007). These students appear to have fulfilled the elements of abstract conceptualisation (stage 3 of ELT).

Similar to some members of the 'surfers' group, students D and H improved their reflective abilities and considering they produced three and four pedagogical reflections respectively during SE2, they were beginning to consistently reflect at this level. Exposure to more teaching and having the increased opportunity to reflect on lessons meant that students D and H were building their experience and thus they used this to good effect as the weeks progressed. As previously noted, it is very difficult for student teachers to reach a critical level of reflection, therefore, whilst student G has attained the highest and consistent level of reflection, progression to a critical level of reflection is likely to take time since reflecting at a critical level requires a depth of insight that many beginning teachers do not have (Roberts, 1998, Griffin, 2003). It is possible that even with continued effort, student G may never reach a critical level of reflection (Hockly, 2000, Hobbs, 2007).

Across the sixteen pedagogical reflections produced by students D, G and H, common themes were identified that typified the focus and content of the reflections. The first theme that was prevalent in every single pedagogical reflection was that each student displayed the ability to openly critique their practice in a non-defensive manner. The students showed a high-level of confidence and security in that they recognised the need to be critical of their

practice without blaming others, thus taking responsibility (Farrell, 2014). Whilst students D and H progressed to a consistent level of pedagogical reflection during SE2, showing an increased understanding of how to reflect (Shoffner, 2008), student G began the course at this reflective level. It is possible that his prior relevant experiences in a similar type role i.e. coaching, provided him with opportunities to reach this level of reflection. It may also be the case that student G possesses a natural ability to reflect at this higher level, thus demonstrating again how students start their reflective journeys at different stages. It is also possible that student G's ability to reflect at this level is due to him possessing a high level of intellect (Hockly, 2000).

The second consistent theme that permeated the majority of these reflections was the students' focus on long-term rather than short-term development (which for students D and H was their focus when producing surface level reflections), thus showing that these students had grasped the concept that reflection involves much more than reflecting on isolated teaching episodes but that reflection should be an ongoing career-long process that helps to promote learning and growth (Iqbal et al, 2015; Weikel, 2019). Their focus and acceptance of reflection as being a central aspect of their life as a teacher would indicate that they viewed reflection in a somewhat positive light, where they understood the benefits to be attained as well as a recognition that reflective practice requires commitment and a sense of responsibility (Farrell, 2014). Their focus on long-term improvement of practice highlights that they have developed a broader understanding of teaching as a whole, recognising that effective reflection is not simply a matter of making short-term changes to practice but that it involves a much more long-term view where the reflections are produced within a more holistic view of teaching and

pupil learning. Connected to this theme was the recognition by the 'divers' that they needed to improve their subject knowledge by accessing relevant CPD courses, thus demonstrating an awareness of their current deficiencies and a willingness to 'embark on a learning agenda that seeks to secure greater knowledge and expertise' (Brandt, 2008, p.17).

The third theme to emerge from these pedagogical reflections was the consistent focus on making connections between their practice and relevant underlying theory. These students had reached a level of reflection whereby they could see links between what they were teaching and how they were teaching. Their critique of particular teaching strategies and suggestions of alternative approaches highlights that they were beginning to develop an understanding of pedagogy, noticing the link between their practice, relevant theory and pupil learning. Reaching this level of reflection during ITE study is very difficult for students and for the majority, it is usually beyond their capabilities (Feiman-Nemser, 2001, Orland-Barak and Yinon, 2007). It is important to emphasise that the students were only beginning to make connections, meaning we cannot say for certain whether their interpretations were correct or not. What is important, however, is that they were beginning to make connections between theory and practice, an important step in helping to develop their reflective skills (Nelson et al, 2016, Gardner and Williamson, 2007), allowing them to shape their own interpretations and judgements as to what they see as being important and effective as they move their practice forward (Parra, Gutierrez and Aldana, 2015). These students were demonstrating that they could make abstract conceptualisations (stage 3 of ELT).

As noted in figure 19 (p.225-6), none of these students reflected to a higher level on their area of expertise. Similar to student G, student D reflected at a pedagogical level, but this was in just one of her reflections and whilst the other two (surface) contained pedagogical segments, it shows that she reflected to a slightly lower level on her area of expertise. Student H also reflected at a slightly lower level and as noted above, Student G maintained his pedagogical level but was not able to reflect to a higher, critical level.

As noted in the findings for peer review on p.235, student H produced a surface level reflection and students D and G produced pedagogical reflections. It is important to highlight that student H's reflection was produced during the 3rd last week of the course when he appeared to have reached a consistent level of pedagogical reflection, thus indicating that the peer review process did not allow him to reach this level. However, he did produce pedagogical segments in this reflection. Having received both high-quality and low-quality feedback, student H chose to reflect on positive, corrective and suggestive feedback segments showing that he valued the high-quality feedback (corrective and suggestive) rather than the low-quality feedback (non-corrective and general) of which he did not focus on. It is important to emphasise that the pedagogical reflective segments were in response to both corrective and suggestive feedback segments, indicating that consideration of these feedback segments helped student H to reflect more deeply. Having received six positive segments but only choosing to address one of these, demonstrates that student H prefers to focus on constructive feedback that promotes improvement showing that he does not see value in positive feedback for reflection purposes (Hattie and Timperley, 2007). As student H opted to address the two suggestive feedback segments he

received, it is possible that had he received more suggestive feedback, he may have produced a higher number of pedagogical reflective segments that could have resulted in the overall reflection being assessed as pedagogical. Therefore, it is possible that the quality of feedback in this instance inhibited student H's reflective potential since he received a limited number of feedback segments that encouraged him to extend his knowledge or correct his misconceptions (Cornelius and Nagro, 2014). It is important to highlight that when acting as a reviewer, student H provided both high-quality and low-quality feedback. Similar to members of the 'defenders' and 'surfers' groups, he preferred to deliver positive feedback, although this was only a relatively marginal preference and the high number of corrective and suggestive feedback segments indicate that he values these feedback types both when acting as a reviewer and a reviewee. Whilst he did not reflect on non-corrective or general feedback as a reviewee, he did provide both feedback types, albeit with low frequency. It is possible that when providing non-corrective feedback and general feedback, student H was not able to address the issues in sufficient depth, perhaps displaying a lack of subject and/or pedagogical knowledge or his lack of experience in providing feedback meant that he was prone to providing ineffective feedback (Jones and Gallen, 2016).

The process of peer review was effective for students D and G with both producing a pedagogical reflection. Having both received a high number of positive feedback segments (D, 9 and G, 10) their decision to reflect on just two (D) and one (G) shows that similar to student H, they appear to regard this type of feedback as being of little value. It is important to note that both students reflected deeply and beyond the level of positive feedback indicating that they do

not just accept the positive feedback without question but are prepared to critique the content of the positive feedback with a view to identifying improvement. Hattie and Timperley (2007) believe that positive feedback is generally not effective but that it can be effective for the receiver when 'there are perceived low rather than high levels of threat to self-esteem' (p.86) thus suggesting that both student D and G regarded the peer review process as non-threatening. Both students were also able to reflect more deeply on the corrective and suggestive segments, displaying the ability to analyse the content and seek meaning, demonstrating that they were adopting a positive approach to receiving feedback which has the potential to create 'valuable concepts of self-efficacy about learning, which in turns leads to further learning' (Hattie and Timperley, 2007, p.101), showing that they understood the feedback. The decision of student G to avoid reflecting on non-corrective and general feedback shows that he recognises these feedback segments as failing to provide information that would stimulate thinking or any form of engagement (Hounsell, 2007).

Similar to all students, student D and student G when acting as reviewers, had a preference for providing positive feedback. It is possible that the high number of positive comments were justified or it may be, as noted above, it was easier for them to focus on positives rather than highlight critical points. Their low focus on general and non-corrective feedback and higher focus on corrective and suggestive feedback, indicates that like they did as reviewees, student D and student H value high-quality feedback, feedback that has the potential to make teachers reflect further (Rauch and Whittaker, 1999). Their approach to providing feedback could also be an indication of the impact of the University feedback workshops where it was emphasised to focus on positive, corrective, suggestive

and specific feedback and to avoid the use of general and non-corrective feedback. It is important to highlight that these students, along with most others, did not provide specific feedback. It may be that because they are very new to conducting this role that they did not have enough experience or confidence that allowed them to provide this type of feedback.

As noted in the findings, student G did not engage in video-assisted reflection. For both students D and H, it is clear that video had a very positive impact on their reflection with both producing pedagogical reflections. In these reflections, both students highlighted that as a result of observing the video they identified aspects for improvement that they were not aware of prior to watching the video, demonstrating how video can help teachers 'identify gaps between their beliefs about good teaching and their actual teaching practices' (Tripp and Rich, 2012, p.729). In addition to this, both students noted that the video simply allowed them to notice particular aspects of the lesson which they had not remembered (Rich and Hannafin, 2009). A common theme across both reflections was the focus on differentiation and the need to improve their ability to stretch and challenge all pupils and whilst it is possible that they were aware of this prior to watching the video, it would seem that the video illuminated this aspect, allowing them to perhaps consider their 'reflections-in-action', that is, what they were thinking at the time. Mooney and Hickey (2017) argue that even though this consideration of 'reflection-in-action' occurs after the event, it is more effective than what 'memory-recall alone offers' (p.234). Both students have also identified clear links between their practice and relevant theory, thus showing that they have developed a depth of insight into their practice where they are beginning to make connections between theoretical concepts and their practice (Turunen and Tuovila, 2012).

Another common area of focus for each student in their reflections was the need to improve subject knowledge and the identification of needing appropriate CPD in the particular areas. In both reflections there were examples of raw honesty where they were comfortable highlighting deficiencies in their knowledge and understanding, thus demonstrating a maturity and level of self-awareness that is refreshing and indeed required to move their practice forward. Rich and Hannafin (2009) found that by using video-assisted reflection, teachers can plan for future teaching practices more effectively. It is clear that video-assisted reflection is a necessary tool to enable student teachers to maximise their reflective potential.

In relation to lesson observations, all three students used their reflection to inform lesson planning as well as demonstrating how they brought the planning forward into a taught lesson. These students clearly regard their lesson reflections as being of importance, not just compulsory tasks that need to be completed but rather as informative tasks that benefit their teaching and pupil learning. Similar to the 'surfers', these students have demonstrated an awareness of the importance of reflection for action and a maturity in their thought process where they appear to have made the connection between reflection informing future practice (Orland-Barack and Yinon, 2007). It is also important to note that these students may have been adhering to the course tutor's emphasis on ensuring that there is evidence of bringing the action points forward into the next lesson and were therefore simply complying with course requirements.

Students D and H clearly improved their reflective skills whilst student G did not improve his reflective skills, although across the entire PGCE course he managed to be the most consistent when it came to producing high quality reflections.

These findings will inform conclusions to research question one. Similar to the defenders and surfers, the divers benefitted from engaging in video-assisted reflection and peer review in that apart from student H's peer reviewed reflection (which was surface level), all other reflections using these approaches produced pedagogical reflections. Whilst none of the reflections included critically reflective comments, it has been noted above, that it is difficult for pre-service teachers to reach this level. It is, therefore, clear that across all three groups, video-assisted reflection and to a lesser extent, peer review, were more effective than the online discussion forum. These findings will be addressed in the conclusion to research question two. Whilst student G did not manage to reflect at a critical level on his area of expertise, he reflected at the same high, pedagogical level. However, the reflective work produced by D and H on their areas of expertise were at a slightly lower level than their dominant (pedagogical) level, findings which help to shape the response to research question three. Each student used their weekly reflections to inform planning and to impact the nature of the subsequent lesson delivery, an outcome that will inform conclusions to research question four. The evidence presented in this section shows how students D and H reflected at surface level before progressing to reflect at a pedagogical level on a consistent basis and that student G reflected at pedagogical level across all his reflective work.

Overall summary of individual reflections

The discussion above shows how PGCE PE students reflect differently on their practice, with the majority (8) displaying low levels of reflection (pre-reflective and surface level) and the minority (3) displaying higher levels of reflection

(pedagogical). Ten students improved their reflective skills with student G being the only one to make no improvement, although he consistently produced the highest levels of reflection across both school placements. All students began reflecting at different levels and progressed at different rates, highlighting the individual nature of reflection, but crucially showing that pre-service PE teachers can improve their reflective skills during PGCE study.

The students were categorised as either a defender, a surfer or a diver, with the defenders' reflections characterised by a focus on their teaching as opposed to the divers and to a lesser extent, the surfers, who focused more on pupil learning. The defenders often failed to accept responsibility when aspects of lessons were ineffective, choosing to blame the pupils, whereas the surfers and the divers accepted responsibility, recognising a link between their practice and pupil learning. It is clear that for students I, K (defenders) and J (surfer), their reflective progress has been impacted by low levels of motivation, causing them at times to invest minimal effort and produce unauthentic reflections. These students on occasions demonstrated a lack of open-mindedness and whole-heartedness (Dewey, 1933; Farrell, 2014).

Video-assisted reflection appears to be the most effective approach, followed by peer review. These students, therefore, respond positively to collaborative approaches to reflection where exposure to the views of mentors and to a lesser extent, their peers, helped to stimulate more effective reflective thinking. Reflecting on their area of expertise produced improved reflections for four students, with three students reflecting at their dominant level and three reflecting lower than their dominant level. Nine students used their weekly reflection to

inform either their planning and/or actual teaching practice with two students failing to use the reflection in any tangible way, demonstrating that the majority of these students recognised the importance of using their reflections to shape future practice. There were differences in relation to the preferred mode of recording reflections, with the 'defenders' (A, I, K) all opting to continue with written reflections, whilst for the 'surfers', three (C, E, J) opted to continue with written reflections and two (B, F) opted for audio recorded reflections. All three 'divers' (D, G, H) also preferred audio recorded reflections. Significantly, the mode of recording did not have any impact on increasing or decreasing the quality of reflections but having a choice did appear to positively impact certain students' motivation levels. The discussion above shows that these students differed in the level at which they began reflecting, the rate and levels of progress attained, their ability to reflect on areas of expertise, their use of reflections to inform future practice and their preferred mode of recording reflections. The following section discusses the findings relating to common aspects of reflection that transcended across all three groupings.

5.2 Different but similar

Whilst it is clear that there are differences in the levels at which individual PGCE PE students reflect on their practice and differences in the topics/aspects they wish to reflect on, across each group there are some commonalities in relation to the areas they chose to reflect on. It was important to examine these areas in order to gain an insight into the possible reasons why all group members focused on them. The three most common areas that members belonging to all groups chose for reflection were: 1. the quality of their demonstrations 2. the pupils'

physical activity levels and 3. the quality of differentiation. Each of these themes will be discussed below.

5.2.1 Demonstrations

It would seem that these students view high quality demonstrations as being a significant component of an effective lesson. Whilst some students acknowledged the need for them to perform a clearer demonstration, only two students reflected on the notion that there could be a more effective way of reinforcing the point without performing another demonstration. Bassett et al (2019) regard demonstration skills as a basic teaching skill, one that beginning teachers must develop in order to be effective and that it is normal to focus on such basic aspects of practice prior to thinking about pupils' learning.

It is important to note that when the students were reflecting on a games lesson there appeared to be a similar structure to their reflections, with many commenting on the warm-up, followed by drills/activities and ending with a comment on the progression to small-sided games, showing that they were adopting a very traditional teacher-centred approach to teaching games, where pupils are 'passive recipients of knowledge supplied by teachers' (Wang and Ha, 2009, p.408). Considering that the students had been introduced to different models of games teaching during university-based workshops, in particular the use of Teaching Games for Understanding (TGfU), it is clear that the students preferred or were more comfortable implementing a traditional games approach, highlighting the influence that sport can have on physical education (Bowles and O'Sullivan, 2020). It is likely that the students taught games in this way since this

is how they were taught as pupils and exposure to this approach over a number of years means that their belief as to how games should be taught is so engrained that the university based teaching sessions on games failed to have any impact on their practice (Capel, 2007). It is also possible that some of the students did value the TGfU approach (Howarth, 2005) but taught games in the traditional way since PE staff in their placement school expected games to be taught this way (Butler and McCahan, 2005), or they found it difficult to implement TGfU since it requires high levels of content knowledge and the ability to analyse pupils' learning capabilities (Wang and Ha, 2009).

5.2.2 Pupils' physical activity levels

The numerous reflections on pupils' activity levels indicates that these students view high levels of physical activity as a strong indicator of quality physical education, a view shared by Biddle et al (1998) and McKenzie et al (2000). It would seem that these students have been influenced by recent claims that 'children are less active now than that they were at some (unusually specified) point in the past' (Kirk, 2004, p.186). It is also possible that the emphasis on maximising pupils' activity levels during university-based sessions has impacted the high number of reflections on this aspect, thus perhaps indicating that tutor values have helped to shape this focus or indeed it may well be that the researcher has also been influenced by the ever-increasing calls for physical education to positively contribute to children's weekly physical activity levels (Coe et al, 2006). The researcher did introduce the students to relevant practical and theory regarding the importance of physical activity, emphasising that they must always focus on pupils achieving quality movement and that high levels of

physical activity do not always mean high quality learning in physical education. However, no student commented on the quality of the pupils' movement but rather there appears to be the assumption that any movement is better than no movement.

The lack of focus on pupil learning when reflecting on pupils' activity levels indicates that these students may regard PE as a 'practical subject with a focus on doing gymnastics, sport or play' where there is a 'lesser emphasis on learning' (Larson and Redelius, 2008, p.383, 384). Combined with the points raised above, these students when reflecting on particular games activities may be drawing on their sporting experiences where the structure of lessons, the focus on increasing physical activity levels and a lack of focus on pupil learning could be interpreted as mirroring a coaching session where the emphasis is on performance rather than the wider holistic development of pupils (Sprake and Walker, 2015).

5.2.3 Differentiation

Differentiation was a common theme across each group and perhaps this is not surprising since effective differentiation is central to effective teaching and learning (Anderson, 2007). Basset et al (2019) believe that when beginning teachers focus on differentiation they are beginning to move 'from self-concerns to class-concerns' (p.175) which Leask and Moorhouse (2005) regard as moving from the first phase of beginning teacher development to the second phase. Considering that these PGCE students were reflecting on differentiation during their first school placement, it would appear that they recognised the importance of this teaching approach early in their studies.

Due to its importance, differentiation was a core element of PGCE study for these students and it is possible that the strong focus on this aspect has influenced the students to either consciously or sub-consciously decide to focus on this aspect of their practice. It is important to highlight the different levels of understanding that exist amongst the group in relation to differentiated practice. As noted in the findings, the defenders mainly stated that they needed to improve differentiation without providing any indication as to how they might do this, therefore, they may have been able to identify the problem but were 'incapable of taking any action' (Akbari, 2007, p.199). The surfers often displayed a deeper insight by highlighting that activities required modification to either progress or regress pupils with some examples as to how they might begin to address this issue. When discussing differentiation, the divers were clearly making links between relevant theory and practice by suggesting alternative teaching strategies that focused on matching activities to suit the needs of all pupils, thus showing that these individuals were moving towards 'individual-concern' which according to Leask and Moorhouse (2005) is the third and final phase of a beginning teacher's development. The divers were clearly fulfilling all elements of ELT and beginning to move towards incorporating elements of CST.

It is possible that each individual understands the concept of differentiation but some are unable to apply it, thus failing to adapt their practice to suit pupil needs due to a lack of knowledge relating to appropriate differentiation strategies (Pham, 2012). It may also be the case that those who demonstrated a better understanding of how to differentiate were exposed to good practice in their placement schools by either observing PE staff or having received quality feedback from PE staff that allowed them to improve their understanding and

delivery of this concept, It must also be considered that those students who reflected more deeply on differentiation issues were able to write about what they did or might do in the future more effectively, because they had a better command of written English, a view supported by Johns (2017, p.25) who stresses that 'some practitioners find writing... easy whilst others struggle'. Therefore, it may well be that for some, their proposed approaches to differentiation were more difficult to implement than to write.

Regardless of the level at which these students began reflecting or indeed the extent of progress they made during PGCE study, these students felt it was important to reflect on the effectiveness of their demonstrations, their planning and execution of differentiation and pupils' physical activity levels. It would appear that they regard their performance in these areas as a measure of how effective they are as physical education teachers. It is possible that previous experience of PE and sport influenced their thinking on what is important in a PE lesson or it may be possible that the course content of PGCE and the value systems of their course tutor(s) influenced their thought process on these areas. Due to the small sample number, it is difficult to make any claims beyond this study but it highlights that these PE students value common areas of practice and that these values and beliefs are perhaps dictating the direction and focus of their reflective work. These findings will be used to inform the conclusions to research question one. This is certainly an area that is worthy of further investigation and will be discussed in the conclusion and recommendations chapter (6).

Having discussed the differences and similarities of the group in relation to their reflective work, the researcher has captured these in a visual representation (see Figure 27 below).

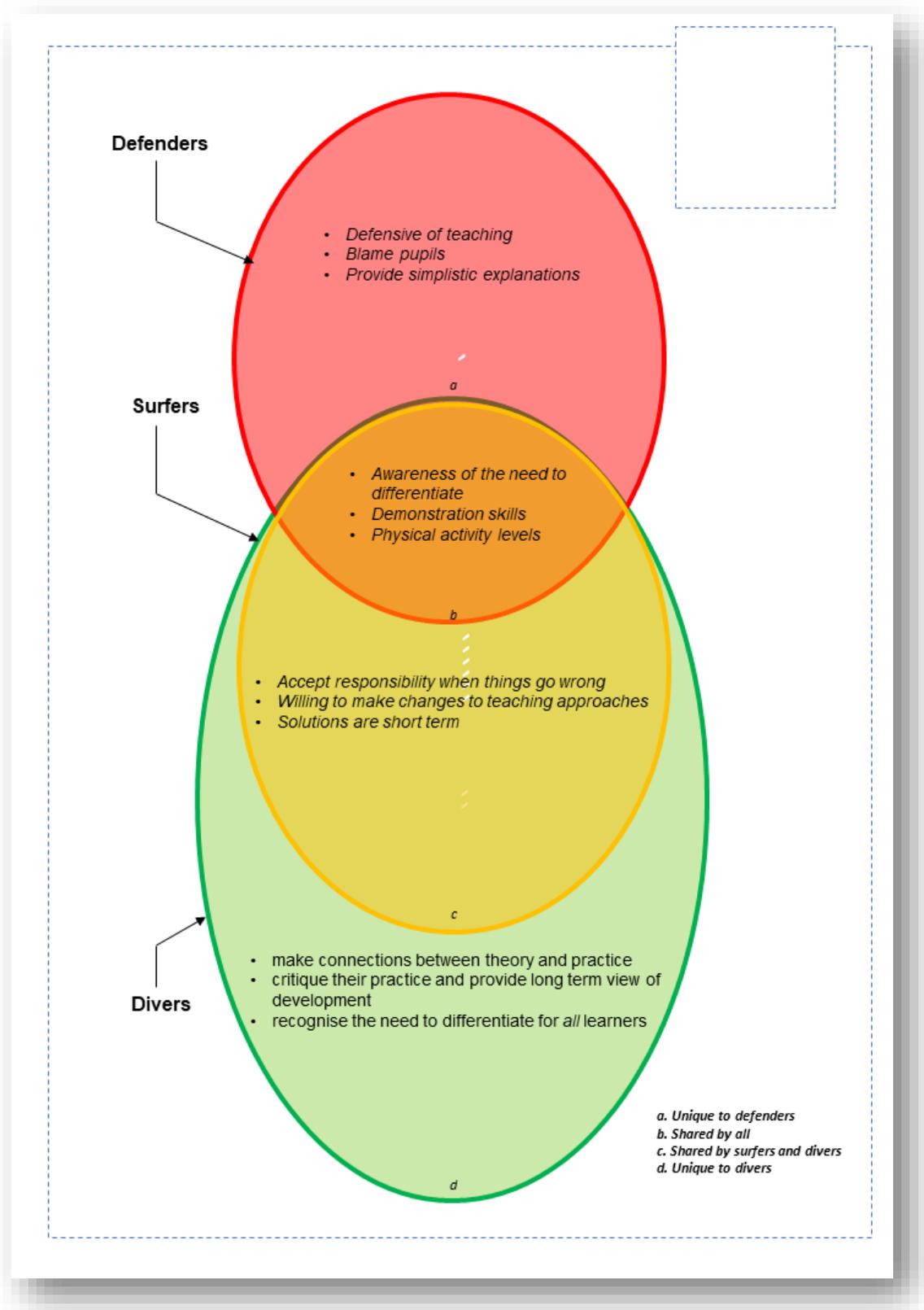


Figure 27 - Reflective differences and similarities

Commentary on Figure 27

Figure 27 above provides a visual representation of the key differences and similarities amongst the group. Section a outlines the features of reflection that are unique to the 'defenders'. These students regularly defended their teaching practices, failing to take responsibility for lesson outcomes and thus attributed blame to pupils. Section c identifies the reflective features of the 'surfers', who unlike the defenders, accepted responsibility for their actions and were aware of the need to change their teaching, although proposed adaptations were short-term focused. A key difference, therefore, between the defenders and the surfers was that the surfers had a focus on pupil learning, whereas on most occasions, the defenders failed to focus on pupils' learning. Section d outlines the unique features of the 'divers', who like the surfers, demonstrated an ability to focus on pupil learning but their focus was on the learning of all pupils. Their awareness of the need to reflect on theory and practice whilst adopting a long-term view of their development, meant that these students were able to reflect more deeply than the surfers. It is important to note that the key features of the surfers were also shared by the divers, demonstrating that progression is not always linear.

Section b captures the main areas that students from all groups reflected on, demonstrating that as a group they felt it important to reflect on their demonstration skills, employment of differentiation and pupils' physical activity levels. Whilst each group reflected on these areas in different ways, it is a significant finding, showing that regardless of an individual's reflective ability, each of these students share the same views as to what is of value in a PE lesson. Therefore, if pre-service PE teachers are inclined to reflect on these areas, then

it is important to provide appropriate support that allows them to maximise their learning when reflecting on such aspects. Based on this finding, the researcher has produced the PE Reflective Wheel (see figure 28 below).

PE Reflective Wheel commentary

It was important that the PE Reflective Wheel was appropriate for the needs of pre-service PE teachers and thus reflective of the findings. As noted in the findings, the majority of these students reflected at a low level (pre-reflective and surface), reflections underpinned by elements of ELT, therefore, it was important that the questions for each of the seven areas allows future pre-service PE teachers to reflect on aspects of their practice that aligns with their stage of development. It has been noted above that the three main common areas of reflection across the groups were demonstrations, differentiation and physical activity levels. The findings chapter (4) also identifies that these students regularly reflected on the lesson warm-up, the particular activities within the lesson, the lesson plenary/ending and for some of the surfers and indeed all of the divers, assessment. Therefore, this reflective wheel can be used to support pre-service PE teachers to reflect on these areas. Central to supporting reflection on these key aspects, is the inclusion of specific questions, designed to encourage pre-service PE teachers to reflect more deeply on their practice. The decision to use questions emerged as a result of the findings on p.245-6 and the discussion above (p.303-4), where the use of suggestive feedback in the form of posing questions, allowed some students to reflect more deeply on their peer reviewed and video-recorded lessons. The majority of the questions focus on issues relating to teaching, with a small number focused on pupils' learning. The researcher is aware that critics are likely to emphasise that including questions that focus directly on teaching encourages low level reflections, preventing individuals from reflecting at a deeper level. However, this study shows that pre-service PE teachers are likely to reflect on their

teaching before they begin to consider the impact of their practice on pupil learning. Therefore, the questions will allow pre-service PE teachers to reflect on their teaching but the inclusion of a number of questions which focus on pupil learning demonstrates that the PE Reflective Wheel is both progressive and differentiated.

In acknowledging that this resource will support pre-service PE teachers in the early stages of their reflective development, it is the researcher's intention to build upon this by creating a 2nd PE Reflective Wheel. The precise content and focus of this 2nd wheel will be influenced by ongoing evaluation and research relating to the PE Reflective Wheel but it is anticipated that the 2nd wheel will allow students to reflect more deeply on the impact of their practice on pupil learning. This should involve theory/practice links and include elements that help students progress beyond the elements of ELT towards elements of CST, where the questions will encourage individuals to reflect on the impact of their underlying beliefs, values and assumptions and involve a collaborative element in the form of teacher mentor assisted reflection.

The decision to call this a reflective wheel, as opposed to a reflective cycle, is based on the premise that rather than having to reflect on areas in a chronological cyclical fashion, students have the freedom to reflect on these aspects in whatever order they feel is best. Therefore, each student would be given a laminated copy, which can be rotated (like a wheel) to the particular area and associated questions they wish to reflect on. The researcher regards this PE Reflective Wheel as a contribution to knowledge in the area of PETE since it is the first of its kind. Whilst Tsangaridou and O'Sullivan (1994) created the RFTPE,

it does not provide specific practical support for pre-service PE teachers when reflecting. Therefore, the PE Reflective Wheel is the only available PE specific resource that can be used to support and develop pre-service PE teachers' reflective skills.

The next sub-section discusses the findings relating to formal and informal approaches to reflection.

5.3 Formal v informal reflection

One of the key themes to emerge from the end of PGCE focus group interviews was the students' views on the benefits of the online weekly discussion forum compared with their own subject WhatsApp group. The online discussion forum was organised on the basis that by sharing their reflections with each other, the students would benefit from reading each other's and that this would generate deeper discussions and 'insights about practice that may not emerge' (McGarr et al, 2019, p.246) when individuals rely fully on their own personal reflections. Engagement in this forum appears to have produced different benefits for the students. In terms of how engagement in this forum benefitted the students' learning, there was an acknowledgment that sharing ideas and offering advice was beneficial but no meaningful comments were provided in relation to helping them reflect deeper or allowing them to analyse their practice more effectively. The forum was used by some students as a way of reassuring themselves that they were making satisfactory progress since their peers were experiencing the same issues and difficulties that they were, which supports the work of Clarke (2009) who reported that the PGCE students in her study found that the peer

network was a great source of support for many who found themselves in 'the same boat'. Therefore, this reassurance ensured that confidence levels remained intact, allowing students to feel secure and content with how they were progressing. This shows that for some students, feelings of doubt and insecurity are common when beginning to teach (Findon and Johnston-Wilder, 2019) and that rather than using the discussion forum as a means of engaging in reflective dialogue about their practice and pupil learning, maintaining their confidence and belief in themselves as a beginning teacher was a bigger priority.

It would seem that discussion in this forum was a positive experience for the students in that they had created a respectful community where they felt at ease when sharing and offering advice. Parsons and Stephenson (2005) believe that such communities should create a non-judgmental environment where students begin to experiment and take risks with their teaching. It would seem that these students were comfortable discussing issues with each other but references in the findings (p.268) to students seeing the forum as being formal and a place where the tutor was analysing their comments perhaps restricted the students from reaching the levels that Parsons and Stephenson are referring to. It is clear that these students viewed the discussion forum as a space where they gained emotional and moral support, helping to reduce feelings of isolation which can sometimes be experienced when on teaching practice (Rhine & Byrant, 2007; Thompson et al, 2018), but did not recognise it as a space where they could learn or enhance their reflective skills and thus their teaching and learning practices. Due to their inexperience and the fact that they were, perhaps, more focused on surviving the day-to-day challenges of teaching practice (Capel, 2007), these students engaged with the discussion forum in a way that met their immediate

needs, failing to use it for the purposes of enhancing their reflection skills. Perhaps expecting students to utilise the discussion forum to improve their reflective skills is unrealistic and that having it for the purpose of keeping in touch during school experience as a means of providing daily and weekly emotional support is necessary and indeed sufficient. McGarr et al (2019) in their study of collaborative peer review involving 52 student teachers, whilst finding that the majority of students did not reflect any deeper on their practice, argue that sharing ‘...perspectives and opinions is an important professional exercise and one that in time can lead to deeper insights’ (p.258).

The findings on p.277 show that some of these induction teachers see value in continuing with such a forum when starting their teaching career. Student D’s description of how this might work shows that she sees it as being focused on improving practice through professional dialogue, therefore, it is possible that as they become more experienced, individuals may move from using it as a source of emotional and practical support (during PGCE) to focusing on teaching and learning issues (induction year and beyond), a view supported by Lawrence (2019, p.211) who states that ‘the ability to reflect evolves over time, based on experiences and understanding of the reflective process’. It would seem that if they were to now use this online discussion forum, they would be utilising it as a means of improving their practice and pupil learning, whereas as PGCE students, they did not have this same focus.

The theme of support was highlighted again when students began discussing the benefits of their subject WhatsApp group, of which the course tutor was not a member. The students’ preference for the WhatsApp group rather than the

discussion forum is significant in that they saw their informal discussions on this group as being of more benefit, which again supports the work of Clarke (2009) whose students preferred to engage with informal discussions about their practice rather than use the formal VLE discussion platform. It would seem that the majority of issues discussed in this group related to practical issues pertaining to classroom management and organisational aspects, with very little focus on pupils' learning. For many pre-service teachers, these are the issues that create challenges and it is no surprise that they tend to focus on these technical aspects (Tsangaridou and O'Sullivan, 1994). Therefore, if dealing with such problems, it is possible that some of these students were not ready to reflect on issues relating to their teaching and pupil learning. The identification of the WhatsApp group as a 'safe net' where the tutor could not read comments is important. It is, therefore, possible that the students only engaged with the discussion forum since it was a course requirement, perhaps meaning that they were not always entirely honest in their reflections, possibly writing what they feel the tutor wanted to read (Cameron and Mitchell, 1993; Taylor, 2006). Seeing the WhatsApp group as a safe place to discuss issues supports the findings of Lamb (2011) whose students stated that their peer review process created a safe space for them to consider their practice.

The students also preferred the WhatsApp group on the basis that their comments received quick responses, since they were accessing it regularly throughout the day. The informal daily chats appear to have been a source of constant support, albeit they were more of an emotional nature, whereas the discussion forum had to be accessed through the students' iPads and the more formal nature of their reflections and comments meant that students did not see

this forum as a means of meeting their daily practical needs (Orland-Barack and Yinon, 2007). The WhatsApp group proved to be more convenient for the students and being able to reply quickly and in a less formal/pedagogical manner was less time-consuming. Similar to the points raised above, whilst the students appear to have benefitted from their interactions in the WhatsApp group, there did not appear to be any focused discussions on teaching and learning issues, but rather informal conversations that were either not connected to their teaching practice or which focused on organisational and management aspects of their practice. Therefore, the students' comparison of the discussion forum and the WhatsApp group did not appear to be focused on which one helped them reflect better, but which one was more convenient, more accessible, less formal and more personally rewarding. Whilst the students could see some benefits from engaging in the discussion forum, they all preferred the informal WhatsApp group chat. The overwhelming preference for this informal support is significant for two reasons. Firstly, it indicates that the formal and structured approach to reflection is not particularly motivating for students and secondly, they do not seem to recognise that their discussions on the group WhatsApp could not be classed as reflection or it may be that they are aware but simply prefer to discuss issues at a low level where the need for daily moral and emotional support is more of a priority (Murray-Harvey et al, 2000) than attempting to reflect on their teaching.

These students clearly value informal approaches to reflection where they can engage and discuss with peers in an unstructured way. The students' preference for engaging with peers via the group WhatsApp chat highlights that they are content to discuss issues with their peers, and in doing so, seek and provide advice. Whilst the content of the group chat was predominantly focused on

management and organisational issues rather than a focus on pupil learning, it is still encouraging that the students recognise the importance of collaborating and discussing their practice with others, an approach supported by Yost et al (2000) and Danielowich (2012). It would seem that they not only valued the immediacy of responses to any queries they had about their practice, but they valued the moral and emotional support from peers. This regular daily communication amongst the group seems to have provided a strong source of support for each individual during what was for some, a challenging time. The students managed to create a forum where everyone felt comfortable sharing their views. However, it seems the students did not utilise the forum in a way that helped to develop their reflective skills, but rather for many of the group, the posting of their weekly reflection was simply a course requirement that had to be completed. These findings will be used to inform the answer to research questions two and four.

The students, whilst recognising the benefits to be accrued from discussing their practice with PE staff during PGCE study, would seem to place more value on this approach as a practising teacher. As induction teachers, these daily discussions about their practice were more focused on pupil learning compared to when they were PGCE students. These findings will help to inform the response to research questions two and five. The issue of reflective work being time-consuming is another emerging theme and is discussed in the next section.

5.4 Time

For these busy PGCE students, reflective work was time consuming (Quinn, 2000), something that they viewed quite negatively. Failing to devote the required

time resulted in the production of some unauthentic reflections, where certain students completed it for the sake of it rather than completing it to the best of their ability. Therefore, such reflections are not a true reflection of the students' thinking which may render the work as being unreflective (Woodward, 1998). Saving time appears to have been one of the significant factors for students in their preference for audio recorded reflections over written reflections. It is important to note that in considering this question, only a minority of the students focused on which approach they thought was the most beneficial for developing their reflective skills, meaning this point appears to have been lost on the others, with many focused on which approach was more convenient. For some students, audio reflections were preferred on the basis that it was easier to speak their reflection compared to writing it down, perhaps indicating that these reflections were more honest and authentic. The students were perhaps able to speak freely, in a natural way whereas when writing they tend to become focused on ensuring that spelling, punctuation and grammar are at a high level. Their focus on these aspects perhaps takes over and thus inhibits their reflective work in a way where they cannot express their thoughts. Thus, for these students they had found a way of capturing their reflective thoughts that suited them as an individual educator (Pellegrino and Gerber, 2012). For the six students who preferred written over audio, most considered the question more deeply in that they thought about which approach made them think more effectively. These students adopted a forward-thinking stance where their preferred approach was influenced by how useful it was likely to be when they began their teaching careers. The students' reference to the importance of being able to refer/return to their written reflections perhaps indicates that these students do not view reflection as an isolated event

but rather they regard it as a constant and ongoing process (Farrell, 2012) where they value the importance of referring back to reflections in order to help with their planning and subsequent teaching practices. It is interesting to note that students C and I both advocated for written on the basis of being able to come back and amend their reflections (p.272) but fig.25 (p.257) shows that both students did not use their weekly reflection to inform their planning or teaching. It is possible that both students made use of all other weekly reflections apart from the one which related to the classroom observation data. Interestingly, the other four students who preferred written reflections all used their weekly reflection to inform planning but only two used it to inform their teaching.

The use of brief written reflective notes during induction year emphasises that these individuals see value in recording their reflective thoughts, showing that they have continued to reflect beyond the University setting, which according to Farrell (2014), can be difficult. However, such written recordings were unlikely to contain deep reflective thoughts considering the extremely brief nature of such recordings and indeed the lack of time that these individuals had for such a process. Their reference to the 'real world' indicates that they view PGCE school-based experience as unrealistic. Therefore, it may well be that the design of reflective work for students during PGCE needs to be more appropriately tailored to prepare students for the proper school setting, thus demonstrating the need to assist students in their reflective development (Clara et al, 2019). This may mean a reduction in the amount and length of reflective work so that when they progress towards their induction year, individuals experience a more realistic transition with their reflective practice. Considering that these individuals found reflection to be easier during induction year, it may well be that due to their increased experience

as teachers they were able to reflect more effectively (Lawrence, 2019) and were thus able to record the key reflective thoughts in a few lines, whereas when as PGCE students they did not have the same insight and were unable to produce reflections that were as tightly focused. Thus, it is possible that these written notes did contain quality reflective thoughts since they now knew what to reflect on.

Out of the three students who cited that their reflections were repetitive, two appeared to view this issue as a problem with the reflective process whereas the other student (E) saw this as a weakness in her reflective ability, perhaps indicating that this student was becoming more self-aware. It is important to note that we cannot claim that student E is self-aware in the way that Fook and Gardner (2007) and Rennie (2009) view self-awareness, where individuals are aware of their personal position in the wider context of the situations, they find themselves in. Rather, student E would appear to be aware of her own inadequacies in relation to reflection. It is worth highlighting that whilst there were minimal differences in the quality of their assessed weekly reflections, student E's were of the highest quality and indeed she was the only one out of these three who produced some pedagogical reflective segments, thus indicating her ability to think more deeply and thus perhaps explaining why she was able to view the repetitiveness of her reflections as being her responsibility. For those students who copied and pasted their reflections, it was clear that saving time was a factor in their decision to do this. The honesty of these students in admitting to this practice, whilst a little disheartening, is somewhat refreshing in that it highlights that completing weekly reflections may not be effective for particular students, since they do not value them (Taylor, 2006).

For these students, it is clear that time is a significant issue in relation to reflection. For some, completing reflections in less time is more important and beneficial than pursuing an approach that may develop their reflective skills. For these students it may be that the value of reflection has not yet been realised or indeed may never be realised (Hobbs, 2007, McFlynn, 2019). For a minority of students, time did not seem to be an issue where they appeared to value their reflective work with a recognition that it would be a part of their future teaching careers. The majority of those who preferred to audio-record their reflections seemed to base this choice purely on it being more convenient, but there were those who stated that the audio-recordings felt less formal, therefore, it cannot be said that they did not value their reflective work but rather they had found an approach that suited them as an individual (Boud, 2010). Finding an approach that students prefer can have a lasting impact on students' motivation towards reflective work (Finlay, 2008) simply because they have a choice and thus do not feel forced into one way of doing it (Shoffner, 2008).

Whilst some students noted it was easier to speak their reflection than write it, the main attraction to using audio-recorded reflections was that they could be completed much quicker than a written reflection. For these five students, audio-recorded reflections were a break from the process of ensuring all written work was accurate in terms of spelling, punctuation and grammar. When assessing why they preferred audio over written reflections, all reasons related to it being a more convenient process meaning that none of these students considered how it helped them to reflect more effectively. These findings will be used to inform the conclusions to research question two.

As induction teachers, each individual used brief written notes as a means of recording their reflective thoughts, with teacher F also using audio-recorded reflections, showing that teachers will have preferred modes of recording their reflective thoughts. It is clear that there is a discrepancy between the amount of writing that PGCE students complete for reflective tasks compared to when reflecting during induction year, thus highlighting that there should perhaps be a more deliberate focus on having PGCE students write more succinctly and with definite purpose (Bolton, 2010). Whilst placing a word count on such reflections may possibly inhibit students' reflections (Larrivee, 2000; Shoffner, 2008), it would seem that in order to prepare students more appropriately for life as an induction teacher and to ensure a closer connection between ITE and induction year teaching, students should receive more support and guidance on how to reflect more succinctly. These findings will, therefore, be used to inform conclusions to research question five as well as having implications for the researcher's future practice. The next sub-section discusses the theme of collaboration.

5.5 Collaboration

The importance of collaboration is a constant theme throughout the findings chapter where the students have made numerous references to aspects of collaboration positively influencing their practice. It is clear that the students benefitted greatly from collaborating with their peers during the peer review process, through their daily chats via the subject WhatsApp group, through video-assisted reflection with their mentor, through daily conversations with colleagues during PGCE and induction year and through feedback sessions following

observation of their teaching by subject mentors and PE colleagues. The collaboration generated via the subject WhatsApp group has been discussed above in the formal/informal section and will, therefore, not be addressed in this section.

The students saw the peer review process as non-threatening, an environment where they were free to make mistakes, free from the pressure of being assessed by their tutor. These findings support those of Lamb (2011) who found that her PGCE PE students were more relaxed during the peer reviewed process compared to when being observed by University staff.

As noted above, the students clearly valued daily discussions and feedback from PE staff during their PGCE study but it would appear that after having taught for one full year, the students regarded these discussions as being the central component of their daily and weekly reflections. They recognised that such dialogue is the most realistic way to reflect after PGCE since when teaching a full timetable, time between lessons is limited and to expect teachers to engage in any other formal approaches would be unrealistic. Whilst at times very informal, such discussions can 'occur spontaneously as part of normal, daily thinking' (Kim and Silver, 2016, p.203) resulting in reflective dialogue that has the potential to positively impact teachers' reflections and ultimately their teaching and pupil learning (Zeichner and Liston, 1996; Shulman, 1998 and Liu, 2015).

It is clear that the five teachers involved in the end of induction year focus group valued the opportunity to observe and discuss the practices of their more experienced colleagues where these colleagues were modelling their teaching

and providing advice (Zanting et al, 2001). The opportunity for one student to observe across another department proved to be beneficial allowing him to compare and contrast approaches and gain exposure to ideas/strategies that he could reflect on to move his practice forward. The students in this study saw the benefits of observing more experienced staff by way of securing tips and ideas. Many students in Zanting et al (2001) study had the same view but unlike the students in this study, students in Zanting et al (2001) study went deeper by analysing 'the reasoning behind a mentor's teaching style' (p.76). The students in this study also valued having their teaching observed and engaging in post lesson discussion with a more experienced PE staff member, a process which Schon (1988) believes to be 'valuable'. These observations and discussions were of benefit in helping them to think about and improve their practice, a view supported by Husu et al (2007) who state that '...reflective practice does not come naturally, it requires dialogue' (p.130). Husu et al (2007) in their study found that advice and feedback from an experienced PE staff member was crucial in helping students to reflect. The findings in this study (p.281) support Husu et al's (2007) findings but an additional finding in this study is that the students found the advice and feedback to be almost necessary when reflecting on activities they considered to be areas for development or non-expertise areas.

These teachers valued detailed feedback and the cited examples as to how the process helped to change the practice of certain individuals shows that the process did have some impact. The varied experiences relating to the teachers' views on the level of expertise of the observers is worth discussing. For some teachers the review process was inhibited by the observer's lack of subject knowledge, although it is possible that these non-specialist observers were

providing valuable feedback but because it did not coincide with their views, they were less receptive to it (Cosh, 1998). The experience of teacher F (p.281), however, highlights that subject specialists may not always be more effective at observing and providing feedback. It is possible that the HOD in this case was fulfilling her duties but in a very disinterested manner and thus did not value the process. It is also possible that she lacked the subject knowledge of the specific area she was observing and thus was unable to provide quality feedback.

Having access to a more experienced and knowledgeable teacher appears to be important for these individuals (both as students and teachers), particularly when teaching and reflecting on an area of weakness. It would seem that when reflecting on such lessons, the lack of observer subject knowledge inhibits their (student/teacher) ability to reflect deeply on what they have taught and the possible impact on pupil learning, meaning that such reflections are likely to be low-level. Perhaps, students and induction teachers when teaching and reflecting on an area of weakness, should always reflect with a more knowledgeable other. Feiman-Nemser and Parker (1993) found, however, that the mentors in their study were still very much concerned with evaluating the students' practice and not focused on helping them to reflect which is one of the main roles of a mentor (Tomlinson, 1995). The findings in this study, however, particularly in relation to video-assisted reflection, suggest that some of the mentors were able to pose questions that made the students rethink the teaching process through what Schon (1983) refers to as reflection-on-action. However, such discussions about teaching with a more experienced colleague might also help to reinforce existing practices, particularly if the student is implementing teaching strategies/approaches based on ongoing feedback and evaluation from the

mentor, especially if the mentor has not reflected on their own values and beliefs and how these might impact their approach to observing lessons and providing feedback (Money and Walsh, 2019).

The references by student D and F to the importance of seeking advice from a more experienced colleague during induction year, demonstrates their commitment to improvement and an acknowledgement that they have much to learn. Such comments also show that they do not see teaching as a job where you are on your own but understand the importance of collaborating with others to improve their practice, a view supported by Boud (2010, p.30) who notes that 'It is rare for any practitioner... to work alone'. Interestingly, when commenting on the process of peer review and observation of other staff, the most common response was that they 'picked up' good ideas that were often just 'small' things to take forward. It would seem that these collaborative experiences did expose the students to new ideas but this also shows that for the majority of the group these experiences did not generate deep discussions or reflections about teaching and learning where individuals questioned their practice in an in-depth manner. Money and Walsh (2019, p.66) argue however that when beginning teachers observe other staff, '...the sophistication, depth and focus of an observation will be different, depending on a beginning teacher's stage of development'.

It is clear that for these individuals, collaboration with either peers or PE teaching staff was in the main a positive experience that helped to shape their reflective approaches and thoughts. Central to their experiences has been the importance of having access to peers and teachers with greater subject expertise who appear

to have the insight to make them think more deeply about their practice, particularly when reflecting on the teaching of an activity they lack expertise in. Observing teaching staff/colleagues with greater expertise helps to make them question their teaching whilst being observed by a more knowledgeable peer/teacher also allows the observer to generate dialogue that helps them to question their teaching approaches (Money and Walsh, 2019). Being observed by a teacher who does not possess subject expertise appears to inhibit students' reflective development. Collaborating with peers during peer review helps students to relax as opposed to feeling more anxious when being observed by their University tutor. These findings will be used to inform conclusions to research question three and have implications for future practice and research in this area.

5.6 Induction teaching

Considering that these induction teachers did not complete any formal reflective activities, the researcher was not able to measure if their reflective skills developed. However, their description of how reflection impacted their practice indicates that some individuals had moved forward in their reflective development, demonstrating a 'shift from surviving to learning' (Lawrence et al, 2019, p.184). Student I, who exited PGCE reflecting at surface level, demonstrated a move towards pedagogical thinking, where he was taking on board the advice of pupils and changing his approaches based on the theory of TGfU. His reflections during PGCE did not have any links to theory, thus indicating that his reflective skills had progressed and that he was beginning to engage with stage 3 of Kolb's (1984) ELT, forming an abstract conceptualization

of his practice. Student K's description of how reflection impacted her practice also indicates that she had improved her reflective skills and similar to student I, she appears to have moved from surface level reflection at the end of PGCE study to now thinking at a pedagogical level. Considering that they were not required to complete any formal reflections, it would seem that reflective thinking was improving due to their ever-increasing teaching and reflective experiences.

From the perspective of the teachers, the induction programme was not as effective as it has the potential to be. Those in charge of induction in these schools were vice principals or senior teachers with many responsibilities and it would seem that nurturing induction teachers was not a priority for them. Mentoring induction teachers is crucial and the role should be given to a member of staff who has the commitment that is required to nurture and support teachers in the early stages of their careers (Everley, 2019). Whilst the majority of these induction teachers appeared to have benefitted from having their teaching observed, it would appear that those who conducted observations late in the academic year were merely fulfilling a requirement and thus failing to maximise the potential benefits that such a process could generate. These findings will be used to shape the conclusions to research question five and have implications for future practice, future research and future policy in this area.

Overall summary

This chapter discussed the key findings to emerge from the data analysis. The first section discussed issues pertaining to the individual differences amongst the group in relation to how they reflected on their practice, where three distinct

groups were identified, the defenders, the surfers and the divers. The second section discussed issues relating to the common areas that members of each group chose to reflect on, from which emerged the creation of the PE Reflective Wheel. The third section discussed issues relating to formal and informal reflection which was followed by a section on the key theme of 'time'. Section five discussed the theme of collaboration and this was followed by the final section which addressed issues relating to reflective practice during induction year.

As noted in the discussion of these key areas above, the researcher was able to identify how the findings linked to the conclusions on each research question. The next chapter (6) will, therefore, present the conclusions of the study along with recommendations for future practice, future research and future policy.

Chapter 6 - Conclusion and recommendations

Introduction

The purpose of this concluding chapter is to offer some reflection on the aim and research objectives of the study. Recommendations are offered based on an analysis and synthesis of the various elements of qualitative findings. Areas for future practice and research will also be identified.

Research Questions

1. In what ways do pre-service PE teachers' reflective capacities change across the PGCE year?
2. What approaches to reflection are most effective for developing pre-service PE teachers' reflective skills?
3. Does increased subject knowledge allow pre-service PE teachers to produce higher quality reflections?
4. How do pre-service PE teachers make use of their weekly reflections?
5. In what ways do pre-service PE teachers use reflective practice during their first year as a qualified teacher?

6.1 Research question 1

In what ways do pre-service PE teachers' reflective capacities change across the PGCE year?

The study shows that all but one of these pre-service PE teachers improved their reflective skills. Seven of these students (A,B,D,E,H,I,K) improved their reflective skills by progressing from their initial reflective level to consistently reflecting at a higher level. Whilst not managing to reflect consistently at a level above their initial reflective level, students C, F and J displayed the ability to progress beyond their pre-reflective reflections by each producing between four and six surface levels reflections. Therefore, these findings show that the views of Fendler (2003) and Russell (2013), who both question the place of reflective practice in ITE, do not relate to this study. Student G was the only one who did not manage to reflect above his initial level, although he began reflecting at pedagogical level and consistently maintained this standard during both school placements. This undoubtedly highlights that reflection and the scope for progress is very much an individual issue (Lyons, 1998).

This study shows that individuals enter ITE with different capacities for reflection, which supports the work of Griffin (2003) who believes that pre-service teachers enter teacher education courses with different reflective abilities. Ten out of the eleven students began reflecting at a low-level (pre-reflective or surface) and as noted above, student G began at the higher, pedagogical level. It is uncommon for a pre-service teacher to begin reflecting beyond surface level and as was the case for student G, it is difficult to move to a critical level of reflection, a level that many experienced teachers never attain (Hobbs, 2007). With continued effort and investment in reflective practice, it is possible that he will reach a critical level of reflection but this cannot be guaranteed (Hockly, 2000).

Each student (A,I,K) who consistently reflected at the pre-reflective stage during SE1 managed to progress to a consistent surface level, showing that it is perhaps easier to make progress from a lower starting point. It is worth remembering that students I, K and J were not always fully committed to their reflective work and, therefore, it is possible that they were capable of better, had they approached reflection with higher levels of interest and motivation. It would seem that reflection was not a priority for them, seeing it merely as a task to fulfil rather than an opportunity to learn and develop their practice. Finlay (2008) supports this view by emphasising that individuals may not value reflection, seeing it as a forced task that inhibits students' ability to be genuine and honest, a view supported by Boud (2010, p.35) who states that individuals 'may be going through the motions of reflective procedures, but their bodies resist if it is not what they want to do'. Such an approach is likely to have a detrimental impact upon an individual's future reflective work, where they fail to recognise the potential benefits that authentic reflection can generate, since 'reflection should be continuous and regular through time' (Mortari, 2012, p.526). It is also possible that due to their lack of teaching experience, these students had not grasped the importance of the concept and perhaps as they move forward in their careers, they may come to realise the many benefits that authentic and honest reflection can bring to their practice (Perkins et al, 1993).

Whilst there were some who initially reflected at pre-reflective level, all remaining students, apart from student G, progressed to surface level reflection fairly quickly during SE1. Five of these students remained at this level for the duration of their PGCE study. Three of these students (C, F, J) failed to produce any pedagogical reflective segments in their weekly reflections and whilst there were two (B, E)

who did produce pedagogical segments, neither managed to produce a pedagogical weekly reflection. However, it is important to note that on occasions students B and E were demonstrating their capacity to reflect at a higher level, showing that at times they were fulfilling all elements of ELT. Therefore, only two students (D, H) out of seven moved from surface level to a consistent pedagogical level, thus highlighting the difficulty for PGCE students in moving beyond surface level (Akbari, 2007; Fathi and Behzadpour, 2011). It is significant to note, however, that to varying degrees, four of these students were beginning to reflect more deeply on their practice, making connections between theory and practice, focusing on pupil learning and thinking about the long-term implications of their practice (Larrivee, 2008). These findings differ from those reported by Poom-Valickis and Mathews (2013) who reported that the students in their study failed to reflect beyond descriptive level.

As the students improved their reflective practice, the emphasis of their reflections gradually moved from a focus on 'the self' and classroom management (Fuller, 1970; Akbari, 2007) to a focus on pupil progress and learning. However, it is also clear that these students valued the importance of reflecting on common areas (demonstrations, activity levels and differentiation) of their practice and as their reflective skills improved, they demonstrated the ability to reflect more deeply on these common areas. It is difficult to ascertain the precise reasons they had for choosing to reflect on these areas but it is possible that their previous PE and sporting experiences have influenced their thinking as to what constitutes good practice in PE (Capel, 2007) as well as the content focus of the PGCE PE course. The areas they chose to reflect on are important aspects of a PE lesson, so it may well be that these students are demonstrating good practice in terms of

what they are reflecting on. If students are likely to reflect on these areas, then it is best to consider how we might support them to reflect more effectively. As noted above, the researcher has produced the PE Reflective wheel where students' reflective development can be supported by responding to the set questions under seven common areas that the students reflected upon. The researcher intends to utilise this resource with future PGCE PE students.

Whilst the students improved their reflective skills at different rates and to different levels, it would seem that the pace and level of progress is determined by a number of factors. Firstly, each individual student in this study entered the PGCE PE course with their own capacity for reflection, which not only determined the level they began reflecting at but impacted the extent to which they reflected on their school experiences. A key facet of an individual's reflective capacity is their ability to be open-minded (Dewey, 1933; Farrell, 2014), perhaps indicating that personality traits may have a role to play, a view supported by Akbari (2007, p.193) who notes that 'the personality of teachers is a missing variable in almost all discussions of reflection'. Secondly, as was the case with three students (I, J, K), a lack of motivation towards reflective practice can inhibit reflective development. The use of different media for recording reflections in this study enhanced the motivation levels for some students but for others it had no impact. The way in which reflective practice is first presented to students can have a long-lasting impact on their enthusiasm for reflection (Finlay, 2008). It is, therefore, possible that the researcher's inadequacies and lack of understanding in the area negatively impacted the presentation of the concept, which in turn demotivated certain students. Considering that developing reflective practitioners is one of the key aims of many ITE courses (Tabachnick and Zeichner, 2002), it is clear that

the researcher must continue to develop effective approaches to presenting the concept.

6.2 Research question 2

What approaches to reflection are most effective for developing pre-service PE teachers' reflective skills?

Video-assisted reflection seems to be the most effective approach for developing the reflective skills of these pre-service PE teachers. Being able to repeatedly view their teaching and identify points for improvement was important and allowed them the opportunity to reflect on issues that they had not become aware of during the lesson or indeed prior to watching the video, a view supported by Yerrick et al (2005). Repeated viewings of their teaching appears to be the greatest strength of this reflective approach where they have the time to analyse their practice as many times as they wish and as a result, are able to identify different aspects of their practice that are worth reflecting on, a view supported by Welsch and Devlin (2007). Using video-assisted reflection in conjunction with an observing teacher mentor appears to make this approach more effective (Harford et al, 2010). Mentors notice aspects of the students' practice that the students did not see, meaning that the mentor is able to highlight additional issues that provide the basis for further, and on many occasions, deeper reflection. This supports the work of Punjwani and Chandra (2010) who found 'considerable evidence' that the use of video enhanced the quality of the feedback sessions where the observers and teachers were able to 'accurately recall classroom events...which are difficult to recall without the help of video' (p.1). They also

found that video increased the teachers' 'receptivity of the feedback' (p.1) since they could see what the mentor was referring to. This supports the current study whereby each student appeared to value mentor feedback and used it to good effect. It was clear that they attached more value to mentor feedback than peer feedback. The mentors in this study made effective use of suggestive feedback, posing questions that allowed the students to engage in 'higher-level thinking' (Bergman, 2015; Hamilton, 2012; Edgington, 2009) about their practice. Devising effective questions is therefore a key strategy in helping students to reflect more deeply on their practice (Lin, 2011), helping to generate effective dialogue, a key feature of both ELT and CST.

Peer review, whilst not considered as effective as video-assisted reflection, was also an effective approach for helping students reflect on their practice. This approach was more effective for certain students, whilst for others, it had less impact on their reflective skills. Receiving feedback from peers allows individuals to reflect on aspects of their practice that they had not considered in their initial post-lesson reflection, again highlighting the benefits of having another person assist in the reflective process (Buchanan and Stern, 2012). When acting as reviewers, students are very comfortable providing positive feedback and to a lesser extent, corrective feedback, with most students showing that they are not effective at providing higher quality (suggestive) feedback. It is clear that students reflect differently in response to similar types of feedback, with some reflecting poorly on quality feedback and some showing that they are able to reflect well on low-quality feedback, indicating that on occasion the type of feedback is not important, but rather the reflective capacity of the individual student is what determines the quality of their reflective work. This supports the work of Brandt

(2008) and Gun (2011) who believe that whilst the provision of quality feedback can be useful, it does not necessarily mean that the receiver will reflect well on such feedback. Compared to video-assisted reflection, where all six students produced pedagogical reflective segments, peer review does not appear to be as effective. Whilst the video-assisted reflective discussions were not recorded as part of the data collection process, it would seem from students' comments in focus group interviews that teacher mentor feedback was of higher quality than the feedback provided by peer reviewers, something which is to be expected (Lawrence, 2019). In order to make peer review more effective, there is a need to enhance students' observation and feedback skills so that they utilise suggestive feedback more regularly as it is clear that the majority of students who chose to reflect on these feedback segments were able to reflect more deeply on their practice, a view supported by Van Der Schaaf et al (2013). Therefore, more time needs to be devoted to developing students' observation skills and feedback skills.

Whilst the purpose of the online discussion forum was to have students reflect and collaborate with each other, the weekly reflections were composed via individual reflection. This approach was the least effective in improving students' reflective skills. Conducting individualised reflection is a difficult process and these PGCE PE students benefitted when they collaborated and reflected with others (Finlay, 2008). To reflect deeply on practice requires being able to draw on experience and it is clear that these PGCE PE students were reflecting on limited experience which often results in reflections that are shallow (Boud & Walker, 1998; El Dib, 2007; Poom-Valickis and Mathews, 2013). These students did not utilise the online forum in a way that helped them to reflect more deeply

on their practice. Having been asked to read and respond to each other's reflections in the hope that the discussion would stimulate dialogue and deeper reflection, the students reached the point very early in both school placements where they posted their reflection and did not engage with any other students' work. The time-consuming nature of this work appears to have prevented the students from fully utilising this forum and therefore they opted to engage with peers via their subject WhatsApp group. The students' preference for the WhatsApp group chat is significant and is addressed below in the conclusions to research question 4.

Providing the opportunity for students to utilise different media for recording their reflections helped make the process easier for some students and thus increased their motivation to engage with the reflective work. Therefore, whilst the mode of recording did not increase the quality of their reflections, providing them with the opportunity to explore different recording modes allowed them to select a mode that they preferred. Finlay (2008) sees experimentation with different modes of reflection to be important for students in that they 'can learn what is appropriate for different contexts and what works best for them in what types of situations' (p.17). If these students continue to utilise their preferred modes of recording, then it is likely to help them maintain the motivation to continue reflecting on their practice. Providing students with different options is supported by Shoffner (2008) who insists that students must not be forced into particular ways of engaging with reflective practice.

6.3 Research question 3

Does increased subject knowledge allow pre-service PE teachers to produce higher quality reflections?

The research indicates that increased subject knowledge allows certain individuals to reflect more deeply on their practice, whilst for others, it did not have any impact. Some students were able to utilise their expert knowledge more effectively by identifying issues that require improvement and with a focus on pupil learning, which supports the work of Schempp et al (1998) who found that greater subject knowledge made it easier for teachers to identify problems in pupils' learning. This deeper insight into their practice has helped some of them reflect more deeply on their lessons.

The increased subject knowledge definitely helps students feel more confident (Sidentop, 2002) when teaching their respective areas of expertise, with the majority of students emphasising their prior experience in teaching or coaching this area. On occasions where this increased knowledge did not appear to positively impact the students' reflective work, the individual students may have taken their knowledge in this area for granted and thus never considered that what they did could be improved (Capel and Katene, 2000). Therefore, it may be that these students are capable of reflecting more deeply on their area of expertise but because they consider themselves to be expert in this area, they may approach such reflections with minimal effort, meaning that the reflective output is not a true measure of their ability to reflect on an area of expertise. It could also be the case that their increased subject knowledge was not sufficient

to elicit deeper reflections and that what prevented these students from reflecting more deeply on their practice was a lack of pedagogical content knowledge. Zwozdiak-Myers (2012, p.75) makes the distinction, stating that 'Pedagogical content knowledge goes beyond knowledge of the subject matter... and requires an understanding of the subject matter knowledge for teaching, which encompasses the most useful and powerful ways of representing and formulating the subject so that it can be understood by others'. Therefore, those students who were able to reflect more deeply on their area of expertise may have possessed a higher level of pedagogical content knowledge.

It is clear that some students benefitted from their peers' increased subject knowledge when they themselves were experiencing difficulty teaching an area of non-expertise. When teaching areas of non-expertise, often students sought advice on how best to teach the particular area in question and in most instances the student merely took on board what their peer suggested without question and used the information to shape their next lesson or series of lessons. It is not surprising that they did not question the advice they received since their limited knowledge meant that they were 'unable to make informed choices about how to teach' (Graber, 1995, p.164) the particular area in question. Using information from their expert peer reviewer to help shape future lessons does show that increased subject knowledge and perhaps more importantly, pedagogical content knowledge (Shulman, 1987; Graber, 1995) can not only positively impact the expert to reflect more effectively, but it also has the potential to make those who are not experts in the particular area to consider their own approaches to teaching and learning. Again, this highlights the benefits of collaborating, particularly with

someone who is more knowledgeable and experienced (Hobson & Maldarez, 2013) and fulfils the collaborative elements of both ELT and CST.

Reflection-in-action occurred more frequently when students were teaching areas of expertise than when teaching areas of non-expertise. It would seem that the increased subject knowledge allowed the students to recognise when teaching and learning activities were not working. Having the ability to adapt teaching approaches during a lesson displays a deep understanding of practice where students on these occasions were able to progress or regress activities almost instantly (Parra et al, 2015), something they were less able to do when teaching areas of non-expertise. These findings differ from the findings in Zhu's (2011) study, where, apart from one pre-service PE teacher, the remaining eleven did not reflect-in-action and when interviewed, displayed limited understanding of the concept. There is, however, difficulty in measuring the depth of such reflective thoughts since the reflector makes decisions quickly in an almost habitual fashion. It is, therefore, possible that for some students the reflection-in-action thoughts were of a deep nature but because these were thoughts that may not have been recorded post-lesson, it is difficult to state how effectively these students reflected-in-action. Therefore, whilst they may have used their increased subject knowledge to reflect-in-action, it is possible that the decisions they made based on their reflections were not the best course of action to take. It cannot be stated for certain that using increased subject knowledge to reflect-in-action allows students to reflect more effectively, but rather that the students use this expertise during practice in an intuitive way (Gould, 1996), whereby they use their expert knowledge during the lesson to make sense of what is unfolding in order

to make immediate and future decisions about their practice (Thompson & Pascal, 2012).

6.4 Research question 4

How do pre-service PE teachers make use of their weekly reflections?

The extent to which these pre-service students made use of their weekly reflections varied across the cohort. The majority (9) appear to use the weekly reflections to inform future lesson planning, showing that they are returning to their reflections with a view to implementing proposed changes. The remaining (2) students did not appear to use the weekly reflections to inform future planning or teaching, indicating that they did not value the link between these reflections and future practice. From the lesson observations it was clear that seven students were seen to be putting their reflections into practice in terms of the lesson focus and indeed approaches to teaching and learning. Therefore, some individuals used their weekly reflections to inform future lesson plans but upon observation of the lesson, it was clear that these plans were not being implemented. It would seem, therefore, that for some individuals, making use of weekly reflections to influence future lesson design was seen as a course requirement (Hobbs, 2007) and that due to a lack of sincerity in using their reflections (Finlay, 2008) they did not place sufficient value on these when it came to teaching the subsequent lesson(s). The two students who failed to make any use of their weekly reflections devalued reflective practice (Hobbs, 2007), thus displaying a 'lack of desire for enquiry' (Galea, 2012, p.247).

The majority of students placed more value on the daily lesson plan annotations with many viewing these as more useful than the weekly reflections in helping to inform future lesson planning and subsequent teaching practices. By placing more value on the lesson annotations, students gravitated towards descriptive information to help improve their future practice, thus perhaps indicating that this lower level descriptive work is what they need or indeed find useful at this stage in their careers (Welsch & Devlin, 2007). However, using low-level descriptive information which is at pre-reflective or surface level is likely to have no meaningful impact on future thinking or practice (Woodward, 1998; Akbari, 2007; Mason and Klein, 2013).

The preference for using their WhatsApp group chat as the platform for seeking advice rather than their weekly reflection discussion forum adds weight to the point above whereby the students found basic advice and tips for practice to be of more benefit than discussing their online reflections with peers. The WhatsApp group seems to have involved conversations which mainly related to classroom management, organisational issues and to a lesser extent information pertaining to particular areas of subject expertise, conversations that were 'unscripted, individually determined...affective' (Shoffner, 2008, p.128). These conversations also served as a source of moral and emotional support for students whereby they received immediate and informal advice which they seem to have valued during their school experience, thus indicating their awareness of the emotional impact of teaching (Liston & Garrison, 2004). The students did note the benefits of reading each other's weekly reflections via the online discussion forum, particularly when reading the reflection from a peer who focused on a specific area of the curriculum which the reader found difficult to teach. However, when

you consider that they preferred to use their lesson annotations and WhatsApp group discussion over the weekly online discussion forum, these students made minimal use of their weekly reflections, opting to use more basic forms of evaluative practice and informal discussions about their teaching.

6.5 Research question 5

In what ways do pre-service PE teachers use reflective practice during their first year as a qualified teacher?

All five induction teachers used reflection to some extent during their first year of professional practice. The main mode of recording reflections during this year was through written notes which were recorded immediately after taught lessons, whilst one teacher used audio-recorded reflections, again highlighting that individual preference is important to teachers (Finlay, 2008; Pellegrino and Gerber, 2012). Each teacher saw their reflections as a means of identifying areas for improvement that they could then address in the next lesson. Similar to how they viewed using reflections during PGCE, they consistently emphasised the importance of reflection helping to identify 'small things' and 'tips' for practice. It would appear that during their first year of teaching, these teachers felt that they had very little time to reflect (Quinn, 2000) thus justifying the brief nature of their reflective work.

The use of day-to-day conversations with colleagues was the most frequently used approach to reflection. The one teacher (I) who did not utilise this approach recognised the benefits of daily discussions about practice but due to the internal organisational and timetabling arrangements within his department, he had

limited opportunity to engage in such practice. These teachers value daily discussions about practice where they recognise the need for receiving advice and guidance, demonstrating the importance of collaborating and professional dialogue (Choy & Oo, 2012), a key feature of both ELT and CST. Their views on the benefits of discussing practice with peers or colleagues has not only been maintained but strengthened since PGCE study. It is clear that these teachers did not utilise reflective practice in the same way in which they did during PGCE study but that they value reflection and have continued to reflect, albeit in a less formal way to suit full-time teaching. These findings do not support the views of Olson and Finson (2009) who note that pre-service teachers struggle to reflect beyond ITE.

All teachers claimed that they found it easier to reflect during induction year compared with PGCE study. It is obvious that all five teachers felt more confident about their practice, perhaps showing that the greater accumulated experience was allowing them to reflect more easily. It would appear that all five teachers were reflecting in-action more frequently than what they did during PGCE, thus highlighting their improved ability to reflect during lessons, which would demonstrate that they have developed a deeper insight into their practice (Ross, 1989). These findings do not align with the views of Schon (1983) who claimed that novice teachers do not possess the level of experience that would permit reflection-in-action. As noted above, it is difficult to ascertain how deep these reflective in-action thoughts were, although it is clear that when discussing such instances as teachers, there was more of a focus on improving pupil learning compared to their thoughts at the end of the PGCE which did not have the same reference to pupil learning.

The way in which these teachers used reflective practice during their first year, highlights aspects that require further consideration. The brief nature of their written reflective work shows that they do not have the time to complete detailed reflective accounts but the high level of reflective work completed during PGCE provided them with solid foundations upon which they were able to begin reflecting much more succinctly during their induction year. It is possible that without such heavy investment in PGCE, these teachers may not have been able to reflect as effectively, reinforcing the point that 'reflection must be a main topic for teacher education' (Mortari, 2012, p.526). The high value they place on daily conversations about their practice and the practice of their colleagues shows that the use of peer review and video-assisted reflection are appropriate approaches to adopt during PGCE study and would indicate that there should be more of an emphasis on such collaborative approaches, a view supported by Finlay (2008).

Having taught for just one full year, these teachers are still inexperienced and whilst they appear to have more of a focus on teaching and learning, they still have a strong focus on discovering ways to manage their classes and organise their teaching environment. Such levels of reflection are still to be expected (Larrivee, 2008) but without proper support for teachers during their induction year and indeed beyond, these teachers will not have the opportunity to fulfil their reflective capabilities. Unfortunately, it would seem that schools do not have a focus on reflective practice and they appear to be failing to utilise the induction process to its full potential, thus depriving beginning teachers of the opportunity to develop their reflective skills. Therefore, there is a disconnect between University practice and the reality of school practice (Mauri et al, 2019). The Northern Ireland Education Authority (EA) must address the area of induction for

newly qualified teachers as a matter of urgency because it would appear that its current format is ineffective. Schools have a responsibility to nurture the reflective capabilities of induction teachers (GTCNI, 2011; DENI, 2016) but the apparent apathy towards this process could be stemming from what they see as a lack of structure, guidance and coherence from the EA.

The next section outlines the limitations of this study.

6.6 Limitations

As noted in the introduction and methodology chapters, the small sample number means that the conclusions cannot extend beyond the current study. However, the sample was the entire population of post primary PGCE PE students in Northern Ireland, thus meaning that the researcher recruited all available suitable participants. The sample of six for the video-assisted reflections and the sample of five for the end of year induction year focus groups is a limitation. Had the others been able to engage with video-assisted reflection, the results may have differed, which is also the case for the findings that emerged from the end of induction year focus groups, since more participants would affect the data.

The researcher's dual role as PGCE PE tutor and researcher may have impacted the results in that the students perhaps engaged with the various aspects of data collection with a view to addressing the areas that they thought the researcher would have wanted them to address. Even though the course had concluded when the focus group interviews were conducted, it is still possible that they were not entirely honest with their views. Therefore, it is possible that these

shortcomings affected the results. The next section outlines the recommendations from this study.

6.6.1 Recommendations

Having investigated and concluded in response to the five key research questions, this section will outline the recommendations that will have implications for future practice, future research and future policy in this area.

Future practice in PGCE course

The study has highlighted that low levels of motivation towards reflective practice can inhibit student progress. It is, therefore, important that the concept of reflective practice is introduced to students in a way that enables them to see its value so that positive initial impressions of the concept can be formed. The conclusions on research question one show that no students reflected at a critical level, indicating that these pre-service PE teachers were not able to examine their underlying values, beliefs and assumptions. Therefore, following careful presentation of the concept, there will be the need for students to spend time analysing their underlying values, beliefs and assumptions, so that they begin to develop an awareness of these prior to reflecting on their practice. Whilst none of these students were able to reflect to a level that encapsulated all components of CST, those who produced either pedagogical reflections or pedagogical segments were incorporating elements of CST, such as using communication and dialogue through peer review and video-assisted reflection. The researcher realises that the two workshops dedicated to this area during semester two could have been better. Future practice in this area will require more time to be spent

on specific workshops that allow students to progress at their own rate. The researcher is also more confident in his ability to devise appropriate workshop material that will provide students with a quality learning experience.

As a result of the conclusions in relation to research question two, video-assisted reflection and peer review will be utilised more frequently during school placement. Using these collaborative approaches will provide students with a better opportunity to move beyond low-level reflection. These approaches involve the use of dialogue where reflections are socially structured as well as providing opportunities for students to become aware of power relations, thus incorporating key elements of CST.

As noted in the conclusions to research question two, each student had a preferred mode of recording their reflections which positively influenced the motivation levels of some students. Therefore, written and audio recording approaches will be introduced from the beginning of the course in order to give students the opportunity to choose the approach that suits them best. Conclusions on research question five show that these students adapted their reflective practice to suit full-time teaching, with brief written notes after each lesson being the main way of capturing their reflective thoughts. Therefore, there will be a focus on developing students' ability to write more succinctly so that reflective practice during PGCE study prepares pre-service PE teachers more appropriately for their practice as in-service teachers.

Based on the conclusions relating to research questions two and five, where the benefits of collaborating and reflecting with teacher mentors was highlighted, the

researcher intends to establish a mentor working group. The focus of this group will be on supporting mentors as to how best to develop the reflective skills of pre-service PE teachers and induction PE teachers. As noted in the conclusion to research question two, developing an observer's feedback skills can positively impact the reflective process, therefore, this will be a key focus of the work with PE teacher mentors. The researcher will also utilise the PE Reflective Wheel with future cohorts, but this is discussed in more detail on p.366. The next sub-section outlines the recommendations for future research in this area.

Recommendations for future research

The findings and subsequent discussions and conclusions have highlighted areas that are worthy of further investigation. The conclusions on research question two show that some students benefitted from the peer review process and others did not. In order to gain further insight into the effectiveness of this approach, the researcher intends to investigate its use with a larger sample of students from across all eight post-primary PGCE subjects at Ulster University, permitting a comparison across all subjects. Considering that video-assisted reflection had such a positive impact on the students' reflections, the researcher also intends to conduct further research in this area. This will involve a larger sample from across all eight post-primary PGCE subjects at Ulster University, permitting the comparison of its impact across each subject.

Conclusions in relation to research questions three and five show that some students were reflecting in-action but that these thoughts were not explicitly captured. The researcher is keen to investigate these moments of reflection-in-

action by having students record what they were thinking during these instances. On most occasions they can record these thoughts immediately after the lesson but there may be times that these could be recorded during the lesson, perhaps by audio recording on their phone. Considering that the researcher has produced the only known specific reflective resource to support pre-service PE teachers' reflective skills, he is, therefore, keen to investigate the effectiveness of the PE Reflective Wheel. The researcher intends to research its use with future PGCE PE cohorts.

In response to the conclusions on research question 5, where the teachers highlighted the induction process as failing to support their reflective development, the researcher is keen to conduct further research in this area with a larger sample of induction teachers from across a wider range of subjects. The next sub-section addresses recommendations for policy makers.

Recommendations for DENI, EA and GTCNI

The conclusions on research question five highlight that there needs to be a focus on improving the link between University based reflective practice and reflective practice in schools. As noted above, the researcher is aiming to create approaches to reflective practice that will align more closely with how induction teachers are likely to use reflection and the establishment of the mentor working group should help create greater consistency in approach.

From the conclusions on research question five, schools continue to pay lip service to the induction process, failing to engage induction teachers in any form of meaningful reflective practice. Therefore, if schools are to stay true to the

principles outlined by GTCNI (2011) and DENI (2016), a strategic support network must be in place in each school in order to develop teachers' reflective skills, a network devised by EA. Prior to the establishment of such support networks in schools, is the need for all stakeholders to re-examine the concept of reflective practice. Central to this re-examination is a focus on the terminology used to describe the concept, where the differences between reflection and critical reflection are explored. The process must also make use of current research that highlights the low-levels of reflective practice that are often exhibited during ITE and that induction teachers cannot be expected to make gains in this area if they are not effectively supported in schools. This would allow for an increased understanding of the area and an acceptance of the reality that pre-service teachers and induction teachers find reflective practice difficult. All stakeholders would also become aware of the different reflective stages that a pre-service teacher and induction teacher are likely to go through, thus emphasising the individualised nature of the process. If a re-examination of the concept does not take place, then pre-service teachers will continue to operate in a system where the reality of their reflective practice is far removed from the idealistic policies that are used to promote the concept. It is, therefore, time for the rhetoric to be translated to reality.

A key component of this support network in schools should be the condition that all induction teachers must stay connected to a Higher Education Institution (HEI) mentor who has responsibility for supporting and guiding them in the area of reflective practice during their induction and years 1 and 2 of EPD (DENI, 2016). The mentor must also liaise with the teacher's internal school mentor so that a

consistency of approach can be established and maintained. The next subsection revisits the PE Reflective Wheel.

Contribution to knowledge - The PE Reflective Wheel

The creation of the PE Reflective Wheel is a significant outcome from this study. Up until now, pre-service PE teachers at Ulster University and across the UK have been using generic reflective frameworks and support guides. As identified in the review of literature and the conclusions to research question three, PE is a unique subject that requires teachers to teach a broad range of specialist areas. Therefore, future cohorts of pre-service PE teachers at Ulster University will be utilising a subject specific support framework, the first of its kind in PETE. The researcher sees the PE Reflective Wheel as having much potential and he will endeavour to research its effectiveness with future PE cohorts, which will undoubtedly create opportunities for improving this resource both in terms of its content and use by other teacher educators in the field.

Personal and professional value of the study

Conducting this research has provided many benefits for the researcher. From a personal perspective, it has allowed me to investigate an area that caused much frustration during my years as a pre-service PE teacher, a practising PE teacher and a PE teacher educator. Therefore, the outcome of this research has allowed me to develop a greater understanding of this area, helping to shine a light on why my experiences of reflective practice prior to this study were unrewarding. The study has also taught me that I am much more resilient and dedicated than I thought I ever could be. I have also come to realise that I am always open to

advice and feedback from supervisors but as the study progressed, I became more confident in my ability to make decisions as to whether certain suggestions should be acted upon or not.

From a professional perspective, completing this research has produced many benefits. Firstly, it has increased my depth of knowledge of reflective practice theory and how this theory can be applied through the utilisation of various reflective approaches. As a result, my critical understanding of reflective practice literature is of a high level, allowing me to effectively lead students' development in this area. My knowledge and understanding of AR has also improved whereby I now appreciate the complexities of this approach and how 'messy' it can be. My ability to conduct focus group interviews has improved along with a better understanding of how to effectively analyse the emerging data. My writing and editing skills have also improved. Therefore, I feel prepared to conduct future research. The final professional benefit is the production of the PE Reflective Wheel as I believe this will improve my delivery of reflective practice and consequently provide all future pre-service PE teachers with specific and effective support in this area.

Appendix 1 - Larrivee's (2004) 4 levels of reflection

Level 1. Pre-reflection

At this level the teacher interprets classroom situations without thoughtful connection to other events or circumstances. The teacher's orientation is reactive, believing that situational contingencies are beyond the teacher's control. Beliefs and positions about teaching practices are generalized and not supported with evidence from experience, theory, or research. The teacher's perspective is undifferentiated and general regarding the needs of learners.

Level 2. Surface reflection

At this level the teacher's examination of teaching methods is confined to tactical issues concerning how best to achieve predefined objectives and standards. Beliefs and positions about teaching practices are supported with evidence from experience, not theory or research. The teacher's view of learners is somewhat differentiated, acknowledging the need to accommodate learner differences.

Level 3. Pedagogical reflection

At this level the teacher is constantly thinking about how teaching practices are affecting students' learning and how to enhance learning experiences. The teacher's goal is continuously improving practice and reaching all students. Reflection is guided by a pedagogical conceptual framework. Beliefs and positions about teaching are specific and supported by evidence from experience, as well as being grounded in theory or research. The teacher's view of teaching and learning is multidimensional, connecting events within a broader framework.

Level 4. Critical reflection

At this level the teacher is engaged in ongoing reflection and critical inquiry concerning teaching actions as well as thinking processes. The teacher holds up both philosophical ideologies and teaching practices for continuous examination and verification. The teacher consciously considers how personal beliefs and values, assumptions, family imprinting, and cultural conditioning may impact on students. The critically reflective

teacher is concerned with promoting democratic ideals and weighs the ethical and social implications of classroom practices.

Specific Level criteria on next 2 pages.

Larrivee's Level Descriptors

Level 1. Pre-reflection

Operates in survival mode, reacting automatically without consideration of alternative responses

Views student and classroom circumstances as beyond the teacher's control

Dismisses students' perspectives without due consideration

Is willing to take things for granted without questioning

Attributes ownership of problems to students or others

Fails to recognise the interdependence between teacher and student actions

Enforces preset standards of operation without adapting or restructuring based on students' responses

Fails to consider differing needs of learners

Does not thoughtfully connect teaching actions with student learning or behavior

Sees oneself as a victim of circumstances

Does not support beliefs and assertions with evidence from experience, theory or research

Is preoccupied with management, control and student compliance

Describes problems simplistically or unidimensionally

Does not see beyond immediate demands of a teaching episode

Focuses on isolated facts, events, or data without broader understanding

Defends rather than analyses teaching practices

Responds to conflicts with power assertions rather than engaging in problem-solving

Justifies teaching methods without exploring alternatives

Responds to classroom situations without connecting them to other events

Applies predetermined text templates for assessing information

Makes decisions based on immediate circumstances failing to anticipate for the future

Uses self-confirming reasoning rather than considering alternative plausible explanations

Level 2. Surface reflection

Reacts to student responses differentially but fails to recognise patterns

Limits analysis of teaching practices to technical questions about teaching techniques

Modifies teaching strategies without challenging underlying assumptions about teaching and learning

Adjusts teaching practices only to current situation without developing a long-term plan

Supports beliefs only with evidence from experience

Provides limited accommodations for students' different learning styles

Questions the utility of specific teaching practices but not general policies or practices

Implements solutions to problems that focus only on short-term results

Makes adjustments based on past experience

Fails to connect specific methods to underlying theory

Provides some differentiated instruction to address students' individual differences

Level 3. Pedagogical reflection

Seeks ways to connect new concepts to students' prior knowledge

Analyses the impact of task structures, such as cooperative learning groups, partner, peer or other groupings, on students' learning

Analyses relationship between teaching practices and student learning

Acknowledges what student brings to the learning process

Has commitment to continuous learning and improved practice

Has genuine curiosity about the effectiveness of teaching practices, leading to experimentation and risk taking

Recognises the complexity of classroom dynamics

Searches for patterns, relationships and connections to deepen understanding

Identifies alternative ways of representing ideas and concepts to students

Strives to enhance learning for all students

Engages in constructive criticism of one's own teaching

Considers students' perspectives in decision making

Adjusts methods and strategies based on students' relative performance

Sees teaching practices as remaining open to further investigation

Acknowledges gap between what is being accomplished and what needs to be accomplished

Accepts responsibility for one's professional practice and learning outcomes

Level 4. Critical reflection

Challenges status quo norms and practices, especially with respect to power and control

Views practice within the broader sociological, cultural, historical, and political contexts

Addresses issues of equity and social justice that arise in and outside of the classroom

Considers the ethical ramifications of classroom policies and practices

Acknowledges the social and political consequences of one's teaching

Acknowledges that teaching practices and policies can either contribute to, or hinder, the realization of a more just and humane society

Observes self in the process of thinking

Is aware of incongruence between beliefs and actions and takes action to rectify

Challenges assumptions about students and expectations for students

Encourages socially responsible actions in their students

Recognises assumptions and premises underlying beliefs

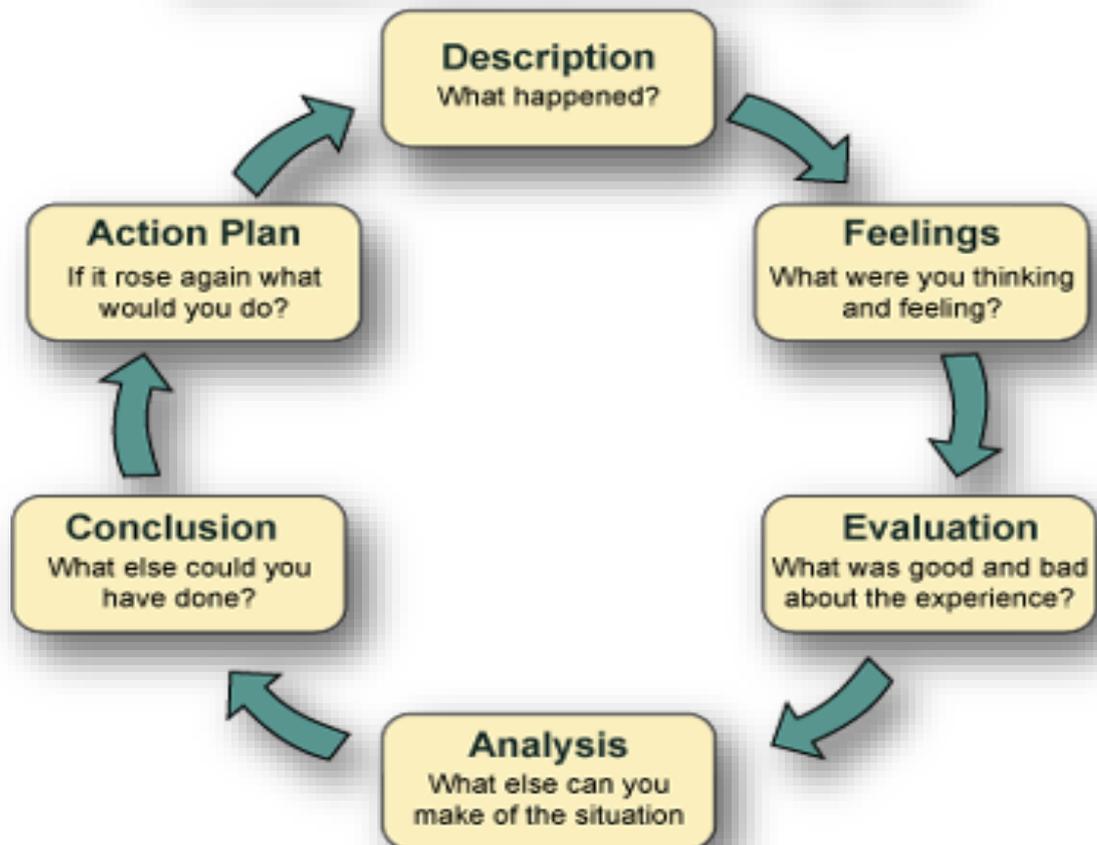
Is an active inquirer, both critiquing current conclusions and generating new hypotheses

Calls commonly-held beliefs into question

Suspends judgments to consider all options

Appendix 2 - Gibbs' (1988) Reflective Framework

Gibbs Reflective Cycle



Appendix 3 - Ethical documentation

UNIVERSITY OF ULSTER RESEARCH GOVERNANCE

RG2 PEER REVIEW REPORT FORM

Project Title

An exploratory study of the use of various reflective practice approaches to develop PE student teachers' critical reflective skills.

Chief Investigator

Student's name is Dr. Barbara Skinner (Paul McFlynn)

On the basis of the assessment below, this application:

- should proceed to the appropriate School/Faculty Research Governance Filter Committee
- should be amended by the applicant as indicated in the comments and then proceed to the appropriate School/Faculty Research Governance Filter Committee for further consideration
- requires substantial changes and should be revised and returned for further review
- is not viable in its current form and should be withdrawn by the applicant

Peer Review conducted by (please print)	Signature	Date
1 JACKIE LAMBE	Jackie Lambe 	19/1/18
2. Dr Stanley Black	S Black	19.1.18

Please answer the following questions

1. Please state your area of expertise in relation to reviewing this application (i.e. the subject, the methodology, or both).

Experienced masters and PhD supervisor with considerable teaching and publishing experience in the area of study (Reflective Practice)

2. How does the proposed research make a contribution to the knowledge base? Is it otherwise justified for educational or training purposes?

This is an interesting, topical and indeed important area of study for education generally. It is particularly interesting in the area of Physical Education where it has the potential to add important new knowledge to the subject area.

3. How does the application demonstrate appropriate understanding of the background and key issues on the part of the applicant(s)?

The applicant shows much understanding and practitioner experience of the area to be studied. As a highly experienced teacher in post primary education and beyond the ethics submission shows clearly that the applicant has already a high-level of understand of the area and has the research skills and attributes to complete the study successfully. The proposal itself shows a level of

understanding about the issues and is supported by extensive references to research and policy.

4. Please comment on the applicant's record of research in the area or if the study is otherwise justified as a research/scientific training exercise?

See above. The applicant shows in the documents he has the academic capabilities and significant practitioner experience and skills to complete the study successfully.

5. Please comment on the clarity of the aims and objectives/research questions?

This is a tightly written and well-articulated submission. Research aim is well-articulated as are the defined research aims.

6. Please comment on the adequacy and appropriateness of the methodology.

Methodology has been well considered and presented here. Much thought has been given to how the methodology will link to each research question. The applicant shows clearly he understands the complexities of the research methods chosen and has provided considerable references to appropriate literature and research available. The methodology is well defined in this submission and is sensitive to the age and position of the research participants.

7. Please comment on the project planning.

Well considered and feasible. The research plan is clearly articulated in this submission.

8. Is the envisaged outcome likely to be achieved?

Yes

9. Have the likely risks and ethical issues been identified and addressed?

yes

The application and both pages of this form should now be returned to the Chief Investigator

UNIVERSITY OF ULSTER RESEARCH GOVERNANCE

RG3 Filter Committee Report Form

Project Title	An exploratory study of the use of various reflective practice approaches to develop PE student teachers' critical reflective skills.
Chief Investigator	Dr Barbara Skinner for Paul McFlynn
Filter Committee	Dr Jackie Lambe and Dr S Black

This form should be completed by Filter Committees for all research project applications in categories A to D (*for categories A, B, and D the University's own application form – RG1a and RG1b – will have been submitted; for category C, the national, or ORECNI, application form will have been submitted).

Where substantial changes are required the Filter Committee should return an application to the Chief Investigator for clarification/amendment; the Filter Committee can reject an application if it is thought to be unethical, inappropriate, incomplete or not valid/viable.

Only when satisfied that its requirements have been met in full and any amendments are complete, the Filter Committee should make one of the following recommendations:

The research proposal is complete, of an appropriate standard and is in

- category A and the study may proceed*
- category B and the study must be submitted to the University's Research Ethics

Committee** Please indicate briefly the reason(s) for this categorisation

- category C and the study must be submitted to ORECNI along with the necessary supporting materials from the Research Governance Section***

category D and the study must be submitted to the University's Research Ethics

Committee**

Signed:	Dr Stanley Black	Date: 19.1.18
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***The application form and this assessment should now be returned to the Chief Investigator. The Filter Committee should retain a copy of the complete set of forms.**

**** The application form and this assessment should now be returned to the Chief Investigator so that he/she can submit the application to the UUREC via the Research Governance section. The Filter Committee should retain a copy of the complete set of forms for their own records.**

***** The application form and this assessment should now be returned to the Chief Investigator so that he/she can prepare for application to a NRES/ORECNI committee. The Filter Committee should retain a copy of the complete set of forms for their own records.**

For all categories, details of the application and review outcome should be minuted using the agreed format and forwarded to the Research Governance section

Please complete the following

The application should be accompanied by an appropriate and favourable Peer Review Report Form (if not, the Filter Committee should be prepared to address this as part of its review). Please comment on the peer review (include whether or not there is evidence that the comments of the peer reviewers have been addressed).

The peer review was judged favourable

Please provide an assessment of all component parts of the application, including questionnaires, interview schedules or outline areas for group discussion/unstructured interviews.

All component parts of the application were judged satisfactory.

Please comment on the consent form and information sheet, in particular the level of language and accessibility.

The consent forms and information sheets are satisfactory

Please comment on the qualifications of the Chief and other Investigators.

The Chief investigator shows in the documents he has the academic capabilities and significant practitioner experience and skills to complete the study successfully. Supervisors are extremely experienced.

Please comment on the risks present in conducting the study and whether or not they have been addressed.

The risks are medium and have been assessed to be sufficiently addressed.

Please indicate whether or not the ethical issues have been identified and addressed.

There are no major ethical issues

Please comment on whether or not the subjects are appropriate to the study and the inclusion/exclusion criteria have been identified and listed

Yes, subjects are appropriate



Student information sheet

Dear PGCE student,

As part of my ongoing PhD research surrounding Reflective Practice, I wish to use all data relating to your daily lesson plan annotations/reflections, online weekly reflections and lesson observations. The purpose of this is to analyse your approach to reflection and how it impacted your future planning and teaching. The analysis process will be conducted in such a way where individuals will not be identified.

You do not have to take part in this research and should you decide not to participate, please be assured that you will not be penalized in any way. If you decide to take part you must also know that you are free to change your mind and withdraw at any time.

If you have any further questions or queries about this research please call Paul McFlynn at 02870124615 or email Paul McFlynn at p.mcflynn@ulster.ac.uk

If you wish to make a complaint at any stage you can contact Dr Barbara Skinner on 02870124662 or email Dr Barbara Skinner at b.skinner@ulster.ac.uk. Should you make a complaint you will receive an appropriate response within 5 working days of receipt of complaint. If you believe the complaint to be particularly serious and do not feel comfortable raising this with Dr Skinner then you can contact Professor Linda Clarke (Director of Research for School of Education) on 02870124254 or email Professor Linda Clarke at lm.clarke@ulster.ac.uk. Professor Clarke will issue you with a CR1 form which you then complete, detailing the nature of your complaint and of any attempts made to resolve the issue informally. Should you make a complaint to Professor Clarke you will receive an appropriate response within 10 working days of receipt of the CR1 form outlining what action has been taken or is proposed to resolve your complaint. With your permission the complaint will also be reported to the University's Research Governance section.

Yours sincerely,

Paul McFlynn



Student Focus Group Consent

delete below as appropriate

I am **willing/not willing** to take part in the focus group interview described on the information sheet.

I understand that the interview will be audio recorded and transcribed for analysis purposes.

I understand that I will be given access to the transcription should I request this information.

(student signature)

(date)



Parent Information Sheet

Project title: The use of video recorded PE lessons to help develop students' critical reflective skills.

Dear parent/guardian,

I am currently conducting research with my PE student teachers around the concept of Reflective practice which will help them to think more deeply about their teaching and pupil learning. One aspect we wish to investigate is the use of video to record PE lessons as video is regularly used by PE teachers so they can replay the lesson and identify areas for improvement.

Your child is currently taught by our PE student and the student has identified your child's class as the group he/she wishes to teach whilst being videoed. Only one lesson will be videoed and the PE teacher will take on the role of recording the lesson. Your child will not be expected to do anything different, he/she will just be asked to participate as normal in the PE lesson. The majority of the video will focus on the PE student but we will need to capture pupil participation so that we can assess the quality of pupil learning. The videoed lesson will only be viewed by 3 people: the PE student, the PE teacher and myself. Once the video has been observed and analysed the recording will be permanently deleted. Any written work connected to this video will not use pupils' names, ensuring that pupils cannot be identified.

Participation in this study is voluntary. Your child has the right not to take part or leave the study at any time. If your child decides to withdraw from the study he/she must inform his/her PE teacher. Should you wish your child not to take part in the PE lesson they will observe the lesson from a position behind the camera, thus ensuring they will not be captured on video. They will complete non-participant activities which is normal practice when any pupil cannot take part in PE lessons. These activities will engage your child in appropriate learning activities connected to the content of the lesson.

If you have any further questions or queries about this research please call Paul McFlynn on 02870124615 or email Paul McFlynn at p.mcflynn@ulster.ac.uk

If you wish to make a complaint at any stage you can contact Dr Barbara Skinner on 02870124662 or email Dr Barbara Skinner at b.skinner@ulster.ac.uk. Should you make a complaint you will receive an appropriate response within 5 working days of receipt of complaint. If you believe the complaint to be particularly serious and do not feel comfortable raising this with Dr Skinner then you can contact Professor Linda Clarke (Director of Research for School of Education) on 02870124254 or email Professor Linda Clarke at lm.clarke@ulster.ac.uk. Professor Clarke will issue you with a CR1 form which you then complete,

detailing the nature of your complaint and of any attempts made to resolve the issue informally. Should you make a complaint to Professor Clarke you will receive an appropriate response within 10 working days of receipt of the CR1 form outlining what action has been taken or is proposed to resolve your complaint. With your permission the complaint will also be reported to the University's Research Governance section to be recorded.

Yours sincerely,

Paul McFlynn



Pupil Information sheet

Project title: The use of video recorded PE lessons to help develop students' critical reflective skills.

Investigator: Mr. Paul McFlynn

We are doing a research study with our PE students about how they can think better about their teaching and pupil learning. We want to use video to record the students' teaching so that they have the opportunity to replay the video and identify areas for improvement. In order to assess how well the teacher has taught we will need to see the pupils perform, so you and all your classmates will be on the video.

You do not have to do anything different as it will just be a normal PE lesson and you will therefore not come to any harm. Your performance is not being assessed. You do not have to take part in this study and if you do decide to take part you can withdraw at any time.

If you are happy to be videoed we want you to understand that the video will only be watched by the PE student, your PE teacher and me. Once we are finished watching the video, it will be permanently deleted from the school's recording device and the researcher's computer. As part of this study, I will write about the videoed lesson but your name will not be used. Your parents/guardians know about the study too.

If your parent or guardian has any questions about this research they can call Paul McFlynn on 02870124615 or email Paul McFlynn at p.mcflynn@ulster.ac.uk

If you wish to make a complaint at any stage your parent or guardian can contact Dr Barbara Skinner on 02870124662 or email Dr Barbara Skinner at b.skinner@ulster.ac.uk. Should your parent/guardian make a complaint on your behalf you will receive an appropriate response within 5 working days of receipt of complaint. If you believe the complaint to be particularly serious and do not feel comfortable raising this with Dr Skinner then your parent/guardian can contact Professor Linda Clarke (Director of Research for School of Education) on 02870124254 or email Professor Linda Clarke at lm.clarke@ulster.ac.uk. Professor Clarke will issue you with a CR1 form which you then complete, detailing the nature of your complaint and of any attempts made to resolve the issue informally. Should your parent/guardian make a complaint to Professor Clarke on your behalf, you will receive an appropriate response within 10 working days of receipt of the CR1 form outlining what action has been taken or is proposed to resolve your complaint. With your permission the complaint will also be reported to the University's Research Governance section.

Thank you for taking the time to read this information sheet.

Yours sincerely,

Paul McFlynn

Appendix 4 - Focus Group Schedules

End of PGCE June 2018

1. What are your general thoughts on the role of reflection in teaching and learning?
2. Did you find the annotation of daily lesson plans to be useful or not? If so, why and if not, why not?
3. How useful were the annotations in terms of helping to form your weekly reflections?
4. What are your views on the benefits or not of completing the weekly reflection?
5. How useful was Gibbs' framework in helping you structure your reflections?
6. What are your views on having engaged in the online discussion forum?
7. How useful was the peer review process for you? (**Question 1 and 2**)
8. How did the post lesson discussion impact your reflection on the peer reviewed lesson?
9. How useful was the video-assisted reflection exercise?
10. Of all the approaches we have taken to reflection, what approach would you choose to continue with and why? (**Question 1 and 2**)
11. Can you think of any occasions where your reflections resulted in improved pupil learning?
12. Did you find it easier to reflect on an area of the curriculum that was your strength or on an area that requires development? (**Question 3**)
13. How important will reflection be for you when you start teaching next year?
14. Anything to add before we finish up?

End of Induction year

1. What approaches to reflection did you use during your first year of teaching?
2. Did you find it easy to reflect this year?
3. Was reflective practice encouraged in your school, either at department or whole school level?
4. Did you see any evidence within the school of reflection influencing forward planning with changes to units of work etc?
5. Any focus on self-evaluation that may feed into reflection?
6. Any examples of when reflective practice positively or negatively impacted your teaching and pupil learning?
7. Were those changes just mental notes or planner notes?
8. Were you given any advice within school as to how you should approach your induction?
9. Did you all observe other staff teach?
10. How useful was it observing other staff, in terms of getting you to reflect on your practice?
11. What did you think of the feedback you received and how useful was it to reflect on?
12. Would you rather be observed by a PE specialist'?
13. Anything to add around your experience of reflection in schools?
14. Back to PGCE, be honest. How useful was the preparation during PGCE for helping you approach reflection during your first year as a qualified teacher?

15. Do you have any recommendations or suggestions for us as a course team as to how we might make our focus on reflective practice more effective?

16. Anything else to add folks?

Appendix 5 - Moderation of reflections

	School Experience 1		School Experience 2	
	First review	Moderation	First review	Moderation
Student A	Pre-reflective	Pre-reflective	Pre-reflective	Pre-reflective
Student B	Surface	Surface	Surface	Surface
Student C	Pre-reflective	Pre-reflective	Surface	Surface
Student D	Surface (agreed)	Pre-reflective	Pedagogical	Pedagogical
Student E	Surface	surface	Surface	Surface
Student F	Surface (agreed)	Pre-reflective	Surface	Surface
Student G	Pedagogical	Pedagogical	Pedagogical	Pedagogical
Student H	Surface	Surface	Pedagogical	Pedagogical
Student I	Pre-reflective	Pre-reflective	Surface	Surface
Student J	Pre-reflective	Pre-reflective	Pre-reflective	Pre-reflective
Student K	Pre-reflective (agreed)	Surface	Surface	Surface

Table above shows that the researcher and moderator agreed on 19/22 reflections. Those in red are where disagreements occurred. These three reflections were revisited using Larrivee's Framework and agreement reached.

Below are examples of how the researcher and moderator assessed the reflections using Larrivee's levels descriptors.

MP - McFlynn, Paul

Student D SE1 (Researcher's assessment)

Commented [MP1]: Overall level – surface.

Hockey Year 8LE
05/12/17

Description:

This reflection focuses on lesson four of hockey for year 8. The aim of this lesson was to explore the block tackle in hockey. When I have taught this class I had noted that they can be quite challenging at times. Previously the behaviour of the pupils unfortunately dictated the lesson, however last week there was a huge improvement. I was continuing with the stamp reward system this week where first three ready get a stamp in their homework diary. At the beginning of the lesson the learning intentions were outlined and pupils were questioned on the previous week. Behaviour management was also reinforced as to what was expected from pupils. The warm up consisted of a recap of dribbling. Unfortunately after last weeks progression, there was a regression in technique. I think it was possibly due to a week missed of PE for exam week. Pupils were forgetting how to hold the stick and the basic teaching points for dribbling and passing. With promoting we eventually progressed, it just took a lot longer to recap than anticipated. Each skill had to be broken down again before we could progress the lesson to blocking. The lesson was differentiated which helped with the flow of the class and it finished with small sided games. At the end of the lesson pupils were questioned on what they had learnt today and were introduced to next weeks topic.

Commented [MP2]: Description sections were not assessed as they only provide context.

Feelings:

Prior to the lesson I was prepared to teach this class. I was hoping to witness the progression from the previous week and pupils enjoy the lesson and that learning was taking place.

Evaluation: What was good and bad about the experience?

Good:

The lesson contained a good introduction to the lesson with the learning intentions outlined. The behaviour management strategy of stamp rewards again was very effective in the changing time. The warm up was a recap of dribbling and how to hold the stick. This was necessary at this stage pupils could (with prompting) verbally address the teaching points and after guidance demonstrate the correct technique. The lesson was effectively differentiated to ensure the lesson ran smoothly and efficiently. The skills were developed in isolation and then progressed. Individual, specific feedback was given to pupils. Blocking was introduced this week in groups of 4. As the lesson progressed learning and development of pupils was observed. The lesson finished with small sided conditioned games.

Commented [MP3]: Preoccupied with management and control.

Commented [MP4]: Link to previous learning, sees link between teaching and learning and some awareness of need to differentiate.

Commented [MP5]: Preoccupied with control

Commented [MP6]: No consideration of alternative approaches.

Commented [MP7]: Some focus on pupil learning

Commented [MP8]: No consideration of alternative approaches.

Areas to improve:

The main challenge of the lesson was the regression in technique. Recapping technique took a lot longer than was planned. More time was spent recalling

MP - McFlynn, Paul

how to hold the stick and dribbling/passing technique. Therefore less time was spent developing the blocking technique. I therefore am looking new ways to recall techniques and introduce new skills. This class is the bottom tier year 8, with every pupil in the SEN register, therefore some things may take longer than anticipated.

Commented [MP9]: Awareness to regress and not blame pupils – developing an insight into how pupils learn

Analysis: What can you make of the situation?

Upon reflection a video or visual demonstration for the recall of the teaching points would have been beneficial. The behaviour management was not an issue this week so it is encouraging to see the benefits of the rewards system. I hope to implement more strategies to enhance the recapping and teaching of new skills.

Commented [MP10]: Considering other options but short-term

Commented [MP11]: Focus on behaviour again.

Commented [MP12]: Prepared to adjust approaches but no focus on long-term development. Questions limited to teaching techniques.

Conclusion:

Overall the lesson was challenging but frustrating but it improved as the lesson continued. Majority of the pupils engaged however I am looking for some new strategies to engage those pupils who were not badly behaved but just had a lack of focus or interest. I adapted my lesson to what I observed as the needs of the pupils. The learning intentions that were outlined at the start of the lesson were met throughout the lesson. I set smaller targets for some pupils and ensured the lesson was differentiated. Whilst my demonstrations are getting better, I can still improve in this area.

Commented [MP13]: Simplistic – taken for granted.

Commented [MP14]: Need to improve but no theory link.

Action Plan:

If I was teaching this lesson again I would look to include more strategies to recap the teachings from the previous week. Maybe a video visual reminder first would help pupils recall teachings. This would ensure pupils were being suitably challenged and active throughout. Further, the use of positive behaviour rewards again was very effective.

Commented [MP15]: Using self-confirming reasoning.

Student D SE1 (Moderator's assessment)

Commented [MP16]: Pre-reflective

Hockey Year 8LE
05/12/17

Description:

This reflection focuses on lesson four of hockey for year 8. The aim of this lesson was to explore the block tackle in hockey. When I have taught this class I had noted that they can be quite challenging at times. Previously the behaviour of the pupils unfortunately dictated the lesson, however last week there was a huge improvement. I was continuing with the stamp reward system this week where first three ready get a stamp in their homework diary. At the beginning of the lesson the learning intentions were outlined and pupils were questioned on the previous week. Behaviour management was also reinforced as to what was expected from pupils. The warm up consisted of a recap of dribbling. Unfortunately after last weeks progression, there was a regression in technique. I think it was possibly due to a week missed of PE for exam week. Pupils were forgetting how to hold the stick and the basic teaching points for

TS - Taggart, Samuel

dribbling and passing. With promoting we eventually progressed, it just took a lot longer to recap than anticipated. Each skill had to be broken down again before we could progress the lesson to blocking. The lesson was differentiated which helped with the flow of the class and it finished with small sided games. At the end of the lesson pupils were questioned on what they had learnt today and were introduced to next weeks topic.

Feelings:

Prior to the lesson I was prepared to teach this class. I was hoping to witness the progression from the previous week and pupils enjoy the lesson and that learning was taking place.

Commented [TS17]: Failing to ID role of teacher in this 'progression'

Evaluation: What was good and bad about the experience?

Good:

The lesson contained a good introduction to the lesson with the learning intentions outlined. The behaviour management strategy of stamp rewards again was very effective in the changing time. The warm up was a recap of dribbling and how to hold the stick. This was necessary at this stage. All pupils could (with prompting) verbally address the teaching points and after guidance demonstrate the correct technique. The lesson was effectively differentiated to ensure the lesson ran smoothly and efficiently. The skills were developed in isolation and then progressed. Individual, specific feedback was given to pupils. Blocking was introduced this week in groups of 4. As the lesson progressed learning and development of pupils was observed. The lesson

Commented [TS18]: Focused on management

Commented [TS19]: Some consideration of accommodating different learners but no explanation given

Commented [TS20]: Largely descriptive

Areas to improve:

The main challenge of the lesson was the regression in technique. Recapping technique took a lot longer than was planned. More time was spent recalling how to hold the stick and dribbling/passing technique. Therefore less time was spent developing the blocking technique. I therefore am looking new ways to recall techniques and introduce new skill. This class is the bottom tier year 8, with every pupil in the SEN register, therefore some things may take longer than anticipated.

Commented [TS21]: Makes decisions based on immediate circumstances

Commented [TS22]: Questions utility of specific practices

Commented [TS23]: Somehow manages to consider SEN as a homogeneous issue

Analysis: What can you make of the situation?

Upon reflection a video or visual demonstration for the recall of the teaching points would have been beneficial. The behaviour management was not an issue this week so it is encouraging to see the benefits of the rewards system. I hope to implement more strategies to enhance the recapping and teaching of new skills.

Commented [TS24]: fails to connect specific new method with underlying theory

Conclusion:

Overall the lesson was challenging but frustrating but it improved as the lesson continued. Majority of the pupils engaged however I am looking for some new strategies to engage those pupils who were not badly behaved but just had a lack of focus or interest. I adapted my lesson to what I observed as the needs of the pupils. The learning intentions that were outlined at the start of the lesson were met throughout the lesson. I set smaller targets for some pupils and ensured the lesson was differentiated. Whilst my demonstrations are getting better, I can still improve in this area.

Commented [TS25]: modifies without challenging assumptions

Commented [TS26]: provides limited accommodation for different students needs

MP - McFlynn, Paul

TS - Taggart, Samuel

Action Plan:

If I was teaching this lesson again I would look to include more strategies to recap the teachings from the previous week. Maybe a video visual reminder first would help pupils recall teachings. This would ensure pupils were being suitably challenged and active throughout. Further, the use of positive behaviour rewards again was very effective.

Commented [TS27]: responsive but limited**Review**

The researcher's assessment shows that there is slightly more green (surface) than yellow (pre-reflective) thus this reflection was categorised as surface level, whilst it can be seen that the moderator assessed this reflection as pre-reflective. The researcher and the moderator reassessed this reflection together using Larrivee's level descriptor. To provide clarity as to how this worked, an example has been provided below where reflective segments were categorised differently by the researcher and the moderator:

The warm up was a recap of dribbling and how to hold the stick. This was necessary at this stage. All pupils could (with prompting) verbally address the teaching points and after guidance demonstrate the correct technique. The lesson was effectively differentiated

Commented [MP28]: Link to previous learning, sees link between teaching and learning and some awareness of need to differentiate.

The warm up was a recap of dribbling and how to hold the stick. This was necessary at this stage. All pupils could (with prompting) verbally address the teaching points and after guidance demonstrate the correct technique. The lesson was effectively differentiated

Commented [TS29]: Some consideration of accommodating different learners but no explanation given

When the researcher and moderator consulted Larrivee's levels, the moderator immediately noted that this segment should not be pre-reflective in that it did not align with this pre-reflective description: '**Does not thoughtfully connect teaching actions with student learning or behavior**'. It is clear that student D was making a connection between her teaching approach and pupil learning, therefore the segment matched with these surface level descriptors '**Limits analysis of teaching practices to technical questions about teaching techniques**' and '**Provides some differentiated instruction to address students' individual differences**'. **It was agreed that this reflection be categorised as surface level.**

Student F – SE1

Commented [MP30]: Surface level.**2nd Lesson (difficult/weaker lesson)****Description (what happened?)**

This lesson was focused on Year 10 Gymnastics with group of Girls. We were focusing on Shapes and Rolls; working towards a sequence as the final activity. The lesson started off well and the girls recapped the shapes from previous lesson. I introduced 4 basic rolls which were the Pencil, Teddy Bear, Dish and Egg Roll. The girls didn't possess much prior knowledge with regards to the appropriate names for these rolls but I allowed them the opportunity to explore

MP - McFlynn, Paul

these throughout the lesson. This was the period before dinner time and I think the girls were slightly distracted at times. However, the level of participation was good, particularly in the warm-up and the first half of the lesson. They seemed less engaged in the 2nd half of the lesson, although it is possible they were tired and maybe I tried to squeeze in too many activities. I allowed them to use music as long as they remained on task for the sequences and this worked well and they completed the task cards as requested by myself at the beginning of the lesson.

Feelings (what were you thinking and feeling?)

My confidence in teaching has gradually improved for Gymnastics as it is an activity that I would be nervous about teaching solely because of the lack of experience with it. However, with this particular content I was teaching, I felt confident in my ability to deliver a quality lesson. I felt just ok as I had expected the girls to really enjoy the lesson and I felt some pupils could have gotten more out of the lesson- this deflated me a little.

Commented [MP31]: Honest but focused on teaching techniques as opposed to underlying theory/pupil learning.

Commented [MP32]: Self-confirming

Commented [MP33]: Not blaming pupils – accepting responsibility

Evaluation (What was good/bad about this experience?)

Good- the content that we were working with some found it really fun and enjoyable and engaged well throughout the lesson. However the majority struggled with Teddy Bear roll but I broke it down as best as I could and used pupil demo to highlight proper technique and teaching points to achieve it. Pupils worked really well in the peer observation task some very good and creative sequences were performed and a few pupils performed for the whole class.

Commented [MP34]: Self-confirming, describing problems simplistically.

Bad- whilst some pupils were distracted, I feel I have to take responsibility for this. During the lesson I felt as if some pupils were not doing their best but when I look back, I realise that I should have differentiated the tasks much better to suit all pupils. Some pupils were obviously finding the tasks difficult and were displaying more avoidance behaviour. Perhaps I was aware during the lesson but just kept to the plan instead of changing the plan. I need to increase my knowledge in gymnastics so that I can have the confidence to change things there and then. Peer review comments were not focused on the task card/teaching cards however, I now realise that this approach is relatively new for these girls.

Commented [MP35]: Honest and recognizing need to improve for future practice – not blaming pupils

Commented [MP36]: Some awareness of how pupils learn.

Analysis (What else can you make of the situation)

Overall, the lesson went well but could have been better. Better differentiation would have allowed all pupils to progress at their level and thus succeed. My lack of subject knowledge and expertise in this area definitely hampered this lesson - I need to address this. Pupils demonstrated and highlighted the appropriate names of all shapes and rolls which was the intentions for the lesson but I could also have stretched and challenged the more able pupils. I need to model good feedback so that the pupils can begin to improve in this area.

Commented [MP37]: Awareness of differentiating for all pupils but lack of focus on long-term development. Taking responsibility and not blaming pupils. Focus on learning and sees link between his practice and pupil learning.

Conclusion (what else could you have done?)

MP - McFlynn, Paul

TS - Taggart, Samuel

If I could have allowed some pupils a longer time to explore the rolls and then differentiated the final task, meaning they could have completed a sequence but one less difficult. My demonstrations could also be clearer.

Commented [MP38]: Awareness of modifying teaching approaches but only to current situation.

Action Plan (If it raised again what would you do?)

If I was to repeat this lesson again I would encourage the pupils to be more detailed and precise on their feedback process by using the teaching/task cards. A greater range of activities would be required to cater for less able and more able pupils. To do this properly, I would need to be confident in how I do this, therefore my knowledge and understanding needs to increase - this can be achieved by further CPD in this area.

Commented [MP39]: Link between teaching and learning. Focus on differentiation and seeing link between his practice and pupil learning.

Commented [MP40]: Focus on long-term development.

Moderator's assessment

2nd Lesson (difficult/weaker lesson)

Description (what happened?)

This lesson was focused on Year 10 Gymnastics with group of Girls. We were focusing on Shapes and Rolls; working towards a sequence as the final activity. The lesson started off well and the girls recapped the shapes from previous lesson. I introduced 4 basic rolls which were the Pencil, Teddy Bear, Dish and Egg Roll. The girls didn't possess much prior knowledge with regards to the appropriate names for these rolls but I allowed them the opportunity to explore these throughout the lesson. This was the period before dinner time and I think the girls were slightly distracted at times. However, the level of participation was good, particularly in the warm-up and the first half of the lesson. They seemed less engaged in the 2nd half of the lesson, although it is possible they were tired and maybe I tried to squeeze in too many activities. I allowed them to use music as long as they remained on task for the sequences and this worked well and they completed the task cards as requested by myself at the beginning of the lesson.

Feelings (what were you thinking and feeling?)

My confidence in teaching has gradually improved for Gymnastics as it is an activity that I would be nervous about teaching solely because of the lack of experience with it. However, with this particular content I was teaching, I felt confident in my ability to deliver a quality lesson. Immediately after the lesson I felt just ok as I had expected the girls to really enjoy the lesson and I felt some pupils could have gotten more out of the lesson- this deflated me a little.

Commented [TS41]: Does not connect teaching actions with learning

Evaluation (What was good/bad about this experience?)

Good- the content that we were working with some found it really fun and enjoyable and engaged well throughout the lesson. However the majority struggled with Teddy Bear roll but I broke it down as best as I could and used pupil demo to highlight proper technique and teaching points to achieve it. Pupils worked really well in the peer observation task some very good and

Commented [TS42]: Decisions based on immediate circumstances

MP - McFlynn, Paul

TS - Taggart, Samuel

creative sequences were performed and a few pupils performed for the whole class.

Bad- whilst some pupils were distracted, I feel I have to take responsibility for this. During the lesson I felt as if some pupils were not doing their best but when I look back, I realise that I should have differentiated the tasks much better to suit all pupils. Some pupils were obviously finding the tasks difficult and were displaying more avoidance behaviour. Perhaps I was aware during the lesson but just kept to the plan instead of changing the plan. I need to increase my knowledge in gymnastics so that I can have the confidence to change things there and then. Peer review comments were not focused on the task card/teaching cards however, I now realise that this approach is relatively new for these girls.

Commented [TS43]: self confirming at best

Commented [TS44]: makes adjustment based on prior experience but with limited exploration

Commented [TS45]: focus on technicalities

Commented [TS46]: dismissive of potential underlying cause

Analysis (What else can you make of the situation)

Overall, the lesson went well but could have been better. Better differentiation would have allowed all pupils to progress at their level and thus succeed. My lack of subject knowledge and expertise in this area definitely hampered this lesson - I need to address this. Pupils demonstrated and highlighted the appropriate names of all shapes and rolls which was the intentions for the lesson but I could also have stretched and challenged the more able pupils. I need to model good feedback so that the pupils can begin to improve in this area.

Commented [TS47]: simplistic explanation

Conclusion (what else could you have done?)

If could have allowed some pupils a longer time to explore the rolls and then differentiated the final task, meaning they could have completed a sequence but one less difficult. My demonstrations could also be clearer.

Action Plan (If it raised again what would you do?)

If I was to repeat this lesson again I would encourage the pupils to be more detailed and precise on their feedback process by using the teaching/task cards. A greater range of activities would be required to cater for less able and more able pupils To do this properly, I would need to be confident in how I do this, therefore my knowledge and understanding needs to increase - this can be achieved by further CPD in this area.

Review

Again, it is clear to see how these assessments differed. The following example shows how one of these differences was resolved:

Overall, the lesson went well but could have been better. Better differentiation would have allowed all pupils to progress at their level and thus succeed. My lack of subject knowledge and expertise in this area definitely hampered this lesson - I need to address this.

Commented [MP48]: Awareness of differentiating for all pupils but lack of focus on long-term development. Taking responsibility and not blaming pupils. Focus on learning and sees link between his practice and pupil learning.

Overall, the lesson went well but could have been better. Better differentiation would have allowed all pupils to progress at their level and thus succeed. My

Commented [TS49]: simplistic explanation

MP - McFlynn, Paul

lack of subject knowledge and expertise in this area definitely hampered this lesson – I need to address this

When the researcher and the moderator reviewed this segment, it was agreed that it should be categorised as surface level and was matched to the following descriptors:

'Provides some differentiated instruction to address students' individual differences' and 'Modifies teaching strategies without challenging underlying assumptions about teaching and learning'. It was agreed that this reflection be categorised as surface level.

Commented [MP50]: This was deemed appropriate based on the student's intention to modify their teaching.

Student H SE2

Commented [MP51]: Pedagogical

Description: What happened?

This was my fifth lesson of badminton with 90 consisting of twenty one pupils (boys and girls). The aim of the lesson was to explore and perform the net shot in badminton. At the beginning of the lesson pupils were asked to set up the equipment (very quick) and introduced to the learning intentions and success criteria. The pupils took part in a court familiarisation warm up which consisted of a pulse raiser using the badminton court lines in collaboration with a teacher led stretch and shuttlecock tap (racket familiarisation). The pupils were then progressed into a fun game (last pupil standing) to finish the warm up. Teacher and pupil demonstrations were used to enhance learning and allow pupils to see what was expected during execution of the net shot. The pupils were put back into their pairs from the warm up and asked to explore the net shot in activity one before being progressed onto net rallies (forecourt to forecourt) in activity two. During both activities I continually observed, questioned and modified technique, however, for two boys a lot of messing around filtered into gameplay. Groups were split up before being progressed into badminton rallies which concluded the main activities in the lesson. The cool down consisted of equipment take down, shuttlecock tap and a stretch.

Feelings: What were you thinking and feeling?

Before equipment was set up I had a word with the class regarding their behaviour in the previous lesson and was hoping this would cure the problem. I was also better prepared in terms of knowing pupil abilities thus differentiation was better planned for.

Commented [MP52]: Self-confirming and preoccupied with behaviour.

Commented [MP53]: Focus on differentiation.

Evaluation: What was good and bad about the experience?

Positives from the lesson:

During the lesson I continually stopped, questioned and modified technique (progressions/regressions) when needed. Task cards were referred to regularly (especially during activity one) with visible improvements in technique afterwards. Instructions were clear and concise which works well for this class (the longer they are standing around the more they begin to misbehave). Teacher and pupil demonstrations were used once again, with follow up video

Commented [MP54]: Awareness of differentiation, focus on pupil learning and some insight into how these pupils learn.

MP - McFlynn, Paul

demonstrations available if pupils needed to refer back to them (iPad). It's also clear to see from gameplay that pupils are becoming more and more knowledgeable on the rules and boundaries of badminton (independently making decisions).

Commented [MP55]: Focus on supporting pupil learning.

Areas for improvement:

When two of the boys were progressed into their net rallies they began to mess around. Not only did this disrupt their own learning but that of others as well. The two boys were quickly split up, however, they still managed to disrupt those around them in stages. On reflection, I realise that these boys were probably struggling with the rallies and therefore messed about because it was too difficult. My first thought was to blame them but I need to take responsibility - if the activities were engaging enough they perhaps wouldn't mess around. Progressions need to be more suitable and cater for all pupils where there is a focus on tailoring the teaching strategies to suit the individuals in this class.

Commented [MP56]: Focus on pupil learning and adapted

Commented [MP57]: Taking responsibility, critiquing his practice and seeing clear link between his teaching and pupil learning. A focus on the learning for all pupils.

Analysis: What else can you make of the situation?

Whilst I catered effectively for 90% of the group, I need to cater for all pupils. Badminton not being an area of expertise means that I didn't have the knowledge to change it up there and then. Even now, I'm not sure what I could have done to progress better. This is an area I need to work on. Have enrolled for Shuttletime course so this should help.

Commented [MP58]: Again – focus on learning for all pupils. Appropriate CPD identified – commitment to continuous learning.

However, I realise that it will take years of work to become an expert in this area.

Conclusion: What else could you have done?

I could have used different teaching strategies to engage all pupils - perhaps too teacher led at times. Pupils could get more out of it by exploring techniques for longer. Better observation of pupils in early stages would have allowed me to see that the two boys were struggling.

Commented [MP59]: Focusing on relationship between his teaching and pupil learning.

Action plan: If it rose again what would you do?

If the lesson rose again I would plan for more appropriate progressions that allow all pupils to learn at their level. I would explore the use of different teaching strategies that allow pupils to develop deeper learning such as guided discovery as I think I can be too teacher led at times. This is something I need to work on to find the right balance.

Commented [MP60]: Use of relevant theory. Identifying different ways of presenting concepts to pupils.

Moderator's assessment
Student H SE2

Description: What happened?

This was my fifth lesson of badminton with 90 consisting of twenty one pupils (boys and girls). The aim of the lesson was to explore and perform the net shot in badminton. At the beginning of the lesson pupils were asked to set up the equipment (very quick) and introduced to the learning intentions and success criteria. The pupils took part in a court familiarisation warm up which consisted of a pulse raiser using the badminton court lines in collaboration with a teacher led stretch and shuttlecock tap (racket familiarisation). The pupils were then

TS - Taggart, Samuel

progressed into a fun game (last pupil standing) to finish the warm up. Teacher and pupil demonstrations were used to enhance learning and allow pupils to see what was expected during execution of the net shot. The pupils were put back into their pairs from the warm up and asked to explore the net shot in activity one before being progressed onto net rallies (forecourt to forecourt) in activity two. During both activities I continually observed, questioned and modified technique, however, for two boys a lot of messing around filtered into gameplay. Groups were split up before being progressed into badminton rallies which concluded the main activities in the lesson. The cool down consisted of equipment take down, shuttlecock tap and a stretch.

Feelings: What were you thinking and feeling?

Before equipment was set up I had a word with the class regarding their behaviour in the previous lesson and was hoping this would cure the problem. I was also better prepared in terms of knowing pupil abilities thus differentiation was better planned for.

Evaluation: What was good and bad about the experience?

Positives from the lesson:

During the lesson I continually stopped, questioned and modified technique (progressions/regressions) when needed. Task cards were referred to regularly (especially during activity one) with visible improvements in technique afterwards. Instructions were clear and concise which works well for this class (the longer they are standing around the more they begin to misbehave). Teacher and pupil demonstrations were used once again, with follow up video demonstrations available if pupils needed to refer back to them (iPad). It's also clear to see from gameplay that pupils are becoming more and more knowledgeable on the rules and boundaries of badminton (independently making decisions).

Commented [TS61]: Modifies but without challenging underlying assumptions

Commented [TS62]: supports believe but only with evidence of exp

Areas for improvement:

When two of the boys were progressed into their net rallies they began to mess around. Not only did this disrupt their own learning but that of others as well. The two boys were quickly split up, however, they still managed to disrupt those around them in stages. On reflection, I realise that these boys were probably struggling with the rallies and therefore messed about because it was too difficult. My first thought was to blame them but I need to take responsibility - if the activities were engaging enough they perhaps wouldn't mess around. Progressions need to be more suitable and cater for all pupils where there is a focus on tailoring the teaching strategies to suit the individuals in this class.

Commented [TS63]: considers students perspectives in decision making

Commented [TS64]: accepts responsibility and sees link between teaching and learning

Analysis: What else can you make of the situation?

Whilst I catered effectively for 90% of the group, I need to cater for all pupils. Badminton not being an area of expertise means that I didn't have the knowledge to change it up there and then. Even now, I'm not sure what I could have done to progress better. This is an area I need to work on. Have enrolled for Shuttletime course so this should help. However, I realise that it will take years of work to become an expert in this area.

Commented [TS65]: strives to enhance learning for all learners

Commented [TS66]: Acknowledges gap/sees as remains open to further work

TS - Taggart, Samuel

Conclusion: What else could you have done?

I could have used different teaching strategies to engage all pupils - perhaps too teacher led at times. Pupils could get more out of it by exploring techniques for longer. Better observation of pupils in early stages would have allowed me to see that the two boys were struggling.

Action plan: If it rose again what would you do?

If the lesson rose again I would plan for more appropriate progressions that allow all pupils to learn at their level. I would explore the use of different teaching strategies that allow pupils to develop deeper learning such as guided discovery as I think I can be too teacher led at times. This is something I need to work on to find the right balance.

Commented [TS67]: Strives to enhance learning for all

Commented [TS68]: Seen as ongoing process for further investigation

Review

These assessments show that both the researcher and the moderator assessed this reflection as being pedagogical meaning that there was no need for this reflection to be reviewed.

Appendix 6 – Peer review post lesson discussion and analysis sample

Reviewee – Student B

Reviewer – Student C

C - Well XXXXXX, I thought that lesson went very well. It was well planned and had a clear structure. The pupils were well engaged and active throughout. Well done!

Commented [MP69]: 1 positive segment. All technical focused (1)

B - Thanks. I suppose it went alright but I do think it could have been better.

C - I thought the warm-up was very good. Got pupils active right away. However, it could have been longer. Instructions seemed okay.

Commented [MP70]: 1 positive segment – technical focused (1)

Commented [MP71]: Corrective – technical (1)

Commented [MP72]: 1 general – technical focused (1)

Commented [MP73]: 1 Suggestive – technical focused (1)

C - What areas do you think could have been better?

B - I reckon that certain pupils could have been more involved, better differentiation needed I think.

C - I think you should have provided more individual feedback, particularly to those pupils who were struggling. What could you have done for the two boys who were struggling with bowling?

Commented [MP74]: 1 Corrective segment – pedagogical focused (2)

Commented [MP75]: 1 suggestive – pedagogical focused (2)

B - Mmm, as I say, probably differentiated better by having them closer to the stumps when bowling. They probably needed more practice as well before going into those games.

C - OK, I think the activities were good though and showed clear progression and you managed the transitions very well. Although I do think you need to take more time to recap at times to ensure all pupils have grasped the concept before moving on.

Commented [MP76]: 1 positive segment – technical focused (1).

Commented [MP77]: 1 corrective – pedagogical focused (2)

B - Yeah, I was happy with how the lesson flowed and the pupils were very cooperative.

C - Your demonstrations were very clear showing good technique. You have a good rapport with the boys. Your spotting and fixing was grand. Be careful with your positioning at times.

Commented [MP78]: 1 positive segment – technical focused (1)

Commented [MP79]: 1 general segment – technical focused (1)

Commented [MP80]: Non-corrective – technical focused (1)

B - Yeah I'm fairly comfortable with cricket although I probably expect too much from the pupils at times. Maybe it's just the lack of interest that some have that I don't fully appreciate yet.

MP - McFlynn, Paul

MP - McFlynn, Paul

C – Ok, thinking of teaching strategies now, what other teaching strategies might you have employed as it was too teacher led at times?

Commented [MP81]: 1 suggestive – pedagogical focused (2)

B – Not sure, perhaps more letting them explore the activities although I was very conscious of how short the lesson was but I suppose that shouldn't matter. As xxx says, teach the pupils, not the lesson plan! Yeah, something I need to think about.

C – Oh yes, I think you could have used more space as during the activities the groups were very close together.

Commented [MP82]: 1 corrective – technical focused (1)

B – Fair point, I sort of noticed that but thought it would take too much time to change.

C – Thinking of the more able pupils in this group. What could you have done to stretch and challenge them?

Commented [MP83]: 1 suggestive – pedagogical focused (2)

B – suppose I could have set them certain targets when playing or used them to help me teach the weaker kids. Suppose I need to think about that too.

C – plenary was very clear, with good questioning. Cool-down could be better I think.

Commented [MP84]: 1 positive – technical focused (1)

Commented [MP85]: 1 non-corrective – technical focused.

4 positive (all technical focused)

4 corrective – (2 technical focused and 2 pedagogical focused)

2 non-corrective – (both technical focused)

2 general – (both technical focused)

0 specific

4 suggestive – (1 technical focused and 3 pedagogical focused)

MP - McFlynn, Paul

Extract from student B's peer review reflection

My demonstrations were very clear in this lesson, allowing me to get the key teaching points across. Think it's easy to demonstrate well when you know the activity well.

Commented [MP86]: Reflecting on one of the positive (technical) segments.

Providing more feedback to these pupils may have helped but the bigger issue is that I thought they were ready for this activity but they weren't, so it would probably be better to think of what I should have done to prepare them better or should they have been doing this activity at all? A more suitable activity for their needs is actually what they needed.

Commented [MP87]: Reflecting on one of the corrective (pedagogical) segment.

I should have had 3 activities instead of 2 as I did this with another year 10 class and it worked. I should have utilised a TGfU approach whereby the pupils had the opportunity to explore bowling and focus on developing their technique.

Commented [MP88]: Reflecting on one of the suggestive (pedagogical) segments.

I should have differentiated the bowling activities much better. I was aware that *** and **** were struggling a little but looking back I realise that I should have allowed them to revisit their technique by breaking the skill down and using a slower ball.

Commented [MP89]: Reflecting on another of the suggestive feedback (pedagogical) segments.

I suppose I could have challenged the more able pupils by making them bowl from further back and perhaps used faster balls. I could also have used the Ipad to capture their performance and then allow them to view it. This way, they would be able to analyse their own performance and we could have agreed on specific targets.

Commented [MP90]: Reflecting on another suggestive (pedagogical) segment.

Appendix 7 – End of PGCE focus group analysis

Focus Group Findings

Question	Responses	Codes
<p><i>What are your general thoughts on the role of reflection in teaching and learning?</i></p>	<p>Interview 1</p> <p>“it is good to identify strengths and weaknesses not only within the lesson that has just happened but then moving forward if certain strategies don’t work with certain classes and at least you have got some evidence to look back on moving forward for the rest of the unit” (2M)</p> <p>“whenever you are working with classes at different levels and abilities and if you see something that didn’t work with one class it might work with another class, it depends on the ability level, so it does really help prepare for maybe future planning or future lessons” (3M)</p> <p>“I agree that it identifies strengths and weaknesses that you are doing within your lessons...but making wee notes as you go along, so that for future planning you know exactly where you can improve upon” (1F)</p> <p>“before that I had... thought about just myself and how I felt things went, but this and the protocol we</p>	<p>Identify strengths and weaknesses</p> <p>Helps with future planning and teaching</p> <p>Importance in relation to classes of different ability levels</p> <p>Future planning</p> <p>Strengths and weaknesses feeding into future planning</p> <p>Being able to separate teaching and learning issues</p>

Question	Responses	Codes
	<p>went through really made me actually think about the effect it had on the pupils and what their learning was and being able to separate the teaching and the learning for me was something that did really help and then it helped inform our practice for the following lessons” (2F)</p> <p>Interview 2</p> <p>“the class is always going to be changing and the lessons is always going to be changing depending on the students, “whenever you are working with classes at different levels and abilities and if you see something that didn’t work with one class it might work with another class, it depends on the ability level, so it does really help prepare for maybe future planning or future lessons” (3M)</p> <p>“I think even reflecting back on what went well and what didn’t go so well, it will also help with why that maybe happened, so you get a better insight as to why something worked well and that it was something that you could maybe use in the same group in the coming weeks” (1F)</p> <p>“basically if you have a good lesson or a not so good lesson you can identify areas for improvement. I think as well if you reflect on somebody else, say a qualified teacher or a peer it helps you</p>	<p>Reflection in-action and on-action</p> <p>Impact future planning and teaching</p> <p>Helps focus on ‘why’ certain events occurred</p> <p>Reflecting on practice of teacher or peer – collaborative</p>

Question	Responses	Codes
	<p>identify things that obviously you can obviously use in the next class... or in obviously a different sort of lesson that you are teaching” (2M)</p>	
<p><i>Did you find the annotation of daily lesson plans to be useful or not? If so, why and if not, why not?</i></p>	<p>Interview 1</p> <p>“it is important if you can get it down as quickly as possible... when it is fresh in your mind... and then you can come back and refer to it when you are planning then for the next class with the pupils... so it allows you then to plan, do you know, so the pupils in the class that you are teaching as opposed to just as a whole general aspect” (1M)</p> <p>“more difficult to annotate lessons that I had expertise in... like I know what will work and what won’t work, so I found those annotations maybe more difficult to be critical of my teaching... whereas if I was doing an activity that was new, like swimming or gymnastics, I would find it a lot easier” (2M)</p> <p>Interview 2</p> <p>“the teaching and learning boxes at the end is where I really thought about why this lesson went well, why this lesson went bad... you could see what parts you were going to take forward and what parts maybe not” (1M)</p>	<p>Immediacy – fresh in mind</p> <p>Refer to it for planning – make specific for the class/pupils you are teaching</p> <p>More difficult to reflect on area of expertise</p> <p>Completing teaching and learning boxes at end the most beneficial</p>

Question	Responses	Codes
	<p>“I would tend to agree with what said about the two end boxes, however, ... going through it you can kind of visualize that sort of lesson as it was conducted and then it helps you sort of identify certain aspects that were really, really good... or...that didn't really work well, it helps you sort of pick up wee bullet points on things that you can possibly improve on” (2M)</p> <p>“yeah, I just found the reflection of the pupil learning was the most beneficial” (1F)</p> <p>“although they were time consuming... they were very useful and probably mine were very, very detailed” (2F)</p>	<p>Focus on improvement – small things</p> <p>Reflection of pupil learning most beneficial</p> <p>Very useful but time consuming</p>
<p><i>How useful were the annotations in terms of helping to form your weekly reflections?</i></p>	<p>Interview 1</p> <p>“we could talk about it in more depth and use actually what we have written about, ... the first form of activity didn't work and then you wrote beside it what could have worked because you got advice from the teacher who was watching the lesson” (1F)</p>	<p>More depth</p> <p>Collaboration with teacher in identifying improvement</p>

Question	Responses	Codes
	<p>“throughout the lesson I have just made little notes on the lesson, ... but it was those little notes that helped me then to be able to expand on that in my, in my weekly reflection” (2F)</p> <p>Interview 2</p> <p>“I was annotating so heavily when it actually came to weekly, it was just very repetitive for me so I found the annotations more helpful” (2F)</p>	<p>Annotated notes allowed you to expand – point of reference</p> <p>Repetitive</p>
<p><i>What are your views on the benefits or not of completing the weekly reflection?</i></p>	<p>Interview 1</p> <p>“I think there were benefits because it did allow you to be critical of yourself so then you were evaluating what you did well, what you could improve on... sharing the reflections , you could maybe share ideas if somebody was struggling with say class management... being able to see reflections... you can maybe help each other and stuff like that” (1M)</p> <p>“allowed you to look more in-depth at the lesson itself, especially the ones that you thought didn’t go as well... look more closely at how you could improve on it and you would go away and sort of bring back ideas and try them out then in the next class... so without the weekly reflection you wouldn’t have maybe</p>	<p>Did allow you to be critical</p> <p>Sharing of reflections beneficial</p> <p>Could look more in-depth at lesson and identify areas for improvement</p>

Question	Responses	Codes
	<p>went that far to go back and look at it" (2M)</p> <p>"I found it useful to an extent... very often because my individual lesson plans I annotate them very detailed, so I found that I wasn't really writing anything extra in the weekly reflection from the one that I had already written, so I was almost repeating what I had said and going over it again... it was beneficial you know as was saying to look at other people's and see what they had done, so I am sure that potentially my reflection would have been useful to somebody else, but I didn't find any additional benefit of my own weekly reflection to myself" (3F)</p> <p>"sometimes I felt you were saying the same things over and over and over again, ... your weekly reflections would probably sound the same every single week... I think that is just where we need to improve on our reflection a bit more and go a bit more in-depth into specifically the area that we are looking at" (2F)</p> <p>Interview 2</p> <p>"there was some lessons where I maybe rushed it a little bit... there was more of an exercise just to get it done, rather than really focusing</p>	<p>Repeating in weekly as annotations were very detailed or lack of depth?</p> <p>Beneficial to look at others' reflections but no additional benefit to own practice. No benefit – not informing future practice?</p> <p>Repetitive, need to improve reflective skills</p> <p>Rushed – exercise to complete</p> <p>If given proper focus, beneficial – you mean</p>

Question	Responses	Codes
	<p>in on it, but then a few lessons that we did focus on and you meant what you were writing in the reflection, you did see a big, big benefit...so if the time and effort is in it, very, very beneficial I found them” (1M)</p> <p>“the two weekly reflections were very time consuming especially in the written forum, so sometimes you probably didn’t give it your full attention to complete them as in-depth and you probably should have...whenever it changed to one you gave it more of a focus and more of your attention” (1F)</p> <p>“the weekly ones were time consuming...but the lesson that didn’t go as well, a lot more beneficial...there were just a couple of bits that were very repetitive and you sort of found yourself copying and pasting until you really gave it a bit of time” (2F)</p> <p>“in the first sort of placement, it was very, very difficult for myself to actually identify a good lesson, whereas I was really hypercritical of all my sort of lessons I think because the sort of support I was getting from the teachers in the school...in terms of...the weaker lessons, I found it extremely beneficial because you could sit down as say as many sort of points as you thought yourself were poor</p>	<p>what you write rather than fabrication</p> <p>Written form time consuming</p> <p>didn’t give full attention. Whole-heartedness? Motivation - attention</p> <p>Time consuming poor lesson more beneficial Repetitive Unauthentic</p> <p>Weaker lesson – extremely beneficial especially due to the teacher support (collaboration)</p>

Question	Responses	Codes
	<p>about the lesson, but when you were getting that added support of people that were actually in the profession giving you a wee bit added extra of what you can work on, I found that really, really beneficial” (2M)</p> <p>“to be honest, there were times I just copied and pasted from the previous week’s reflection as I was generally writing the same things” (3F)</p>	<p>Copied and pasted. Unauthentic</p>

Categories:

Yellow – teaching and learning issues. **Purple** – point of reference.

Red – depth of reflection/critique. **Dark yellow** – formal/informal issues.

Green – time. **Grey** – repetition/not authentic.

Turquoise – collaboration/emotional support

Blue - Expertise/experience

From these eight categories, five key themes emerged:

1. Teaching and learning issues
2. Collaboration and support
3. Formal versus informal reflection
4. Subject expertise
5. Time

End of Induction year focus groups

Question	Responses	Themes
<p>What approaches to reflection did you use during your first year of teaching?</p>	<p>D - 'for me it wasn't written or formal, it was conversations I had with members of the department...verbally bounce a few ideas of each other'</p> <p>K - 'I was pretty much the same, for practical it was mostly verbal but when it came to BTEC or GCSE it was mostly notes...for practical just discussions with department'</p> <p>F - 'I was the same, chatting to PE staff...just making notes in your planner...taking that group again, you can rethink strategies to use in the future'.</p> <p>I - '...just a couple of lines on what went wrong, why it went wrong... a lot less than what we would have done in PGCE, summarised into a couple of lines at times'</p> <p>B - '...verbal discussions with PE staff...also made notes in planner...a lot easier to reflect during practice compared to PGCE'</p>	<p>Conversational as opposed to written.</p> <p>If written – notes in planner. Couple of lines.</p> <p>Strategies for future use.</p> <p>Couple of lines.</p> <p>Easier to reflect compared to PGCE.</p>
<p>Did you find it easy to reflect this year?</p>	<p>K- 'I actually found PGCE easier as you had more time whereas now you have a full-timetable so no time to do a full detailed reflection'</p> <p>I - 'I agree with xxxxx... much easier now to reflect during the lesson whereas in PGCE...we sort</p>	<p>No time – PGCE easier as had more time.</p>

Question	Responses	Themes
	<p>of forced through the lesson plan... wasn't someone sitting observing so you felt totally comfortable...reflecting in practice and totally changing the lesson'</p> <p>F- 'when it's fresh in your head...days you are constantly in class with no frees, you might be confused as to what notes you make with certain classes, so taking 2-3 minutes to make notes when class getting changed is all you need...definitely easier to reflect as it feels you know what to focus on'</p> <p>Me: you all seem to taking the same approach here. Why is that?</p> <p>All: Time!</p>	<p>Yes, easier to reflect, particularly during the lesson.</p> <p>Comfortable as opposed to having someone observe you.</p> <p>Easier as know what to focus on.</p> <p>Justification for approaches – time!</p>
<p>Was reflective practice encouraged in your school, either at department or whole school level?</p>	<p>B - 'on the day to day running, no...staff development days once every six - eight weeks it was then brought up...no real push or encouragement to do it'</p> <p>Me: any specific suggestions as to what you should do?</p> <p>B - No, not specifically</p> <p>F- 'my experience is the same...wasn't on a day to day basis, but at a couple of departmental meetings it was brought up but like xxxxx, no real structure or process in place, almost just a token mention'</p>	<p>Only mentioned during staff days/departmental meetings.</p> <p>No structure ongoing daily, weekly focus.</p> <p>Discussions with department – not necessarily reflection though.</p>

Question	Responses	Themes
	<p>K- 'staff development days was the only time it was mentioned...just you do it in your departments, it was never individual reflection...just discussed it with your department team'</p> <p>I- '...mostly just on your own reflection...my school you don't really see the rest of the department so no central hub for the PE department...working all week and no one really to reflect with'.</p>	<p>In departments discussing. No individual reflection</p> <p>On your own – isolated. No collaboration.</p>
<p>Did you see any evidence within the school of reflection influencing forward planning with changes to units of work etc?</p> <p>Any examples of when reflective practice positively or negatively impacted your teaching and pupil learning?</p>	<p>I- 'only for the analysis of results you reflect on how well you did...what we're aiming for next year...typically wasn't KS3, basically in relation to exam classes, how well did we teach that and could we make it better'</p> <p>Me - Any focus on self-evaluation that may feed into reflection?</p> <p>All: No</p> <p>I- 'I had a very high ability year 9 boys group and they were very into their hurling and I wanted to focus on taking each skill per week... all the boys wanted to do was games...what we agreed on was game, drill, game...worked a lot better...much more focused...worked far better for high ability group'</p> <p>B - 'days last year I had 3 or 4 classes of the same year group in one day...maybe the first class there was bits and pieces I would</p>	<p>Only focused on exam classes at KS4 and post 16. Target setting – not reflection as such.</p> <p>Changing teaching approaches. Went from traditional games teaching to TGfU model. Using pupil voice/feedback.</p> <p>Evidence of ongoing daily reflection and reviewing</p>

Question	Responses	Themes
	<p>tweak then I brought that into the next class, maybe more like slight refinement and then by the third and fourth class, then I think they probably got the best teaching'</p> <p>K- 'I would agree...I had all the sets of year 9's so usually at the start of the week I would have tried the lesson that I had planned and then just made the changes...end of the week the classes were definitely receiving a better class'.</p> <p>Me - Were those changes just mental notes or planner notes?</p> <p>B - 'Those days, mental just because it's just class in, class out...just hope you remember them...if there was anything major and I had a piece of paper, I probably would have written it down'.</p> <p>K- 'I did write mine down as the classes were on different days'</p> <p>F- 'I'd be the same as Stuart, just simply changing and thinking on my feet'</p>	<p>lesson plans. Mainly mental notes – individual reflection (no discussion here).</p> <p>Ongoing daily reflection – slight changes.</p> <p>Written if important.</p> <p>Written if classes on different days – issue of time again!</p>
<p>Were you given any advice within school as to how you should approach your induction?</p>	<p>D - 'no, I think there's normally someone in charge of Induction...at that time there was nobody in charge of it...so it was just if your own accord that you were trying to work your way through it...I thought it was good cos part of it you had to watch one of your colleagues and then</p>	<p>No advice or instruction in school.</p> <p>Process of observing another staff member and reflecting with them was highlighted as a</p>

Question	Responses	Themes
	<p>reflect on them as well as reflecting on yourself'</p> <p>Me - What did you find good about that?</p> <p>D- 'one of my focuses was behaviour management..,I was just picking up different ideas about how she organised the class, going onto the changing rooms, coming out of the changing room and just picking up different wee ideas from her to take into yours, it was small stuff but I found it very helpful'</p> <p>F- 'my focus was on behaviour management too...VP in the school I met with her 2/3 times just to see what our theme was going to be...when it came to planning... it really felt like being back doing the PGCE...during the year you sort of more just doing stuff off the top of your head whereas here you were going to be observed, you were more thinking of your different strategies, you were thinking about your differentiation..,your main theme was engaging the pupils whereas during the year you are probably mainly focused on getting them active and getting them moving whereas teaching can nearly fall by the wayside a bit'</p> <p>F- 'VP herself came and observed me and then a member of staff from the PE department came and observed me as well...coming up</p>	<p>positive (similar to peer review).</p> <p>Wee tips/ideas to take forward</p> <p>Teaching – off the top of your head. Observations – back to PGCE.</p> <p>Day to day teaching – focus on getting pupils active and moving as opposed to focusing on their learning</p>

Question	Responses	Themes
	<p>to the induction observation, I'd do find myself observing staff more regularly in the hope that you could learn a few things...brought me back to PGCE and planning...it was beneficial'</p> <p>Me - Did you all observe other staff teach?</p> <p>Three did and two did not.</p> <p>Me - How useful was it observing other staff, in terms of getting you to reflect on your practice?</p> <p>B - '...I observed two PE lessons, it was beneficial obviously just seeing how the PE teacher manage the class and it was very much army style esque..... picked up some good tips on how to deal with disruption but not so much on the actual learning...</p> <p>I actually observed a classroom-based lesson in geography just to see what teaching strategies they used and how I might be able to use these in GCSE'</p> <p>Me - And was that useful?</p> <p>B- 'yeah it was good... he was quite a young teacher so I think we had really similar ideas of behaviour management and stuff whereas in the first school he was,,well on in his career so it was sort of old fashioned discipline as opposed to positive,</p>	<p>Observed by senior staff – found beneficial.</p> <p>All agreed on benefits of observing experienced PE staff as well as observing another subject.</p> <p>Benefits of observing contrasting styles of classroom management – age relevance?</p> <p>Possibility of 2 inexperienced teachers</p>

Question	Responses	Themes
	<p>yeah it was good to see this in two different subjects and observing 2 very different teaching styles'</p> <p>I – 'I'd agree, I observed the HOD once and it was good ya know to see how she structured her lesson...she had some very good ideas for gymnastics that I will definitely use..we discussed the lesson for about 30 minutes after and that was really useful...it was nice to hear her thoughts on it'</p>	<p>having their own value systems reinforced.</p> <p>Picking up ideas for future practice.</p> <p>Conversations/dialogue.</p>
<p>How many of you were observed?</p>	<p>All were observed apart from D.</p>	
<p>What did you think of the feedback you received and how useful was it to reflect on?</p>	<p>I – 'yeah it was useful, I was observed by the principal for a theory lesson, he had 2 pages of notes, good points and bad points, things to improve on...yeah it was good to see what the principal was looking from you...telling exactly what he thought of it'</p> <p>Me – did you use it to reflect?</p> <p>I – 'Yes, I did...changed the way I teach the level 3 BTEC'</p> <p>F – 'my feedback from the VP was very detailed compared to the likes of the HOD...everything she gave back it was constructive and it did get you thinking of just wee small things that you just tweak to make your lesson that wee bit more engaging, interactive'</p>	<p>Being observed – feedback useful.</p> <p>All appear to have used feedback to think about their lesson.</p> <p>Changed teaching approaches.</p> <p>Feedback from teacher tutor very detailed compared to HOD.</p> <p>Small things to consider/tweak to make lesson more engaging</p>

Question	Responses	Themes
	<p>K – ‘...it was my vp and then the HOD but actually I found it was the other way about because the vp in that school was technology and some things that he was maybe saying to change weren’t practical for a PE lesson, so I found my HOD’s feedback a lot more like I could take it on board and put it into the next lesson’</p> <p>B – ‘I had 2 VP observations and...she wasn’t a PE specialist so like Aine said, there were some things that I thought went quite poorly, she thought they were great and then the other way around, there were some things I thought were quite good and she wasn’t really that pleased with it’</p> <p>Me – Why do you think your view and the VP’s views were very different?</p> <p>B – ‘She’s not a specialist so really doesn’t understand how it should be taught’</p> <p>K – ‘yeah, I agree, they don’t fully understand the nature of our subject so I think it has to be hard for them to make certain judgements, say when looking at gymnastics or athletics that are very specialized areas, suppose all areas are specialized...but it’s hard to observe someone teaching those if you don’t have the knowledge to know what you are looking for’</p>	<p>HOD feedback more beneficial as it was specialist feedback compared to teacher tutor’s whose feedback appeared to show signs of lack of subject knowledge</p> <p>Non specialist feedback didn’t match their thinking – perhaps teacher tutor looking at other areas/learning that they hadn’t considered. Teacher tutor thinking about learning – different values/views as to what constitutes effective teaching and learning.</p> <p>Disregarding her views almost.</p> <p>Lack of subject knowledge by observer impacts feedback. PE – very specialized areas.</p>

Question	Responses	Themes
	<p>Me – ‘Would you rather be observed by a PE specialist?’</p> <p>B – ‘Yeah for a practical PE lesson, yes, maybe if its theory its different, it’s a completely different setting’</p> <p>K – ‘my 2nd one was GCSE theory so it was fine to be observed by like a principal or someone that wasn’t a PE specialist but in terms of a practical lesson it needs to be somebody that had some sort of practical teaching’</p> <p>D – ‘reflection/induction wasn’t very high up on the priority list in my school so there was no chance of a VP or principal watching your lesson so I only had members of the department looking in, it was good but it was it probably wasn’t anything new that you hadn’t already heard before...so it probably would have been nice to have maybe heard another point of view’</p> <p>F ‘I didn’t do mine to nearly end of the school year...I did 2 practicals...any feedback was constructive and did get you thinking for future lessons’</p> <p>Me anything to add around your experience of reflection in schools?</p> <p>K – sometimes I kind of thought that especially with induction, with the VP especially...she kind of made you tie your, so what happened in her reflection was</p>	<p>Rather be observed by PE specialist – especially for practical. Does this go against point above where B thought observing the Geog teacher was good?</p> <p>Need PE specialist, particularly for practical.</p> <p>Not observed by senior staff – poor school structure.</p> <p>Nothing new – would be good to hear different point of view – non-specialist.</p> <p>Both at end of the year – school seeing this as a tick box exercise. No time for teacher to improve on aspects from first observation. Thinking about future lessons.</p>

Question	Responses	Themes
	<p>... tied in more with the school action plan rather than the action plan that you were focusing on so sometimes it wasn't really relevant so it was more for their paperwork rather than what I was doing for Induction'</p>	<p>Teacher tutor observing/assessing with focus on sch dev plan as opposed to their individual targets. Not relevant – or so they thought??</p>

Themes:

Conversations/dialogue

Written reflections

Easier to reflect

Impact on practice

Time

School approaches/structure

Subject knowledge/specialism

From these seven categories, five key themes emerged:

1. Conversations/dialogue
2. Brief written notes
3. Reflection process easier
4. Impact on practice
5. Induction and reflection

References

- Ahern, K.J. (1999) Pearls, Pith and Provocation: Ten Tips for Reflective Bracketing, *Qualitative Health Research*, Vol.9 (3), p.407-411.
- Ajayi, L. (2011) Teaching Alternative Licensed Literacy Teachers to Learn from Practice: A Critical Reflection Model, *Teacher Education Quarterly*, Summer 2011, p.169-189.
- Akbari, R. (2007) Reflections on Reflection: A Critical Appraisal of Reflective Practices in L2 Teacher Education, *An International Journal of Educational Technology and Applied Linguistics*, Vol.35(2), p.192-207.
- Allen, J. (2011) Stakeholders' perspectives of the nature and role of assessment during practicum. *Teaching and Teacher Education*, Vol.27(4), p.742–750.
- Allen, K. L., Brodeur, K., Israelson, M. H., Martin-Kerr, K.-G., Ortmann, L., & Peterson, D. S. (2018) Developing reflective practice in teacher candidates through program coherence. *Teaching & Learning Inquiry*, Vol.6(2), p.81-96.
- Al-Sheyab, N.A., Alomari, M.A., Khabour, O.F., Shattnawi, K.K. & Alzoubi, K.H. (2019) Assent and consent in pediatric and adolescent research: school children's perspectives, *Adolescent Health, Medicine and Therapeutics*, Vol.10, p.7-14.
- Alterio, M. (2004) Collaborative journaling as a professional development tool. *Journal of Further and Higher Education*, Vol.28(3), p.321–332.
- Anderson, J.A. (1988) Cognitive styles and multicultural populations, *Journal of Teacher Education*, Vol.39(1), p.2-9.
- Anderson, K.M. (2007) Differentiating Instruction to Include All Students, *Tips for Teaching*, Vol.51(3), p.49-54.
- Argyris, C. and D. A. Schon (1991) 'Participatory Action Research and Action Science Compared: A Commentary'. In: W.F. Whyte (ed.), *Participatory Action Research*, p.85-96. SAGE.
- Armstrong, D., Gosling, A., Weinman, J & Marteau, T. (1997) The place of inter-rater reliability in qualitative research: An empirical study. *Sociology*, Vol.31(3), p.597-606.
- Arslan, F.Y. (2019) Reflection in pre-service teacher education: exploring the nature of four EFL pre-service teachers' reflections, *Reflective Practice*, Vol.20(1), p.111-124.
- Atkinson, P. (1997) Narrative turn or blind alley? *Qualitative Health Research*, Vol.7(3), p.325-344.
- Atkinson, D.J. & Bolt, S. (2010) Using teaching observations to reflect upon and improve teaching practice in higher education, *Journal of the Scholarship of Teaching and Learning*, Vol.10(3), p.1-19.
- Atkinson, B. (2012) Rethinking reflection: Teachers' critiques. *The Teacher Educator*, 47, p.175–194.

- Bain, J.D., Ballantyne, R., Packer, J. & Mills, C. (1999) Using Journal Writing to Enhance Student Teachers' Reflectivity During Field Experience Placements, *Teachers and Teaching*, Vol.5(1), p.51-73.
- Bain, J. D., Ballantyne, R., Packer, J. & Mills, C. (2002) Developing reflection on practice through journal writing: Impacts of variations in the focus and level of feedback. *Teachers and Teaching: Theory and Practice*, Vol.8(2),p.171-196.
- Bajrami, I. (2013) The importance of differentiation in supporting diverse learners. *Journal of Education and Practice*, Vol.4, p.149–154.
- Ballard, K. K., & McBride, R. (2010). Promoting preservice teacher reflectivity: Van Manen may represent a viable model. *Physical Educator*, Vol.67, p.58-73.
- Bard, R. (2014) Focus on Learning: Reflective Learners & Feedback, *TESL-EJ*, Vol.18(3), p.1-11.
- Bassett, S., Bowler, M., & Newton, A. (2019) Supporting beginning physical education teachers to deliver and evaluate their lessons In Capel, S. & Lawrence, J. (Eds) *Mentoring Physical Education Teachers in the Secondary School* (p.169-182) Routledge, London.
- Beauchamp, C. (2006) *Understanding reflection in teaching: A framework for analysing the literature*. Montreal, Quebec, Canada: Unpublished doctoral thesis, McGill University.
- Beauchamp, C. (2015) Reflection in teacher education: issues emerging from a review of current literature, *Reflective Practice*, Vol.16(1), p.123-141.
- Bell, J. (1991) *Doing Your Research Project* (2nd Ed). Milton Keynes. Open University Press.
- Bell, J. (2010) *Doing Your Research Project* (5th Ed). Milton Keynes. Open University Press.
- Bell, M. (2001) Supported reflective practice: A programme of peer observation and feedback for academic teaching development. *The International Journal for Academic Development*, Vol.6(1), p.29-39.
- Bell, M. (2005) *Peer Observation partnership in higher education*. Milperra, NSW: Herdsa.
- Bell, A., Kelton, J., McDonagh, N., Mladenovic, R. & Morrison, K. (2011) A critical evaluation of the usefulness of a coding scheme to categorise levels of reflective thinking, *Assessment & Evaluation in Higher Education*, Vol.36(7), p.797-815.
- Bell, M., & Cooper, P. (2013) Peer observation of teaching in university departments: A framework for implementation. *International Journal for Academic Development*, Vol.18, p.60–73.
- Belvis, E., Pineda-Herrero, P., Armengol, C. & Moreno, V. (2013) Evaluation of reflective practice in teacher education, *European Journal of Teacher Education* Vol.36(3), p.279-292.
- Benbasat, I., & Zmud, R. (1999) Empirical research in information systems: The practice of relevance. *MIS Quarterly*, Vol.23, p.3-16.

- Bergman, D. (2015) Comparing the Effects of Classroom Audio-Recording and Video-Recording on Preservice Teachers' Reflection of Practice, *The Teacher Educator*, Vol.50(2), p.127-144.
- Bergsteiner, H., Avery, G. C. and Neumann, R. (2010) Kolb's Experiential Learning Model: Critique from a Modeling Perspective. *Studies in Continuing Education*, Vol.32(1), p.29-46.
- Biddle, S., Sallis, J.F. and Cavill, N. (eds) (1998) *Young and Active? Young People and Health-Enhancing Physical Activity—Evidence and Implications*. Health Education Authority, London.
- Biesta, G.J.J. (2015) How does a competent teacher become a good teacher? On judgement, wisdom and virtuosity in teaching and teacher education. In Heilbronn, R. & Foreman-Peck, L. (Eds), *Philosophical perspectives on the future of teacher education*, p.3-22. Oxford: Wiley Blackwell.
- Blaikie, N. (1993) *Approaches to Social Enquiry*, (1st Ed) Polity Press, Cambridge.
- Blaikie, N. (2007) *Approaches to Social Enquiry* (2nd Ed). Polity Press, Cambridge.
- Bleakley, A. (1999) From reflective practice to holistic reflexivity. *Studies In Higher Education*, Vol.24, p.315-330.
- Bloor, M., Frankland, J., Thomas, M. & Robson, K. (2001) *Focus Groups in Social Research*. SAGE.
- Bolton, G. (2010) *Reflective Practice: Writing and Professional Development* (3rd Ed) SAGE.
- Boud, D., Keogh, R. & Walker, D. (1985) *Reflection: Turning Experience into Learning*. RoutledgeFalmer.
- Boud, D., & Walker, D. (1998) Promoting reflection in professional courses: The challenge of context. *Studies in Higher Education*, Vol.23(2), p.191-206.
- Boud, D. (2010) Relocating reflection in the context of practice. In Bradbury, H., Frost, N., Kilminster, S. & Zukas, M. *Beyond Reflective Practice: New approaches to professional lifelong learning*. Routledge.
- Boulton, H., and Hramiak, A. (2012) E-flection: the development of reflective communities of learning for trainee teachers through the use of shared online web logs, *Reflective Practice*, Vol.13(4), p.503-515.
- Bowles, R. & O'Sullivan, M. (2020) Opportunity knocks: the intersection between schools, their teachers and external providers of physical education and school sport, *Discourse: Studies in the Cultural Politics of Education*, 41:2, 251-267.
- Brandt, C. (2008) Integrating feedback and reflection in teacher preparation. *ELT Journal*, Vol.62(1), p.37-46.
- Bray, J.N., Lee, J., Smith, L.L. and Yorks, L. (2000) *Collaborative Inquiry In Practice: Action, Reflection and Making Meaning*. SAGE.
- Brookfield, S.D. (1994) Tales from the dark side: a phenomenography of adult critical reflection, *International Journal of Lifelong Education*, Vol.13(3), p.203-216.

- Brookfield, S.D. (1995) *Becoming a critically reflective teacher*, San Francisco: Jossey-Bass.
- Brouwer, N. (2011) *Imaging teacher learning. A literature review on the use of digital video for preservice teacher education and professional development*. Paper presented at the Annual Meeting of the American Educational Research Association. Nijmegen: Graduate School of Education, Radboud University Nijmegen.
- Bryman, A. (1988) *Quantity and Quality in social research*, Unwin Hyman.
- Brydon-Miller, M., Greenwood, D. & Maguire, P. (2003) Why Action Research? *Action Research*, Vol.19(1), p.11-30.
- Buchanan, M. T. & Stern, J. (2012) Pre-service teachers' perceptions of the benefits of peer review. *Journal of Education for Teaching: International research and pedagogy*, Vol.38(1), p.37-49
- Burns, R.B. (2000) *Introduction to Research Methods*. SAGE..
- Burrell, G. & Morgan, G. (1979) *Sociological Paradigms and Organisational Analysis: Elements of the Sociology of Corporate Life*, Heinemann Educational Books.
- Buschor, C.B. & Kamm, E. (2015) Supporting student teachers' reflective attitude and research-oriented stance. *Educational Research for Policy and Practice*, Vol.14, p.231–245.
- Butler, J. (1996) Professional Development: Practice as text, reflection as process, and self as locus. *Australian Journal of Education*, Vol.40(3), p. 265-283.
- Butler, J.I. & McCahan, B.J. (2005) Teaching Games for Understanding As a Curriculum Model. In Griffin, L.L. & Butler, J.I. *Teaching Games for Understanding: Theory, Research and Practice*. Human Kinetics.
- Byra, M. (1996) Postlesson conferencing strategies and pre-service teachers' reflective practices. *Journal of Teaching in Physical Education*, Vol.16, p.48–65.
- Cahn, S.M. (2002) *Classics of political and moral philosophy* (1st ed.). Oxford University Press.
- Calandra, B., Gurvitch, R., & Lund, J. (2008). An exploratory study of digital video editing as a tool for teacher preparation. *Journal of Technology and Teacher Education*, Vol.16, p.137–153.
- Calder, B. J. (1977) Focus groups and the nature of qualitative marketing research. *Journal of Marketing Research*, Vol.14(3), p.353–364.
- Callens, J.C. & Elen, J. (2015) Does a structured methodology support pre-service teachers more to reflect critically than an unstructured?, *Reflective Practice*, Vol.16(5), p.609-622.
- Cameron, B.L. & Mitchell, A.M. (1993) Reflective peer journals: developing authentic nurses, *Journal of Advanced Nursing*, Vol.18, p.290-297.

- Capel, S. (2007) Moving beyond physical education subject knowledge to develop knowledgeable teachers of the subject, *The Curriculum Journal*, Vol.18(4), p.493-507.
- Capel, S. and Katene, W. (2000) Secondary PGCE PE students' perceptions of their subject knowledge. *European Physical Education Review*, Vol.6(1), p.46-70.
- Capobianco, B.M. & Feldman, A. (2010) Repositioning Teacher Action Research in Science Teacher Education, *Journal of Science Teacher Education*, Vol.21(8), p.909-915.
- Carr, W. and Kemmis, S. (1986) *Becoming Critical: Education, Knowledge And Action Research*, Falmer, Lewes.
- Carrington, S. B. & Selva, G. (2010) Critical social theory and transformative learning: evidence in pre-service teachers' service-learning reflection logs. *Higher Education Research and Development*, Vol.29(1), p.45-57.
- Chapman, C., Paterson, M. & Medves, J.M. (2011) The QUIPPED Project: Exploring Relevance and Rigor of Action Research Using Established Principles and Criteria. *The Qualitative Report*. Vol.16(1), p.208-228.
- Choy, S.C. & Oo, P.S. (2012) Reflective thinking and teaching practices: A precursor for incorporating critical thinking into the classroom, *International Journal of Instruction*, Vol.5(1), p.167-182.
- Cisero, C.A. (2006) Does Reflective Journal Writing Improve Course Performance? *College Teaching*, Vol.54(2), p.231-236.
- Clandinin, J. (1985) Personal practical knowledge: A study of teachers' classroom images. *Curriculum Inquiry*, 15, p.361-385.
- Clandinin, D. J. (1986) *Classroom practice: teacher images in action*. London, Falmer Press.
- Clarà, M., Mauri, T., Colomina, R. & Onrubia, J. (2019) Supporting collaborative reflection in teacher education: a case study, *European Journal of Teacher Education*, Vol.42(2), p.175-191.
- Clark, J. (2000) Action research. In Cormack, D. (Ed.), *The Research Process In Nursing*, Blackwell Publishing, Oxford, p.183-98.
- Clarke, L. (2009) Video reflections in initial teacher education, *British Journal of Educational Technology*, Vol.40(5), p.959-961.
- Clarke, L. & McFlynn, P. (2019) All Animals Learn, but Only Humans Teach: The Professional Place of Teacher Educators, *Educations Sciences*, Vol.9(192), p.1-13.
- Coe, D., Pivarnik, J.M., Womack, C.J., Reeves, M.J. & Malina, R. (2006) Effect of Physical Education and Activity Levels on Academic Achievement in Children, *Medicine & Science in Sports & Exercise*, Vol.38(8), p.1515-9.
- Coghlan, D., and Brannick, T. (2005) *Doing Action Research in Your Own Organisation*, 2nd edn. SAGE.

- Coghlan, D., Coughlan, P., and Brennan, L. (2004) Organizing for research and action: Implementing action research networks. *Syst. Pract. Action Research*, Vol.17(1), p.37–49.
- Coghlan, D. (2007) Insider action research: Opportunities and challenges. *Management Research News*, Vol.30(5), p.335-343.
- Coghlan, D. (2010) Seeking common ground in the diversity and diffusion of action research and collaborative management research action modalities: Toward a general empirical method. In W. A. Pasmore, A. B. Shani, & R. W. Woodman (Eds.), *Research in Organisational Change and Development* (p.149-181). Emerald Group Publishing Limited.
- Cohen, L., Manion, L. & Morrison, K. (2011) *Research Methods in Education* (7th Ed). Routledge.
- Collin, S. Karsenti, T. and Komis, V. (2013) Reflective practice in initial teacher training: critiques and perspectives, *Reflective Practice*, Vol.14(1), p.104-117.
- Cope, J. (2003) Entrepreneurial Learning and Critical Reflection: Discontinuous Events as Triggers for 'Higher-level' Learning, *Management Learning*, Vol.34(4), p.429-450.
- Copland, F. (2010) Causes of tension in post-observation feedback in pre-service teacher training: An alternative view, *Teaching and Teacher Education*, Vol.26(3), p.466-472.
- Cornelius, K.E. & Nagro, S.A. (2014) Evaluating the Evidence Base of Performance Feedback in Preservice Special Education Teacher Training, *Teacher Education and Special Education*, Vol.37(2), p.133–146.
- Cornford, I.R. (2002) Reflective teaching: empirical research findings and some implications for teacher education, *Journal of Vocational Education and Training*, Vol.54(2), p.219-236.
- Cornwall, A. (1996) Towards participatory practice: participatory rural appraisal and the participatory process. In de Koning and Martin (eds), *Participatory Research in Health*, London: Zed Books.
- Cosh, J. (1998) Peer Observation in Higher Education -- A Reflective Approach, *Innovations in Education and Training International*, Vol.35(2), p.171-176.
- Crawford, S., O'Reilly, R., & Luttrell, S. (2012) Assessing the effects of integrating the reflective framework for teaching in physical education (RFTPE) on the teaching and learning of undergraduate sport studies and physical education students. *Reflective Practice*, Vol.13(1), p.115-129.
- Creswell, J. W. (2007). *Qualitative inquiry and research design: Choosing among five approaches*. Thousand Oaks, CA: SAGE.
- Cummins, J.P., Brown, K. & Sayers, D. (2007) *Literacy, Technology and Diversity: Teaching for Success in Changing Times*, Washington: Pearson.
- Danielewicz, J. (2001) *Teaching selves: Identity, pedagogy, and teacher education*. New York: State University of New York Press.

- Danielowich, R. M. (2012). Other teachers' teaching: The influences of peer group collaboration on teacher reflection and learning. *The Teacher Educator*, Vol.47, p.101–122.
- Danielowich, R. M. (2014) Shifting the reflective focus: encouraging student teacher learning in video-framed and peer-sharing contexts, *Teachers and Teaching: theory and practice*, Vol.20(3), p.264-288.
- Dant, T. (2003) *Critical Social Theory: Culture, Society and Critique*, London: SAGE.
- Davison, R. M., Martinsons, M., G., & Kock, N. (2004) Principles of canonical action research. *Info Systems Journal*, Vol.14, p.65-86.
- Day, C. (1993) Reflection: A necessary but not sufficient condition for professional development. *British Educational Research Journal*, Vol.19(1), p.83–93.
- Deemer, S.A. (2009) Using Action Research Methodology to Unite Theory and Practice, *Teaching Educational Psychology*, Vol.3(3), p.1-3.
- DENI (2016) *Learning Leaders: A Strategy for teacher professional learning*.
- Dennison, P. (2010) Reflective practice: The enduring influence of Kolb's experiential learning theory. *Compass: The Journal of Learning and Teaching at the University of Greenwich*, Issue 1, p.23-28.
- Denscombe, M. (2007) *The Good Research Guide for small-scale social research projects* (3rd Ed). Open University Press.
- Denzin, N.K. & Lincoln, Y.S. (1994) *The Sage Handbook of Qualitative Research* (3rd Ed). SAGE.
- Desimone, L. M. (2011) A primer on effective professional development. *Phi delta kappan*, Vol.92(6), p.68-71
- Desjardins, J. (2000) *Analyse critique du champ conceptuel de la formation réflexive*. Montreal, Quebec, Canada: Unpublished doctoral thesis, Université de Montréal.
- Dewey, J. (1933/1986) How we think 2nd ed. In J. A. Boydston (Ed), *John Dewey: The Middle works* (Vol.9, p.1-370). Carbondale, IL: Southern Illinois University Press.
- Dick, B. (2015) Reflections on the SAGE Encyclopedia of Action Research and what it says about action research and its methodologies, *Action Research*, Vol.13(4), p.431-444.
- Dinkelman, T. D. (1999) Critical reflection in a social studies methods semester. *Theory and Research in Social Education*, Vol.27(3), p.328-356.
- Dinkelman, T. D. (2000) An inquiry into the development of critical reflection in secondary student teachers. *Teaching and Teacher Education*, Vol.16(2), p.195-222.
- Dori, Y. J., & Herscovitz, O. (2005) Case-based long-term professional development of science teachers. *International Journal of Science Education*, Vol.27, p.1413–1446.
- Dyer, C. (1995) *Beginning Research in Psychology*. Oxford:Blackwell.

- Dyer, M.A. & Taylor, S.M. (2012) Supporting professional identity in undergraduate Early Years students through reflective practice, *Reflective Practice*, Vol.13(4), p.551-563.
- Dymoke, S., & Harrison, J. (Eds.). (2008) *Reflective teaching and learning*. London: SAGE.
- Earl-Slater, A. (2002) The superiority of action research?, *British Journal of Clinical Governance*, Vol.7(2), p.132-135.
- Ecclestone, K. (1996) The Reflective Practitioner: Mantra or a Model for Emancipation? *Studies in the Education of Adults*, Vol.28(2), p.146-161.
- Edgington, A. (2009) Focus on the now: Making time for reflection-in-action during teacher response. *Teaching English in the Two-Year College*, Vol.36(4), p.380–391.
- Edwards, A., Gilroy, P., & Hartley, D. (2002). *Rethinking teacher education, collaborative responses to uncertainty*. London: Routledge Falmer.
- Eikeland, O. (2006) Phrónêsis, Aristotle, and action research. *International Journal of Action Research*, Vol.2(1), p.5-53.
- Ekebergh, M. (2007) Lifeworld-based reflection and learning: a contribution to the reflective practice in nursing and nursing education. *Reflective Practice*, Vol.8(3), p.331-343.
- Elliott, J. (1991) *Action Research for Educational Change: Developing teachers and teaching*. McGraw-Hill Education. UK.
- El-Dib, M.A.B. (2007) Levels of Reflection in Action Research: An Overview and an Assessment Tool, *Teaching & Teacher Education: An International Journal of Research and Studies*, Vol.23(1), p.24-35.
- Eraut, M. (2004) Editorial: the practice of reflection. *Learning in Health and Social Care*, Vol.3(2), p.47-52.
- Eraut, M. (2006) Schön shock: A case for refraining reflection-in-action? *Teachers and Teaching: Theory and Practice*, Vol.1, p.9–22.
- Erlanson, P. (2005) The body disciplined: Rewriting teaching competence and the doctrine of reflection. *Journal of Philosophy of Education*, Vol.39, p.661-670.
- Etherington, K. (2004) *Becoming reflexive researchers: Using ourselves in research*. London: Jessica Kingley.
- European Commission Staff Working Document SEC (2010) *Developing coherent and system-wide induction programmes for beginning teachers: a handbook for policy makers*. European Commission: Directorate-General for Education and Culture.
- Evans, A., Hawksley, F., Holland, M. & Caillau, I. (2008) *Improving subject knowledge and subject pedagogic knowledge in employment-based secondary initial teacher training in England*. Available online at: <http://shura.shu.ac.uk/187/1/fulltext.pdf>

- Everley, S. (2019) Why mentoring? In Capel, S. & Lawrence, J. *Mentoring Physical Education Teachers in the Secondary School: A Practical Guide*. Routledge: London.
- Ezzy, D. (2002) *Qualitative Analysis: Practice and Innovation*. Psychology Press.
- Farrell, T.S.C. (2012) Reflecting on reflective practice: Revisiting Dewey and Schon. *TESOL Journal*, Vol.3, p.7-16.
- Farrell, T.S.C (2014) 'Teacher You Are Stupid'- Cultivating a Reflective Disposition. *The Electronic Journal for English as a Second Language*, Vol.18(3), p.1-10.
- Fathi, J. & Behzadpour, F. (2011) Beyond Method: The Raise of Reflective Teaching. *International Journal of English Linguistics* Vol.1(2), p.241-251.
- Feak, C. B., & Salehzadeh, J. (2001) Challenges and issues in developing an EAP video listening placement assessment: A view from one program. *English for Specific Purposes*, Vol.20, p.477-493.
- Feiman-Nemser, S. (2001). From preparation to practice: Designing a continuum to strengthen and sustain teaching. *Teachers College Record*, Vol.103(6), p.1013–1055.
- Feiman-Nemser, S., & Parker, M. B. (1993) Mentoring in context: A comparison of two U.S. programs for beginning teachers. *International Journal of Education Research*, Vol.19(8), p.699–718.
- Fendler, L. (2003). Teacher reflection in a hall of mirrors: Historical influences and political reverberations. *Educational Researcher*, Vol.32(3), p.16–25.
- Finch, H., Lewis, J., & Turley, C. (2014) Focus Groups. In Ritchie, J., Lewis, J., McNaughton Nicholls, C. & Ormston, R. *Qualitative Research Practice: A Guide for Social Science Students and Researchers*. SAGE.
- Findon, M. & Johnston-Wilder, S. (2019) Developing your resilience: Managing stress, workload and time. In Capel, S., Leask, M. & Younie, S. (8th Ed) *Learning to Teach in The Secondary School: A companion to School Experience*. Routledge: London.
- Fine, G.A. & Sandstrom, K.L. (1988) Knowing Children: Participant Observation with Minors. *Qualitative Research Methods Series 15*. Thousand Oaks, CA: SAGE.
- Finlay, L. (2002) Negotiating the swamp: the opportunity and challenge of reflexivity in research practice. *Qualitative Research*, Vol.2(2), p.209-230.
- Finlay, L. (2003) Mapping multiple routes. In L. Finlay and B. Gough (Eds.) *Reflexivity: a practical guide for researchers in health and social sciences*. Oxford: Blackwell Publishing
- Finlay, L. & Gough, B. (2003) *Reflexivity: a practical guide for researchers in health and social sciences*. Oxford: Blackwell Publishing.
- Finlay, L. (2008) Reflecting on 'Reflective Practice', *PBPL*, paper 52, The Open University.
- Flick, U. (2009) *An Introduction to Qualitative Research* (4th Ed). SAGE.
- Flick, U. (2014) *An Introduction to Qualitative Research* (5th Ed). SAGE.

- Fook, J. (1999) Critical reflectivity in education and practice. In B. Pease, & J. Fook (Eds.), *Transforming social work practice: Postmodern critical perspectives* (p.195–210). St Leonards: Allen & Unwin.
- Fook, J., Ryan, M. & Hawkins, L. (2000) *Professional Expertise: Practice, theory and education for working in uncertainty*. London: Whiting and Birch.
- Fook, J., White, S. & Gardner, F. (2006) Critical Reflection: A Review of contemporary literature and understandings. In S. White, J. Fook, & F. Gardner (Eds), *Critical Reflection in Health and Social Care*. Maidenhead, Open University Press/McGraw-Hill Education.
- Fook, J. & Gardner, F. (2007) *Practising Critical Reflection: A Resource Handbook*. McGraw-Hill Education.
- Fook, J. (2007) Reflective Practice and Critical Reflection. In Lishman, J. *Handbook for Practice Learning in Social Work and Social Care: Knowledge and Theory* (2nd Ed.). Jessica Kingsley, London, Philadelphia.
- Frankfort-Nachmias, C. & Nachmias, D. (1992) *Research Methods in the Social Sciences*. London: Edward Arnold.
- Freeman, M., & Vasconcelos, E.F.S (2010) Critical Social Theory: Core tenets, inherent issues. In Freeman, M. (Ed), *Critical Social Theory and evaluation practice. New Directions for Evaluation*, 127, 7-19.
- Freire, P. (1972) *Pedagogy of the Oppressed*. Harmondsworth: Penguin.
- Fuller, F. (1970) *Personalized education for teachers: One application of the Teacher Concerns Model*. University of Texas R&D Center for Teacher Education, Austin, TX.
- Fund, Z., Court, D. & Kramarski, B. (2002) Construction and application of an evaluation tool to assess reflection in teacher training courses. *Assessment and Evaluation in Higher Education*, Vol.27(6), p.485-499.
- Fund, Z. (2010) Effects of communities of reflecting peers on student-teacher development – including in-depth case studies, *Teachers and Teaching: theory and practice*. Vol.16(6), p.679–701.
- Galea, S. (2012) Reflecting Reflective Practice, *Educational Philosophy and Theory*, Vol.44(3), p.245-258.
- Gardner, C. & Williamson, J. (2007) The complexities of learning to teach: ‘Just what is it that I am doing?’. In T. Townsend & R. Bates (Eds.), *Handbook of teacher education* (p.691–710). Netherlands: Springer.
- Garrett, R., & Wrench, A. (2008) Connections, pedagogy and alternative possibilities in primary physical education. *Sport Education and Society*, Vol.13(1), p.39-60.
- Gimenez, T. (1999) Reflective Teaching and Teacher Education Contributions from Teacher Training. *Linguagem & Ensino*, Vol.2(2), p.129-143.
- Giroux, H. (1993) *Living dangerously: Multiculturalism and the politics of culture*. New York: Peter Lang.

- Glasgow, N. A., and Hicks, C. D. (2003) What successful teachers do: Research-based classroom strategies for new and veteran teachers. California: Corwin Press.
- Gordon, D.R. (1984) *Research application - identifying the use and misuse of formal models in nursing practice, From Novice to Expert: Excellence and Power in Clinical Nursing* (ed. P. Benner), Addison-Wesley, Menlo Park.
- Gore, J. M. & Zeichner, K. M. (1991) Action Research and Reflective Teaching in Preservice Teacher Education: A case study from the United States. *Teaching and Teacher Education*, Vol.7(2), p.119-136.
- Gosling, D. (2005) Peer Observation of teaching. *SEDA Paper 118*. London: Staff and Educational Development Association Ltd.
- Gosling, D. (2009) A new approach to peer review of teaching. *SEDA paper 124*, Chapter 1.
- Gould, N. (1996) Introduction: Social work education and the 'crisis of the professions'. In Gould, N & Taylor, I (Eds.), *Reflective learning for social work*. Aldershot: Arena.
- Graber, K.C. (1995) The influence of Teacher Education Programs on the Beliefs of Student Teachers: General Pedagogical Knowledge, Pedagogical Content Knowledge, and Teacher Education Course Work, *Journal of Teaching in Physical Education*, Vol.14(2), p.157-178.
- Graber, K.C. (2001) Research on teaching in physical education. In V. Richardson (Ed.), *Handbook of research on teaching* (4th ed., p.491–519). Washington, DC: American Educational Research Association.
- Greenwald, A. G. (1980) The totalitarian ego: Fabrication and revision of personal history. *American Psychologist*, Vol.35, p.603–618.
- Greenwalt, K. A. (2008) Through the camera's eye: A phenomenological analysis of teacher subjectivity. *Teaching and Teacher Education*, Vol.24, p.387–399.
- Greenwood, J. (1993) Reflective practice: a critique of the work of Argyris and Schon. *Journal of Advanced Nursing*, Vol.19, p.1183-1187.
- Griffin, M.L. (2003) Using Critical Incidents to Promote and Assess Reflective Thinking in Preservice Teachers, *Reflective Practice*, Vol.4(2), p.207-220.
- Grix, J. (2004) *The foundations of research*. London: Palgrave Macmillan.
- Grove, S.J. & Fisk, R.P. (1992) Observational Data Collection Methods for Services Marketing: An Overview, *Journal of the Academy of Marketing Science*, Vol.20, p.217-224.
- Grundy, S. (1982) Three modes of action research, *Curriculum Perspectives*, Vol.2(3), p.23-24.
- GTCNI (2011) *Teaching: the Reflective Profession*, Albany House, Belfast.
- Gujarati, J. (2012) A Comprehensive Induction System: A Key to the Retention of Highly Qualified Teachers, *The Educational Forum*, Vol.76(2), p.218-223.
- Gun, B. (2011) Quality self-reflection through reflection training, *ELT Journal*. Vol.65(2), p.126-135.

- Hamilton, E. R. (2012) His ideas are in my head: peer-to-peer teacher observations as professional development, *Professional Development in Education*, Vol.39(1), p.42-64.
- Handy, J. & Ross, K. (2005) Using Written Accounts in Qualitative Research, *South Pacific Journal of Psychology*, Vol.16(1), p.40-47.
- Harford, J. and MacRuairc, G. (2008) Engaging student teachers in meaningful reflective practice. *Teaching and Teacher Education*, Vol.24(7), p.1884-92
- Harford, J., MacRuairc, G. & McCartan, D. (2010) 'Lights, camera, reflection': using peer video to promote reflective dialogue among student teachers, *Teacher Development: An international journal of teachers' professional development*, Vol.14(1), p.57-68.
- Harrison, J.K. (2001) The Induction of Newly Qualified Teachers. *Journal of Education for Teaching*, Vol.27(3), p.277-279.
- Hattie, J. & Timperley, H. (2007) The Power of Feedback, *Review of Educational Research*, Vol.77(1), p.81-112.
- Hatton, N., & Smith, D. (1995). Reflection in teacher education: Towards definition and implementation. *Teaching and Teacher Education*, Vol.11(1), p.23-32.
- Hatzipanagos, S. & Lygo-Baker, S. (2006) Teaching observations: promoting development through critical reflection, *Journal of Further and Higher Education*, Vol.30(4), p.421-431,
- Haynes, M. (2011) *A System Approach to Building a World-Class Teaching Profession: The Role of Induction*. Policy Brief, p.1-19.
- Hebert, C. (2015) Knowing and/or Experiencing: a critical examination of the reflective models of John Dewey and Donald Schon, *Reflective Practice: International and Multidisciplinary Perspectives*, Vol.16(3), p.361-371.
- Hendry, G. D., Bell, A., & Thomson, K. (2014) Learning by observing a peer's teaching situation. *International Journal for Academic Development*, Vol.19(4), p.318-329.
- Herr, K., and Anderson, G.L. (2005) *The action research dissertation: A guide for students and faculty*. Thousand Oaks, California: SAGE.
- Higgins, R., Hartley, P., & Skelton, A. (2002) The conscientious consumer: Reconsidering the role of assessment feedback in student learning. *Studies in Higher Education*, Vol.27, p.53-64.
- Hobbs, V. (2007) Faking it or hating it: can reflective practice be forced?, *Reflective Practice*, Vol.8(3), p.405-417.
- Hobson, A.J. & Malderez, A. (2013) Judgementoring and other threats to realizing the potential of school-based mentoring in teacher education, *International Journal of Mentoring and Coaching in Education*, Vol.2(2), p.89-108.
- Hockly, N. (2000) Modeling and 'cognitive apprenticeship' in teacher education, *ELT Journal*, Vol.43(2), p.118-125.

- Holter, I.M. and Schwartz-Barcott, D. (1993) Action research: what is it? How has it been used and how can it be used in nursing?, *Journal of Advanced Nursing*, Vol.128, p.298-304.
- Hounsell, D. (2007) Towards More Sustainable Feedback to Students. In *Rethinking Assessment in Higher Education: Learning for the Longer Term*, edited by D. Boud and N. Falchikov, 101–113. London: Routledge.
- Hourani, R.B. (2013) Pre-service Teachers' Reflection: Perception, Preparedness and Challenges. *Reflective Practice: International and Multidisciplinary Perspectives*, Vol.14(1), p.12-30.
- Howard, T.C. (2003) Culturally Relevant Pedagogy: Ingredients for Critical Teacher Reflection, *Theory Into Practice*, Vol.42(3), p.195-202.
- Howarth K (2005) Introducing the teaching games for understanding model in teacher education programs. In: Griffin, L. and Butler, J. (eds) *Teaching Games for Understanding: Theory, Research and Practice*. Champaign, IL: Human Kinetics, p.91–106.
- Howe, K.R. & Moses, M.S. (1999) Ethics in educational research. *Review of Research in Education*, Vol.24(1), p.21-59.
- Huberman, M. (1995) Networks that alter teaching, *Teachers and Teaching: Theory and Practice*, Vol.1(2), p.193–221.
- Hume, A. (2009) Promoting higher levels of reflective writing in student journals. *Higher Education Research & Development*, Vol.28(3), p.247-260.
- Husu, J., Patrikainen, S. & Toom, A. (2007) Developing Teachers' Competencies in Reflecting on Teaching. In Butcher, J. & McDonald, L. *Making a Difference: Challenges for Teachers, Teaching and Teacher Education*. Brill Publishing.
- Iqbal, M.Z., Jumani, N.B. & Chishti, S. (2015) Professional Reflection a Cradle of Student Teacher's Professional Development, *Mediterranean Journal of Social Sciences*, Vol.6(3), p.376-384.
- Jarvis, P. (1987) *Adult Learning in the Social Context*, London: Croom Helm.
- Jarvis, P. (2004) *Adult education and lifelong learning: Theory and practice* (3rd ed.). London: Routledge.
- Johansson, I., Sandberg, A. and Vuorinen, T. (2007) Practitioner-oriented research as a tool for professional development. *European Early Childhood Education Research Journal*, Vol.15(2), p.151–166.
- Johns, C. (2017) Writing Self. In Johns, C. (2017) *Becoming a Reflective Practitioner* (5th Ed). Wiley Blackwell.
- Jones, M.H. & Gallen, A.M. (2016) Peer observation, feedback and reflection for development of practice in synchronous online teaching, *Innovations in Education and Teaching International*, Vol.53(6), p.616-626.
- Jung, J. (2012) The focus, role, and meaning of experienced teachers' reflection in physical education, *Physical Education & Sport Pedagogy*, Vol.17(2), p.157-175.

- Jyrhama, R. (2001) *What Are the "Right" Questions and the "Right" Answers in Teaching Practice Supervision?* Paper presented at the Annual Meeting of the International Study Association on Teachers and Teaching (Faro, Portugal, September 21-25, 2001).
- Kang, S. & Berliner, D.C. (2012) Characteristics of Teacher Induction Programs and Turnover Rates of Beginning Teachers, *The Teacher Educator*, Vol.47(4), p.268-282.
- Kavaliauskienė, G., Kaminskienė, L. and Anusienė, L. (2007) Reflective practice. Assessment of assignments in English for Specific Purposes. *Ibérica*, Vol.14 p.149–66.
- Kearney, S. (2013) *New Scheme Teacher induction: Challenges and opportunities*. Saarbrücken: Scholar's Press.
- Kearney, S. (2016) What happens when induction goes wrong: Case studies from the field, *Cogent Education*, Vol.3(1), p.1-10.
- Kember, D., A. Jones, A. Loke, J. McKay, K. Sinclair, H. Tse, C. Webb, F. Wong, M. Wong, and E. Yeung (1999) Determining the level of reflective thinking from students' written journals using a coding scheme based on the work of Mezirow. *International Journal of Lifelong Education* Vol.18(1), p.18–30.
- Kemmis, S. (1980) Action Research in Retrospect and Prospect. *Australian Association for Research in Education*, p.1-22.
- Kemmis, S. (2006) Exploring the relevance of critical theory for action research: emancipatory action research in the footsteps of Jürgen Habermas, in Reason, P. and Bradbury, H. (Eds), *The Handbook of Action Research*, SAGE. London, p.94-105.
- Kemmis, S. (2009) Action research as a practice-based practice, *Educational Action Research*, Vol.17(30), p.463-474.
- Killeavy, M. & Moloney, A. (2010) Reflection in a social space: Can blogging support reflective practice for beginning teachers? *Teaching and Teacher Education*, Vol.26(4), p.1070-1076.
- Kim, Y. & Silver, R.E. (2016) Provoking Reflective Thinking in Post Observation Conversations, *Journal of Teacher Education*, Vol.67(3), p.203-219.
- Kinsella, E.A. (2002) Reflections On: Reflections on reflective practice, *Canadian Journal of Occupational Therapy*, Vol.68(3), p.195-198.
- Kinsella E.A. (2009) Professional knowledge and the epistemology of reflective practice. *Nursing Philosophy*, Vol.11, p.3–14.
- Kinsella, E.A. (2010) The art of reflective practice in health and social care: Reflections on the legacy of Donald Schön. *Reflective Practice. International and Multidisciplinary Perspectives*, Vol.11(4), p.565–575.
- Kirk, D. (2004) Framing quality physical education: the elite sport model or sport education?, *Physical Education and Sport Pedagogy*, Vol.9(2), p.185-195.
- Kitwood, T. M. (1977) Values in adolescent life: towards a critical description, Unpublished PhD dissertation, School of Education, University of Bradford.

- Klein, S.R. (2008) Holistic reflection in teacher education: issues and strategies, *Reflective Practice*, Vol.9(2), p.111-121.
- Kolb, D. A. (1984) *Experiential Learning: Experience as the Source of Learning and Development*. Englewood Cliffs, New Jersey: Prentice-Hall.
- Korthagen, F., & Vasalos, A. (2005) Levels in reflection: Core reflection as a means to enhance professional growth. *Teachers and Teaching*, Vol.11(1), p.47–71.
- Korthagen, F.A.J., & Vasalos, A. (2010) Going to the core: Deepening Reflection by Connecting the Person to the Profession. In: Lyons, N. (Eds) *Handbook of Reflection and Reflective Inquiry*. Springer, Boston, MA.
- Krueger, R. A. (1988) *Focus groups: A practical guide for applied research*. SAGE.
- Krueger, R.A. (1994) *Focus Groups: a practical guide for applied research*. (2nd Ed). SAGE.
- Krueger, R.A. & Casey, M.A. (2015) *Focus Groups: A Practical Guide for Applied Research* (5th Ed). SAGE.
- Kulhavy, R. W. (1977) Feedback in written instruction. *Review of Educational Research*, Vol.47(1), p.211–232.
- Kyprianou, C. Graebner, M.E., Rindova, V. (2016) Strategic Conversations: Methods for Data Collection and Analysis. In Elsbach, K. and Kramer, R. (Ed.). *The Handbook of Qualitative Organisational Research*, Routledge, p.272-285.
- LaBoskey, V.K. (1994) *Development of reflective practice: A study of preservice teachers*. New York:Teachers College Press.
- La Velle, L. & Leask, M. (2019) What do teachers do? In Capel, S., Leask, M. & Younie, S. *Learning to Teach in the Secondary School: A Companion to School Experience* (8th Ed), Routledge, London.
- Lamb, P., Lane, K. and Aldous, D. (2012) Enhancing the spaces for reflection: A buddy peer- review process within physical education initial teacher education, *European Physical Education Review*, Vol.19(1), p.21-38.
- Lambe, J. (2011) Developing pre-service teachers' reflective capacity through engagement with classroom-based research, *Reflective Practice: International and Multidisciplinary Perspectives*, Vol.12(1), p.87-100.
- Lane, R., McMaster, H., Adnum, J. & Cavanagh, M. (2014) Quality reflective practice in teacher education: a journey towards shared understanding, *Reflective Practice: International and Multidisciplinary Perspectives*, Vol.15(4), p.481-494.
- Larrivee, B. (2000) Transforming Practice: Becoming the critically reflective teacher, *Reflective Practice*, Vol.1(3), p.293-307.
- Larrivee, B. (2004) *Assessing teachers' level of reflective practice as a tool for change*. Paper presented at the Third International Conference on Reflective Practice, Gloucester, UK.

- Larrivee, B. (2008) Development of a tool to assess teachers' level of reflective practice, *Reflective Practice*, Vol.9(3), p.341-360.
- Larsson, H. & Redelius, K. (2008) Swedish physical education research questioned—current situation and future directions, *Physical Education and Sport Pedagogy*, Vol.13(4), p.381-398.
- Lawrence, J. (2019) Holding pre- and post-lesson observation discussions. In Capel, S. & Lawrence, J. *Mentoring Physical Education Teachers in the Secondary School: A Practical Guide*. Routledge: London.
- Lawrence, J., Low, K. & Phan, J. (2019) Observing beginning physical education teachers teaching. In Capel, S. & Lawrence, J. *Mentoring Physical Education Teachers in the Secondary School: A Practical Guide*. Routledge: London.
- Leask, M. & Liversidge, T. (2019) Improving your teaching: An introduction to practitioner research, reflective practice and evidence-informed practice In Capel, S., Leask, M. & Younie, S. *Learning to Teach in the Secondary School: A Companion to School Experience*, (8th Ed), Routledge, London.
- Leask, M. & Moorhouse, C. (2005) What do teachers do? In Capel, S., Leask, M. & Turner, T. *Learning to teach in the Secondary School: A companion to school experience* (4th Ed). Routledge: London.
- LeCompte, M.D. & Preissle, J. (1993) *Ethnography and Qualitative Design in Educational Research* (2nd Ed). San Diego and New York: Academic Press.
- Leonardo, Z. (2004) Critical Social Theory and Transformative Knowledge: The Functions of Criticism in Quality Education, *Educational Researcher*, Vol.33(6), p.11-18.
- Lesnick, A. (2005) The mirror in motion: redefining reflective practice in an undergraduate fieldwork seminar, *Reflective Practice*, Vol.6(1), p.33-48.
- Lewin, K. (1946) Action research and minority problems. *Journal of Social Issues*. Vol.2, p.34-46.
- Lichtman, M. (2004) *Qualitative Research in Education: A User's Guide*. SAGE.
- Lin, H. (2011) Facilitating Learning from Animated Instruction: Effectiveness of Questions and Feedback as Attention-directing Strategies. *Educational Technology & Society*, Vol.14(2), p.31–42.
- Liston, D.P. & Garrison, J.W. (2004) *Teaching, Learning, and Loving: Reclaiming Passion in Educational Practice*, Routledge.
- Liston, D., and Zeichner, K. (1991) *Teacher education and the social conditions of schooling*. New York: Routledge.
- Liston, D., and Zeichner, K. (1996) *Reflective teaching: An introduction*. Mahwah, NJ: Lawrence Erlbaum Associates, Inc.
- Litoselliti, L. (2003) *Using Focus Groups in Research*. Continuum. London.
- Little, M.E. (2012) Action Research and Response to Intervention: Bridging the Discourse Divide, *The Educational Forum*, Vol.76(1), p.69-80.
- Liu, K. (2015) Critical reflection as a framework for transformative learning in teacher education, *Educational Review*, Vol.67(2), p.135-157.

- Loughran, J.J. (2000) *Effective Reflective practice*, A paper presented at Making a difference through Reflective practices: values and Actions conference. University College of Worcester, July 2000.
- Loughran, J. (2002) Effective Reflective Practice: In Search of Meaning in Learning about Teaching, *Journal of Teacher Education*, Vol.53(1), p.33-43.
- Lupinski, K., Jenkins, P., Beard, A., & Jones, L. (2012) Reflective practice in teacher education programs at a HBCU. *Educational Foundations*, Vol.26, p.81–92.
- Luttenberg, J., Oolbakkink-Marchand, H. & Meijer, P. (2018) Exploring scientific, artistic, moral and technical reflection in teacher action research, *Educational Action Research*, Vol.26(1), p.75-90.
- Lynch, M. (2000) Against Reflexivity as an Academic Virtue and Source of Privileged Knowledge, *Theory, Culture and Society*, Vol.17(3), p.26–54.
- Lyons, N. (1998) Reflection in Teaching: Can It Be Developmental? A Portfolio Perspective. *Teacher Education Quarterly*, Winter, p.115-128.
- MacIntosh, R., Bonnet, M. and Coghlan, D. (2007) "Insider Action Research: Opportunities and Challenges", *Management Research News*, Vol.30, p.335-343.
- Malterud, K. (2016) Sample Size in Qualitative Interview Studies: Guided by Information Power. *Qualitative Health Research*, Vol.26, p.1753-1760.
- Malthouse, R., Roffey-Barentsen, J. & Watts, M. (2014) Reflectivity, reflexivity and situated reflective practice, *Professional Development In Education*, Vol.40(4), p.597-609.
- Manias, E. & Street, A. (2000) Possibilities for Critical Social Theory and Foucault's work: a toolbox approach, *Nursing Inquiry*, Vol.7, p.50-60.
- Marcos, J.M., Sanchez, E. & Tillema, H.H. (2011) Promoting teacher reflection: what is said to be done, *Journal of Education for Teaching*, Vol.37(1), p.21-36.
- Mason, K.O. & Klein, S.R. (2013) Land, sea and sky: mapmaking as reflection in pre-service teacher education, *Reflective Practice*, Vol.14(2), p.209-225.
- Mauri, T., Onrubia, J., Colomina, R. & Clarà, M. (2019) Sharing initial teacher education between school and university: participants' perceptions of their roles and learning, *Teachers and Teaching*, Vol.25(4), p.469-485.
- Maxwell, J.A. (2012) *Qualitative Research Design: An Interactive Approach* (3rd Ed). SAGE.
- Maxwell, T. & Choeden, P. (2012) Improving the Research Output of Academics at the Royal University of Bhutan: An Action Research Reconnaissance and Early Initiatives, *Bhutan Journal of Research and Development*, Autumn, p.187-197.
- McCollum, S. (2002) The Reflective Framework for Teaching in Physical Education: A Pedagogical Tool. *Journal of Physical Education, Recreation and Dance*, Vol.73(6), p.39-42.

- McCormack, A., Gore, J. & Thomas, K. (2006) Early career teacher professional learning, *Asia Pacific Journal of Teacher Education*, Vol.34(1), p.95–113.
- McCutcheon, G. and Jurg, B. (1990) Alternative perspectives on action research, *Theory into Practice*, Vol. 29(3), p.144-151.
- McFlynn, P. (2019) Supporting beginning physical education teachers to become reflective practitioners. In Capel, S. & Lawrence, J. *Mentoring Physical Education Teachers in the Secondary School: A Practical Guide*. Routledge: London.
- McGarr, O., & McCormack, O. (2014) Reflecting to Conform? Exploring Irish Student Teachers' Discourses in Reflective Practice, *The Journal of Educational Research*, Vol.107(4), p.267-280,
- McGarr, O., McCormack, O. & Comerford, J. (2019) Peer-supported collaborative inquiry in teacher education: exploring the influence of peer discussions on preservice teachers' levels of critical reflection, *Irish Educational Studies*, Vol.38(2), p.245-261.
- McGrath, H. & O'Toole, T. (2012) Critical issues in research design in action research in an SME development context, *European Journal of Training and Development*, Vol.36(5), p.508 – 526.
- McKenzie, T.L., Marshall, S.J., Sallis, J.F. and Conway, T.L. (2000) Student activity levels, lesson context and teacher behavior during middle school physical education. *Research Quarterly for Exercise and Sport*, Vol.71, p.249–259.
- McKernan, J. (1991) *Curriculum Action Research. A Handbook of Methods and Resources for the Reflective Practitioner*, Kogan Page, London.
- McNiff, J., Lomax, P. & Whitehead, J. (2003) *You and Your Action Research Project* (2nd Ed.). London: Routledge.
- McNiff, J. & Whitehead, J. (2009) *Doing and writing action research*. London. SAGE.
- Mehra, B. (2002) Bias in qualitative research: Voices from the online classroom. *The Qualitative Report*, Vol.71(1), p.1-19.
- Mewborn, D.S. and Stanulis, R.N. (2000) Making the Tacit Explicit: Teacher Educators' Values and Practices in a Co-Reform Teacher Education Program. *Teacher Education Quarterly*, Vol.27(3), p.5-22.
- Mezirow, J. (1983) A critical theory of adult learning and education. In M. Tight (Ed.), *Education for Adults, Vol.1, Adult learning and education*. Milton Keynes: Open University Press.
- Mezirow, J. (1991) *Transformative dimensions of adult learning*. San Francisco. Jossey-Bass.
- Miller, T. & Boulton, M. (2007) Changing Constructions of Informed Consent: Qualitative Research and Complex Social Worlds, *Social Science and Medicine*, Vol.65(11), p.2199-2211.
- Miller, M. J. (2009) Talking about our troubles: Using video-based dialogue to build preservice teachers' professional knowledge. *The Teacher Educator*, Vol.44, p.143–163.

- Miltiades, H. B. (2008) Interview as a social event: cultural influences experienced while interviewing older adults in India. *International Journal of Social Research Methodology*, 11(4), p.277-91.
- Money, J. & Walsh, B. (2019) Roles and responsibilities of mentors. In Capel, S. & Lawrence, J. *Mentoring Physical Education Teachers in the Secondary School: A Practical Guide*. Routledge: London.
- Montgomery, L. A. (2003) Digital Portfolios in Teacher Education, Computers in the Schools, Vol.20(1-2), p.171-186.
- Moon, J. A. (1999) *Reflection in learning and professional development: Theory and practice*. London: Kogan Page.
- Mooney, A. & Hickey, C. (2017) '(Dis)empowered by what we see...': exploring the use of video-stimulated reflection in physical education pedagogy and practice, *Asia-Pacific Journal of Health, Sport and Physical Education*, Vol.8(3), p.229-244.
- Mooney, M. & Nolan, L. (2006) A critique of Freire's perspective on critical social theory in nursing education, *Nurse Education Today*, Vol.26(3), p.240-244.
- Mordal-Moen, K. & Green, K. (2014) Neither shaking nor stirring: a case study of reflexivity in Norwegian physical education teacher education, *Sport, Education and Society*, Vol.19(4), p.415-434.
- Morgan, D.L. (1988) *Focus Groups as Qualitative Research*, SAGE.
- Mortari, L. (2012) Learning thoughtful reflection in teacher education. *Teachers and Teaching: Theory and Practice*, Vol.18, p.525–545.
- Murray, E. (2002) Challenges in educational research. *Medical Education*, Vol.36, p.110-112.
- Murray-Harvey, R., Slee, P., Lawson, M., Silins, H., Banfield, G. and Russell, A. (2000) Under Stress: The Concerns and Coping Strategies of Teacher Education Students. *European Journal of Teacher Education*, Vol.23(1), p.19-35.
- Napper-Owen, G., & McCallister, S. (2005) What elementary physical education student teachers observe and reflect upon to assist their instruction. *Physical Educator*, Vol.62, p.76–84.
- Nelson, F.L. & Sadler, T. (2013) A third space for reflection by teacher educators: A heuristic for understanding orientations to and components of reflection, *Reflective Practice*, Vol.14(1), p.43-57.
- Nelson, F.L., Miller, L.R. & Yun, C. (2016) 'It's OK to feel totally confused': reflection without practice by preservice teachers in an introductory education course, *Reflective Practice*, Vol.17(5), p.648-661.
- Nicol, D. J & Macfarlane-Dick, D. (2006) Formative assessment and self-regulated learning: a model and seven principles of good feedback practice. *Studies in Higher Education*, Vol.31(2), p.199-218.
- O'Connell, T.S. & Dymont, J.E. (2011) The case of reflective journals: is the jury still out? *Reflective Practice*, Vol.12(1), p.47-59.

- Ogden, R. (2008) Bias In L.M. Given (Ed.), *The SAGE Encyclopedia of qualitative research methods*, Vol.1, p.60-61. Los Angeles, CA: SAGE.
- Olson, J.K. and Finson, K.D. (2009) Developmental Perspectives on Reflective Practices of Elementary Science Education Students, *Journal of Elementary Science Education*, Vol.21(4), p.43-52.
- Ong, W. (1982) *Orality and literacy: The technologization of the word*. London: Methuen.
- Orland-Barack, L. & Yinon, H. (2007) When theory meets practice: What student teachers learn from guided reflection on their own classroom discourse, *Teaching and Teacher Education*, Vol.23, p.957-969.
- Ormston, R., Spencer, L., Barnard, M & Snape, D. (2014) The Foundations of Qualitative Research. In Ritchie, J., Lewis, J., McNaughton Nicholls, C. & Ormston, R. *Qualitative Research Practice: A Guide for Social Science Students and Researchers*. SAGE.
- Ortlipp, M. (2008) Keeping and Using Reflective Journals in the Qualitative Research Process, *The Qualitative Report*, Vol.13(4), p.695-705.
- Osterman, K.F. & Kottkamp, R.B. (2004) *Reflective Practice for Educators: Professional Development to Improve Student Learning* (2nd Ed.), Corwin Press, Sage, California.
- Otienoh, R. (2011) Teachers' lack of deeper analytical reflections: Who is to blame? *Reflective Practice: International and Multidisciplinary Perspectives*, 12, p.733–747.
- Ovens, A., & Tinning, R. (2009) Reflection as situated practice: A memory-work study of lived experience in teacher education. *Teaching and Teacher Education*, Vol.25(8), p.1125-1131.
- Panjwani, S. & Chandra, R. (2010) *A Study of Teachers' Reactions towards Video-Assisted Feedback*, p.1-7. British Informatics Society.
- Parra, M.O., Gutiérrez, R. & Aldana, M.F. (2015) Engaging in critically reflective teaching: from theory to practice in pursuit of transformative learning, *Reflective Practice*, Vol.16(1), p.16-30.
- Parsons, M. & Stephenson, M. (2005) Developing reflective practice in student teachers: collaboration and critical partnerships, *Teachers and Teaching*, Vol.11(1), p.95-116.
- Patton, M.Q. (1990) *Qualitative Evaluation and Research Methods* (2nd Ed). London: SAGE.
- Pavlovich, K. (2007) The development of reflective practice through student journals, *Higher Education Research and Development*, Vol.26(3), p.281-295.
- Pease, B. and Fook, J. (eds) (1999) *Transforming Social Work Practice: Postmodern Critical Perspectives*, St Leonards, Australia, Allen and Unwin, p.70–83.
- Pellegrino, A. M. and Gerber, B. L. (2012) Teacher Reflection Through Video-Recording Analysis, *Georgia Educational Researcher*: Vol.9(1), Article 1, p.1-20.

- Penn-Edwards, S. (2004) Visual Evidence in Qualitative Research: The Role of Videorecording. *The Qualitative Report*, Vol.9(2), p.266-277.
- Penney, D. & Evans, J. (2005) Policy, power and politics in physical education. In Green, K. & Hardman, K. (Eds) *Physical Education: Essential Issues*. London: SAGE.
- Penso, S., Shoham, E. & Shiloah, N. (2001) First steps in novice teachers' reflective activity, *Teacher Development*, Vol.5(3), p.323-338.
- Perkins, D. N., Jay, E., & Tishman, S. (1993) Beyond abilities: A dispositional theory of thinking. *Merrill-Palmer Quarterly*, Vol.39(1), p.1-21.
- Peterson, S. 2003. Peer response and students' revisions of their narrative writing. *L1- Educational Studies in Language and Literature*, Vol.30(3), p.239-72.
- Pham, H.L. (2012). Differentiated instruction and the need to integrate teaching and practice. *Journal of College Teaching & Learning*, Vol.9(1), p.13-20.
- Polkinghorne, D. E. (2005) Language and meaning: Data collection in qualitative research. *Journal of Counseling Psychology*, Vol.52(2), p.137-145.
- Poom-Valickis, K. and Mathews, S. (2013) Reflecting others and own practice: an analysis of novice teachers' reflection skills, *Reflective Practice*, Vol. 14(3), p.420-434.
- Postlethwaite, K. & Haggarty, L. (2012) Student teachers' thinking about learning to teach: a study of student teachers of mathematics and science at the end of their initial training, *Research Papers in Education*, Vol.27(3),p.263-284.
- Prater, M.A. & Devereaux, T.H. (2009) Culturally Responsive Training of Teacher Educators, *Action in Teacher Education*, Vol.31(3), p.19-27.
- Punch, K.F. (2009) *Introduction to Research Methods in Education*, SAGE.
- Punjwani, S. & Chandra, R. (2010) A study of teachers' reactions towards video-assisted feedback. *British Informatics Society*, p.1-7.
- Quinn, F.M. (2000) Reflection and reflective practice. In C.Davies, L.Finlay and A. Bullman (eds.) *Changing practice in health and social care*. London: SAGE.
- Raelin, J.A. (2001) Public Reflection as the Basis of Learning, *Management Learning*, Vol.32(1), p.11-30.
- Rauch, K. & Whittaker, C.R. (1999) Observation and Feedback during Student Teaching: Learning from Peers, *Action in Teacher Education*, Vol.21(3), p.67-78.
- Reason, P. (2003) Pragmatic philosophy and action research: Reading and conversation with Richard Rorty. *Action Research*, Vol.1(1), p.169-178.
- Reason, P. & Bradbury, H. (2001) *Handbook of Action Research: Participative Inquiry and Practice*, SAGE. London.
- Reason, P. & Bradbury, H. (2008) *The Sage Handbook of Action Research: Participative Inquiry and Practice* (2nd Ed), SAGE. London.

- Rennie, D. L. (2009) Constructing client agency in psychotherapy research. *Journal of humanistic psychology*, Vol.49(2), p.193-206.
- Reynolds, M. (1997) Towards a Critical Management Pedagogy, in J. Burgoyne and M. Reynolds (eds), *Management Learning: Integrating perspectives in theory and practice*, Sage, London, p.312-327.
- Reynolds, M. (1998) Reflection and Critical Reflection in Management Learning, *Management Learning*, Vol.29(2), p.182-200.
- Reynolds, M. & Vince, R. (Eds) (2004) *Organising Reflection*. Aldershot, Surrey: Ashgate.
- Rhine, S., & Bryant, J. (2007) Enhancing pre-service teachers' reflective practice with digital video-based dialogue. *Reflective Practice*, Vol.8(3), p.345-358.
- Rich, P. & Hannafin, M. J. (2009) Scaffolded video self-analysis: discrepancies between preservice teachers' perceived and actual instructional decisions. *Journal of Computing in Higher Education*, Vol.21(2), p.128–145.
- Richards, J. C. & Lockhart, C. (1999) *Reflective teaching in second language classrooms*. New York: Cambridge University Press.
- Ritchie, J. & Ormston, R. (2014) The Applications of Qualitative Methods to Social Research. In Ritchie, J., Lewis, J., McNaughton Nicholls, C. & Ormston, R. *Qualitative Research Practice: A Guide for Social Science Students and Researchers*. SAGE.
- Roberts, J. (1998) *Language teacher education*, London, Arnold.
- Robson, C. (1993) *Real World Research*. Oxford: Blackwell.
- Rocco, S. (2010) Making reflection public: using interactive online discussion board to enhance student learning. *Reflective Practice*, Vol.11(3), p.307–317.
- Rodgers, C. (2002) Defining Reflection: Another Look at John Dewey and Reflective Thinking, *Teachers College Record*, Vol.104(4), p.842-866.
- Rogers, R.R. (2001) Reflection in higher education: A conceptual analysis. *Innovative Higher Education*, Vol.26(1), p.37–57.
- Rolfe, G., Freshwater, D. & Jasper, M. (2001) *Critical Reflection for Nursing and the helping professions: A User Guide*. Basingstoke: Palgrave Macmillan.
- Ross, D.D. (1989) First Steps in Developing a Reflective Approach, *Journal of Teacher Education*, March-April, p.22-30.
- Russell, T. (2005) Can Reflective Practice Be Taught? *Reflective Practice*, Vol.6(2), p.199-204.
- Russell, T. (2013) Has reflective practice done more harm than good in teacher education? *Phronesis*, 2, p.80–88.
- Savin-Baden, M. & Major, C.H. (2007) Using interpretive meta-ethnography to explore the relationship between innovative approaches to learning and innovative methods of pedagogical research. *Higher Education*, Vol.54(6), p.833-852.

- Savin-Baden, M. and Major, C. (2013) *Qualitative research: The essential guide to theory and practice*. Routledge, London.
- Sax, C. & Fisher, D. (2001) Using qualitative action research to effect change: Implications for professional education. *Teacher Education Quarterly*, Vol.28(2), p.71-80.
- Scheeler, M.C., Ruhl, K.L. & McAfee, J.K. (2004) Providing performance feedback to teachers: A Review, *Teacher Education and Special Education*, Vol.27(4), p.396-407.
- Schempp, P., Manross, D., Tan, S.K.S. & Fincher, M.D. (1998) Subject expertise and teachers' knowledge, *Journal of Teaching in Physical Education*, Vol.17, p.342-356.
- Schon, D.A. (1983) *The Reflective Practitioner: How Professionals think in action*. New York: Basic Books.
- Schon, D. (1988) Coaching reflective teaching. In P. Grimmett & G. Erickson (Eds.). *Reflection in teacher education* (p.19-29). Vancouver, BC: Pacific Educational Press & New York: Teachers College Press.
- Schon, D.A. (1995) Knowing-In-Action: The New Scholarship Requires a New Epistemology, Change. *The Magazine of Higher Learning*, Vol.27(6), p.27-34.
- Schon, D.A. (1996) *Educating the Reflective Practitioner: Toward a new design for teaching and learning in the professions*. San Francisco: Jossey-Bass.
- Seban, D. (2009) Researching reflective practices of elementary pre-service teachers: Two-dimensional analysis of teacher narratives. *Reflective Practice*, Vol.10(5), p.669–681.
- Sebren, A. (1995) Preservice teachers' reflections and knowledge development in a field-based elementary physical education methods course. *Journal of Teaching in Physical Education*, Vol.14, p.262–283.
- Sellars, M. (2014) *Reflective Practice for Teachers*. Sage, London.
- Senge, P. (1992) *The Fifth Discipline*, London, Century Business.
- Serpell, Z. (2000) *Beginning teacher induction: A review of the literature*. Washington, DC: American Association of Colleges for Teacher Education.
- Shi, L., Corcos, R., & Storey, A. (2001) Using student performance data to develop an English course for clinical training. *English for Specific Purposes*, Vol.20, p.267-291.
- Shoffner, M. (2008) Informal reflection in pre-service teacher education. *Reflective Practice: International and Multidisciplinary Perspectives*, Vol.9(2), p.123-134.
- Shortland, S. (2010) Feedback within peer observation: Continuing professional development and unexpected consequences. *Innovations in Education and Teaching International*, Vol.47(3), p.295-304.
- Shulman, L. S. (1987) Knowledge and teaching. *Harvard Educational Review*, Vol.57(1), p.1–21.

- Shulman, L. S. (1998) Theory, practice, & the education of professionals. *The Elementary School Journal*, Vol.98(5), p.511-526.
- Sidentop, D. (2002) Content knowledge for Physical Education, *Journal of Teaching in Physical Education*, Vol.21(4), p.392-401.
- Silverman, D. (1993) *Interpreting Qualitative Data: Methods for Analysing Talk, Text and Interaction*, SAGE.
- Smith, M.K. (2010) David A.Kolb on experiential learning, *The encyclopedia of pedagogy and informal education*. (<https://infed.org/mobi/david-a-kolb-on-experiential-learning/>. Retrieved 29-04-2020).
- Smith, T. (2002) *Connecting Theory and Reflective Practice Through the use of personal theories*, Charles Sturt University, Australia.
- Smyth, J. (1989) *A critical pedagogy of classroom practice*. *Journal of Curriculum Studies*, Vol.21(6), p.483-502.
- Sprake, A. and Walker, S. (2015) Blurred lines: the duty of Physical Education to establish a unified rationale. *European Physical Education Review*, 21(3), p.394-406.
- Standal, O.F. & Moe, V.F. (2013) Reflective Practice in Physical Education and Physical Education Teacher Education: A Review of the Literature Since 1995, *Quest*, Vol.65(2), p.220-240.
- Stenberg, K., Rajala, A. & Hilppo, J. (2016) Fostering theory–practice reflection in teaching practicums, *Asia-Pacific Journal of Teacher Education*, Vol.44(5), p.470-485.
- Stevens, D. & Lowing, K. (2008) Observer, observed and observations: Initial teacher education English tutors' feedback on lessons taught by student teachers of English, *English in Education*, Vol.42(2), p.182-198.
- Stewart, D.W., & Shamdasani, P. N. (1990) *Focus groups: Theory and practice*. *Applied social research methods series*, Thousand Oaks, CA: SAGE.
- Stewart, D.W., & Shamdasani, P. N. (2015) *Focus groups: Theory and practice*. *Applied social research methods series* (3rd Ed). Thousand Oaks, CA: SAGE.
- Stone, N. (2006) Evaluating interprofessional education: The tautological need for interdisciplinary approaches. *Journal of Interprofessional Care*, Vol.20(3), p.260-275.
- Stroot, S. A., & Ko, B. (2006) Induction of beginning physical education teachers into the 708 school setting. In D. Kirk, D. Macdonald, & M. O'Sullivan (Eds.), *The handbook of 709 physical education* (p.425-448). London, SAGE.
- Stuckey, H.L. (2015) The second step in data analysis: Coding qualitative research data. *Journal of Social Health and Diabetes*, Vol.3(1), p.7-10.
- Swan, E. (2008) Let's not get too personal; critical reflection, reflexivity and the confessional turn, *Journal of European Industrial Training*, Vol.32(5), p.385-399.

- Tabachnik, R., & Zeichner, K. (2002) Reflections on reflective teaching. In A. Pollard. (Ed.), *Readings for reflective teaching* (p.13-16). London: Continuum.
- Taylor, C. & White, S. (2000) *Practising Reflexivity in Health and Welfare*, Buckingham: Open University Press.
- Taylor, B.J. (2006) *Reflective Practice: A Guide for Nurses and Midwives* (2nd Ed) Open University Press.
- Teddlie, C. & Tashakkori, A. (2009) *Foundations of Mixed Methods Research*. Thousand Oaks, CA: Sage.
- Tennant, M. (1997) *Psychology and Adult Learning*, London, Routledge.
- Thompson, I., Willemse, M., Mutton, T., Burn, K. and De Bruïne, E. (2018) Teacher Education and Family-School Partnerships in different contexts: A cross country analysis of national teacher education frameworks across a range of European countries. *Journal of Education for Teaching*, Vol.44(3), p.258-277.
- Thompson, N. (2010) *Theorizing Social Work Practice*. Basingstoke: Palgrave Macmillan.
- Thompson, N., & Pascal, J. (2011) Reflective practice. An existentialist perspective. *Reflective practice*, Vol.12(1), p.15–26.
- Thompson, N. & Pascal, J. (2012) Developing critically reflective practice, *Reflective Practice: International and Multidisciplinary Perspectives*, Vol.13(2), p.311-325.
- Thorpe, K. (2004) Reflective learning journals: From concept to practice. *Reflective Practice*, Vol.5(3), p.328–343.
- Timperley, H. (2001) Mentoring Conversations Designed to Promote Student Teacher Learning, *Asia-Pacific Journal of Teacher Education*, Vol.29(2), p.111-123.
- Tomlinson, P. (1995) *Understanding Mentoring: Reflective Strategies for School-based Teacher Preparation*. Open University Press.
- Too, W.K. (2013) Facilitating the development of pre-service teachers as reflective learners: a Malaysian experience, *The Language Learning Journal*, Vol.41(2), p.161-174.
- Tripp, T.R. (2009) *Understanding the use of video analysis tools to facilitate reflection among pre-service teachers*. Thesis Unpublished Master's thesis, Brigham Young University.
- Tripp, T.R. & Rich, P. (2012) Using video to analyze one's own teaching, *British Journal of Educational Technology*, Vol.43(4), p.678-704.
- Tsangaridou, N. (2006) Teachers' beliefs, in: D. Kirk, D. Macdonald and M. O'Sullivan (Eds) *The handbook of physical education*, London: Sage, p.486-501.
- Tsangaridou, N., & O'Sullivan, M. (1994) Using pedagogical reflective strategies to enhance reflection among preservice physical education teachers. *Journal of Teaching in Physical Education*, Vol.14(1), p.13–33.

- Tsangaridou, N. & O'Sullivan, M. (1997) The role of reflection in shaping physical education teachers' educational values and practices. *Journal of Teaching in Physical Education*, Vol.17, p.2–25.
- Tsangaridou, N. & Polemitou, I. (2015) Exploring pre-service classroom teacher's reflections on teaching physical education, *European Physical Education Review*, Vol.21(1), p.66-82.
- Turunen, T.A. & Tuovila, S. (2012) Mind the gap: Combining theory and practice in a field experience. *Teaching Education*, Vol.23(2), p.115-130.
- Uhrich, T.A. (2009) The Hierarchy of Reflective Practice in Physical Education: a Decision Map for Technical Reflection-in-Action, *Reflective Practice*, Vol.10(4), p.501-512.
- Usher, R., Bryant, I. and Johnston, R. (1997) *Adult Education and the Postmodern Challenge*, London: Routledge.
- Van der Schaaf, M., Baartman, L., Prins, F., Oosterbaan, A. & Schaap, H. (2013) Feedback Dialogues That Stimulate Students' Reflective Thinking, *Scandinavian Journal of Educational Research*, Vol.57(3), p.227-245.
- van Es, E. A., & Sherin, M. G. (2002) Learning to notice: Scaffolding new teachers' interpretations of classroom interactions. *Journal of Technology and Teacher Education*, Vol.10, p.571–596.
- van Manen, M. (1995) On the epistemology of reflective practice. *Teachers and Teaching: Theory and Practice*, Vol.1, p.33-50.
- van Manen, M. (1977) Linking ways of knowing with ways of being practical. *Curriculum Inquiry*, Vol.6, p.205-228.
- van Wyk, M.M. (2013) Using blogs as a means of enhancing reflective Teaching Practice in open distance learning ecologies, *Africa Education Review*, Vol.10(1), p.47-62.
- van Zundert, M., Sluijsmans, D. & Van Merrinboer, J. (2010) Effective peer assessment processes: Research findings and future directions. *Learning and Instruction*, Vol.20, p.270-279.
- Vaughn, S., Schumm, J.S. & Sinagub, J. (1996) *Focus Group Interviews in Education and Psychology*, SAGE.
- Wager, E., Godlee, F. & Jefferson, T. (2002) *How to survive peer review*. London: BMJ Books.
- Walkington, J. (2005) Becoming a teacher: encouraging development of teacher identity through reflective practice, *Asia-Pacific Journal of Teacher Education*, Vol.33(1), p.53–64.
- Wang, L. J., & Ha, A. (2009). Pre-service teachers' perception of teaching games for understanding: A Hong Kong perspective. *European Physical Education Review*, Vol.15(3), p.407–429.
- Weikel, A. (2019) Structured Reflective Practice and Teacher Inquiry, *Journal of Jewish Education*, Vol.85(2), p.116-135.

- Weller, S., (2009) What does 'peer' mean in teaching observation for the professional development of higher education lecturers? *International journal of teaching and learning in higher education*, Vol.21(1), p.25-35.
- Welsch, R. G., & Devlin, P. A. (2007). Developing preservice teachers' reflection. Examining the use of video. *Action in Teacher Education*, Vol.28, p.53-61.
- Wenger, E. (1999) *Communities of practice: Learning, meaning, and identity* (p.188–222). New York, NY: Cambridge University Press.
- Wilkins-Canter, E.A. (1997) The nature and effectiveness of feedback given by cooperating teachers to student teachers, *The Teacher Educator*, Vol.32(4), p.235-249.
- Wilkinson, S. (2004). Focus group research. In D. Silverman (ed.), *Qualitative research: Theory, method, and practice* (p.177–199). Thousand Oaks, CA: SAGE.
- Williams, R., G. Sundelin, E. Foster-Seargeant, and G.R. Norman (2000) Assessing the reliability of grading reflective journal writing. *Journal of Physical Therapy Education*, Vol.14, p.23–6.
- Williams, R. & Grudnoff, L. (2011) Making sense of reflection: a comparison of beginning and experienced teachers' perceptions of reflection for practice, *Reflective Practice*, Vol.12(3), p.281-291.
- Winch, C. (2010) Vocational Education, Knowing How and Intelligence Concepts, *Journal of Philosophy of Education*, Vol.44(4), p.551-567.
- Wojnowski, B. S., Bellamy, M. L., & Cooke, S. (2003) A review of literature on the mentoring and induction of beginning teachers with an emphasis on the attrition and renewal of science teachers. In J. Rhoten & B. Powers (Eds.), *Science teacher attrition: Mentoring and renewal* (p.23–33). Washington, DC: National Science Teachers Association.
- Woodward, H. (1998) Reflective Journals and Portfolios: learning through assessment, *Assessment & Evaluation in Higher Education*, Vol.23(4), p.415-423.
- Wyatt, D., Choudhury, T. and Kautz, H. (2007) "Capturing Spontaneous Conversation and Social Dynamics: A Privacy-Sensitive Data Collection Effort," IEEE International Conference on Acoustics, Speech and Signal Processing - ICASSP '07, Honolulu, HI, p.213-216.
- Yang, S.H. (2009) Using Blogs to Enhance Critical Reflection and Community of Practice, *Educational Technology and Society*, Vol.12(2), p.11-21.
- Yerrick, R., Ross, D., & Molebash, P. (2005). Too close for comfort: Real-time science teaching reflections via digital video editing. *Journal of Science Teacher Education*, Vol.16, p.351–375.
- Yiend, J., Weller, S., & Kinchin, I. (2012) Peer observation of teaching: The interaction between peer review and developmental models of practice, *Journal of Further and Higher Education*, 1-20(i First article).
- Yost, D.S., Sentner, S.M. & Forlenza-Bailey, A. (2000) An Examination of the Construct of Critical Reflection: Implications for Teacher Education

- Programming in the 21st Century, *Journal of Teacher Education*, Vol.51(1), p.39-49.
- Zanting, A., Verloop, N. & Vermunt, J.D. (2001) Student teachers' beliefs about mentoring and learning to teach during teaching practice, *British Journal of Educational Psychology*, Vol.71, p.57–80.
- Zeichner, K. M. & Liston, D. P. (1996) *Reflective Teaching: An Introduction (Reflective Teaching and the Social Conditions of Schooling)*, Routledge.
- Zeni, J. (2001) *Ethical issues in practitioner research* (Ed). New York, Teachers College Press.
- Zhu, X. (2011). Student teachers' reflection during practicum: plenty on action, few in action. *Reflective Practice*, Vol.12, p.763-775.
- Zowzdiak-Myers, P. (2012) *The Teacher's Reflective Practice Handbook: Becoming an extended professional through capturing evidence-informed practice*, Routledge.
- Zuber-Skerritt, O. & Fletcher, M. (2007) The quality of an action research thesis in the social sciences, *Quality Assurance in Education*, Vol.15(4), p.413-436.
- Zuber-Skerritt, O. & Fletcher, M. (2012) Professional Learning through an Action Research Thesis. In Zuber-Skerritt, O., Fletcher, M. & Kearney, J. *Professional Learning in Higher Education and Communities: Towards a New Vision for Action Research*. Palgrave Macmillan.