

**PROFESSIONAL DEVELOPMENT AND ITS IMPACT
ON TEACHER AND PUPIL LEARNING:
A COMMUNITY OF PRACTICE CASE STUDY IN SOUTH KOREA**

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Abstract

The aim of this study was to explore teachers' professional learning in a community of practice (CoP) in South Korea and its impact on teachers' and pupils' learning. The study employed qualitative research methods within a case study framework. Data were collected in South Korea from September 2014 to June 2015. A professor who created the CoP, 8 secondary school physical education teachers (as case-study teachers) and 41 pupils from 8 different schools participated in this study. Five different data collection tools were used: individual interviews, observations, focus group, open-ended questionnaires, and document analysis.

Three key findings from this research are: 1) five different activities supported in the CoP helped teachers to develop both 'pedagogies' and 'teachers' characteristics' and they impacted together on pupils' learning; 2) teachers' professional learning in the CoP was influenced by: retaining a focus on developing pedagogies together, professional intimacy between members, appropriate support from the professor, and temporal and spatial issues; and 3) teachers' professional learning and its links to pupils' learning were influenced by factors at the micro, meso and macro levels. Insights into the value of CoP theory are discussed and implications for the effectiveness of teachers' professional learning identified.

DEDICATION

For my grandmother who offered me unconditional love and support

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LIST OF ABBREVIATIONS

CE	Character Education
CGT	Constructivist Grounded Theory
CoP	Communities of Practice
CPD	Continuing Professional Development
GT	Grounded Theory
PE	Physical Education

Chapter 1: Introduction

1.1 Rationale for this study

Since the new millennium, major reform to national education systems have continued and it has been argued that a key element in the success of these reforms is the engagement of teachers in professional development (Villegas-Reimers, 2003; OECD, 2005). There is a widespread agreement that the provision of effective and appropriate forms of continuing professional development (CPD) for teachers is a key factor in improving the quality of education (Kelly, 2006; Desimone, 2009; Dadds, 2014). Over time, there are likely to be numerous political, cultural and pedagogical changes that could impact on education and teachers are in the ‘front line’ (Lieberman & Pointer Mace, 2008, p. 226) of all such changes (Wei, Darling-Hammond, Andree, Richardson & Orphanos, 2009; Whitcomb, Borko & Liston, 2009). It is clear, therefore, that understanding the ways in which CPD is ‘effective’ or ‘ineffective’ in supporting teachers’ learning is a key factor in understanding how to support and enhance teaching quality. Yet, the findings of research on the effectiveness of different forms of CPD on teachers’ professional learning suggest that there are problems with much provision (Lieberman & Miller, 2008; Webster-Wright, 2009; Nieto, 2009). Moreover, despite considerable investment in CPD, it has proven difficult to identify clear and sustained links between CPD and teachers’ learning, and even more challenging to link these to improvements in pupils’ learning (Borko, 2004; Wayne, Yoon, Zhu, Cronen & Garet, 2008; Guskey & Yoon, 2009; Neuman & Cunningham, 2009).

The findings of research on physical education (PE) CPD are similar to those in education more widely. Though some features that make PE-CPD effective have been identified (see Parker & Patton, 2016), researchers have argued that existing PE-CPD has been ineffective in supporting teachers’ learning for a wide range of reasons. These reasons include: limited focus (Armour & Yelling, 2004a), a divergence between what teachers value and the content of PE-CPD

(Makopoulou & Armour, 2011b), feelings of isolation (O'Sullivan & Deglau, 2006), lack of directionality (Choi, 2004), failure to take into account the context of the work place (Ko, Wallhead & Ward, 2006), and limited or inappropriate support (Armour & Yelling, 2004b). Nonetheless, 'traditional' forms of PE-CPD have 'endured' (Armour, 2010, p. 4) and questions of what constitutes 'effective' PE-CPD remains unanswered (Parker & Patton, 2016).

It has been widely argued that CPD may be more effective where it is moved from a traditional delivery framework to one that focuses on the development of teacher collaboration and extended support (Lieberman & Miller, 2008; Chambers, Armour, Luttrell, Bleakley, Brennan & Herold, 2012; Parker, Patton & Tannehill, 2012). The concept of teacher learning communities which is based on the theory of communities of practice (CoP) (Wenger, 1998) has emerged as an alternative approach to teachers' professional learning as it offers supportive and collaborative learning opportunities (Stoll, Bolam, McMahon, Wallace & Thomas, 2006; Fraser, Kennedy, Reid & McKinney, 2007; Lieberman & Miller, 2011) and some empirical studies have indicated that well-designed teacher learning communities can have positive influences on teachers' learning and educational change (Vescio, Ross & Adams, 2008; Korthagen, 2010; Levine & Marcus, 2010; Priestley, Miller, Barrett & Wallace, 2011; Doppenberg, Bakx & Brok, 2012).

To date, there is a comparatively small body of research on CoP in PE. In particular, in the area of PE teachers' professional learning through CoPs, very little empirical research on 'school-based' teacher learning communities and their effectiveness has been undertaken (Duncombe & Armour, 2004; Keay, 2006; Goodyear & Casey, 2015). At the same time, however, echoing the findings that school-based teacher learning communities 'can create insularity and inhibit change' (James & Pollard, 2011, p. 307), some powerful barriers to professional learning in a school context have been identified: for example, those related to changes in structures and

management (Duncombe & Armour, 2004), the importance of a supportive culture in the work place (Keay, 2006), and influences from a local educational administration (Parker, Patton, Madden & Sinclair, 2010). Perhaps more importantly, there has been little research on CoPs that has attempted to link teachers' professional learning through CoPs explicitly with impacts on pupil learning.

It has been argued that the ultimate test of the effectiveness of teachers' professional development and learning is impact on pupils' learning outcomes (Stoll et al., 2006; Vescio et al., 2008; Wayne et al., 2008; Desimone, 2009; Neuman & Cunningham, 2009; DiPaola & Hoy, 2014). Given that the aim of education and teachers' professional learning is – eventually – to enhance pupils' outcomes, examining the process by which teachers' learning that is generated in CoPs leads to changes to pupils' learning is an important task (Hunuk, Ince & Tannehill, 2013). As Parker and Patton (2016, p. 454) report, however, 'unfortunately, developers too often plan and conduct CPD with the aim of introducing a new teaching practice or policy rather than assisting teachers to develop a robust understanding of its impact on student learning'. In this sense, despite the difficulty of seeking to establish links between teachers' learning in CPD and pupils' learning outcomes (Yoon, Duncan, Lee, Scarloss & Shapley, 2007), investigating three aspects of learning: 'Do teachers learn? Do they change their practices? And, most important, does student achievement increase as a result?' should be the key task in CPD research (Desimone, 2011, p. 70). Specifically, therefore, research on CoPs should investigate all the three aspects of learning: i) what kinds of professional learning are supported in a CoP; ii) how does professional learning change teachers' pedagogies and practices; and iii) how do these pedagogies impact on pupil learning. In particular, in the context of this study - South Korea - a new national PE curriculum had been introduced with a focus on character development (Ministry of Education, Sciences and Technology, 2011). The purpose of this study, therefore,

was to focus on that specific element to see whether it was possible to map the links between teachers' professional learning about character development in a CoP and pupils' learning in PE lessons.

1.2 Contextual background

In this section, contextual background on the new national PE curriculum is provided. Before providing information on the curriculum, however, it is helpful to offer a brief overview of the PE system in South Korea. Although considerable funds have been invested and a large number of PE policies developed since 2000 in order to support ambitions to provide high-quality PE in secondary schools (Seo, Yu & Yoon, 2015), PE is still regarded as a minor subject compared to more academic subjects (Lee & Cho, 2014). In secondary schools, two or three PE lessons of 45 minutes (50 minutes in high schools) are offered per week. In terms of the national curriculum, unlike in the UK (Department for Education, 2013) and Australia (ACARA, 2012), where national curricula are not wholly specified, the national PE curriculum in South Korea is very detailed in terms of its design, methods and forms of assessments (Ministry of Education, Science and Technology, 2011). Teachers' PE lessons, therefore, are largely influenced by the national PE curriculum.

In South Korea, a new national education curriculum change was driven by societal concerns. The South Korean Government (2009) argued that in order to move towards being a leading economy in the developed world, education of the future should take the form of a 'pulling out' type of education that develops pupils who think and create new ideas, rather than the existing 'putting in' type of education that led to economic growth in the past. The Government was concerned that despite South Korea ranking fifth both in Maths and English in the results of the 2015 Programme for International Student Assessment (PISA), pupils' capacity in terms of creativity leading to innovations ranks relatively low.

Alongside this change, the introduction of ‘character education’ into school was mandated in order to teach pupils to accept diversity and follow basic orders. In particular, severe levels of school bullying (Schwartzman, 2012) was an important factor to be taken into account in developing a revised PE curriculum (Lee & Cho, 2014). This approach is not limited to the South Korean context. That is, seeking to use PE – along with physical activity or sport – as a medium to decrease the level of youth disaffection and to facilitate positive youth development and its effectiveness have been studied internationally: for example, in the UK (Sandford, Duncombe & Armour, 2008; Haskins, 2010; Armour, Sandford & Duncombe, 2013), Canada (Camiré, 2012), and the US (Zarrett, Fay, Li, Carrano, Phelps & Lerner, 2009). Types of curriculum used include model-based PE (Harvey, Kirk & O’Donovan, 2014; Dyson & Casey, 2012); a programme approach (Armour & Sandford, 2013); and through sport coaching (Haskins, 2010). These attempts are based on a belief that engagement in PE can have educational benefits in terms of not only physical and cognitive, but also social and affective – (which could be regarded as character development) – aspects (see Bailey, Armour, Kirk, Jess, Pickup & Sandford, 2009). To date, several of empirical studies have reported (see Eime, Young, Harvey, Charity & Payne, 2013) that engagement in PE, physical activities or sports has the potential to develop pupils’ inter-personal skills including communication and social responsibility (Armour & Sandford, 2013), showing respect to friends (Yoon & Park, 2014) and wider ‘life’ skills (Holt, 2007; Weiss, 2011).

Thus, as a result of national concerns and international interest in character education through PE, the Government took the decision to teach new ‘core values’ through a revised national curriculum and they selected physical education as one of the key vehicles. The ‘Revised National Physical Education Curriculum’ (2011) was a departure from previous national PE curricula because ‘creativity’ and ‘character’ were identified as the core values of PE classes.

Although these two values had always been considered implicitly as important aims in previous PE curricula, the 2011 national PE curriculum emphasized them ‘explicitly’ as the core concepts that must be taught through all PE classes (Ministry of Education, Science and Technology, 2011). The curriculum, therefore, identifies the ideal human character as:

- A person who seeks to develop his/her own individuality on the basis of a well-rounded, wholesome development;
- A person who demonstrates creative ability based on a solid grounding in basic knowledge and skills;
- A person who leads a high-quality life by understanding pluralistic values, along with cultural literacy;
- A person who creates new values based on an understanding of the national culture; and
- A person who communicates with the world, and contributes to the development of the community where he/she lives based on democratic citizenship by being considerate of and sharing with others (p. 1).

As a result, PE teachers were challenged to teach the two values and this required ‘dramatic changes’ (Duncombe & Armour, 2004, p. 18) to their practices and the professional development that could support them. As Kim and Kim (2013) report, however, PE teachers faced a number of difficulties in teaching creativity and character including low levels of teacher interest in these values, lack of teaching support materials and poor (or absent) existing professional development programmes. It became clear, therefore, that a new focus on professional development for teachers was required.

Fortunately, there was an existing appropriate example of PE teacher learning community – as a CoP – in South Korea. The CoP was created in 2003 by secondary school teachers and a professor who majors in sport pedagogy. The CoP is not associated with an educational ministry or an official research institute. Instead, a total of 35 teachers joined this CoP voluntarily. They work at different schools and meet together regularly to develop and share teaching strategies.

The CoP has the clear aim of supporting teachers to offer ‘whole-person education’ through PE using a specific model known as the ‘X’ teaching model. Given that the ‘X’ teaching model was designed to focus on educating the ‘whole person’ through PE, it seemed ideally suited to the new requirement to teach character through PE.

The precise learning focus of this study is teachers’ professional learning about ‘character’ as defined by the South Korean Government. It is important to note that although the Government has identified some inter-personal values such as caring, sharing and communication as indicative of character, they have not provided a specific definition of the concept as it is to be translated into the new national PE curriculum. The meanings of ‘character education’ is, therefore, rather vague and the approach developed in the X teaching model is only one of many possible interpretations.

During the period of the research, it was clear that the ‘X’ teaching model had become the most important part of the work of the CoP. The ‘integrated’ X teaching model focuses on four main teaching and learning strategies: i) direct teaching behaviours (teachers’ methods of instructing sport skills or strategies); ii) indirect teaching behaviours (teachers’ styles of teaching; e.g. the use of humour or facial expressions); iii) direct experience activities (e.g. activities that pupils actually do to acquire sport skills); and iv) indirect experience activities (e.g. reading books or watching movies). This classification of teaching and learning strategies is based on Oakeshott’s (1989) argument that knowledge consists of two elements: ‘information’ (referring to knowledge that is acquired by instruction); and ‘judgement’ (similar to tacit knowledge and communicated through imparting). Oakeshott argued that education should be understood as supporting intellectual and moral growth and that both should be included in educational activities so they can be learnt together.

The X teaching model also emphasizes four kinds of values which are closely related to interpersonal values: i) ‘benevolent mind’, ii) ‘kind behaviour’, iii) ‘bright look’, and iv) ‘pretty communication’. The first value ‘benevolent mind’ refers to developing a broad vision and a benign mind and heart. The second value ‘kind behaviour’ denotes the ability to adopt appropriate behaviours voluntarily, such as helping friends. The third value ‘bright look’ indicates that both teachers and pupils should show positive facial expressions (smiling rather than frowning) wherever possible, and the fourth value – ‘pretty communication’ – refers to the need to use appropriate or positive words (rather than slang or negative expressions).

1.3 Research questions

This chapter has explained the rationale of this project and the social context for the research. Following Desimone’s (2011) arguments about the importance of investigating all three learning aspects in CPD research, the main research question for this project was:

Is a community of practice approach to professional development an effective way to enhance teacher and pupil learning in physical education in South Korea?

In order to address this question, the following sub-questions were selected:

- How is an existing community of practice for PE teachers in South Korea structured and organised and what are its aims?
- What kinds of professional learning are supported in the CoP and how is ‘impact’ measured’?
- How does the learning undertaken in the CoP influence teachers’ pedagogies and practices?
- Is it possible to trace the trail from teachers’ learning in the CoP to changes in practice and impact on specific pupil learning outcomes?

- Is the CoP an effective – and cost effective – form of professional development in this case study?
- What can be learnt from this case study about the role of CoPs in helping teachers in South Korea to deliver high quality PE as outlined in the government curriculum documents?

1.4 Structure of this thesis

Following this introduction, the thesis is organized into six further chapters: literature review, methodology, vignettes, findings, discussion, and conclusion.

Chapter 2 is a review of the literature relevant to the research questions. The chapter is comprised of three sections. The first section offers an overall review of the international literature on teachers' professional development. It also explores key concepts including: definitions of teachers' professional development; (in)effective CPD and CoP approaches; teacher change; teacher quality; and teacher knowledge. In the second section, a range of learning theories are examined in depth. In particular, (social) constructivist learning theories (Lave & Wenger, 1991; Wenger, 1998) and theories of learning culture (Hodkinson, Biesta & James, 2007) are highlighted. In the last section, the literature on teachers' professional learning in PE generally, and the South Korean context specifically, is reviewed.

Chapter 3 provides an overview and critical analysis of the research methodology. This chapter consists of three parts. In the first part, fundamental perspectives on methodology including: research paradigm, qualitative research and the case study approach are explained. Secondly, research design and procedure, research participants, and practical methods of data collections and analysis which were used in this project are examined. In terms of data collection and analysis, both general guidelines and specific examples of each tool are provided. In the last part, fundamental research issues including ethical issues; data management; and research

quality of this project are examined.

Chapter 4 reports eight teacher participant vignettes, each of which includes: teacher profile, personal life, the process of joining the CoP, school context, and his/her views on activities or culture of the CoP.

Chapter 5 reports the findings of this study. A total of 10 different themes constructed through the data analysis are presented.

In **Chapter 6**, the data themes and teacher vignettes are considered in the context of the research questions and the relevant literature. The discussion is comprised of three sections. In the first section, the core theme – teachers’ professional learning and its impact – is examined. The discussion then turns to the discussion about internal factors of the CoP that influence teachers’ professional learning. Lastly, the key question about linking teachers’ professional learning in the CoP to pupils’ learning outcomes is considered in detail.

Finally, **Chapter 7** offers, firstly, conclusions which are aligned to the research questions and the findings in the first part; secondly, theoretical, empirical and practical implications arising from this study; and thirdly, a section on what I have learnt from this project and recommendations for future research.

Chapter 2: Literature review

2.0 Introductions

In this chapter, key literature related to the research questions are examined. The aim of this research is to track, map and analyse aspects of what might be conceptualised as a professional learning ‘trail’ – from teachers’ professional learning in a community of practice (CoP) to changes in teaching practice and impacts on pupils’ learning outcome. In other words, within a case study framework, the aim is to consider how teachers learn in a community of practice, whether/how they are changed, what they learn, and whether/how it is possible to measure the impact of this professional learning on specific pupils’ learning outcomes (i.e. related to the learning activities selected by the teachers in the CoP).

This chapter consists of three main sections. The first section is a review of the international literature on teachers’ professional development. The search strategy was as follows: key terms including ‘teacher professional development’, ‘teacher professional learning’, ‘continuing professional development (CPD)’, ‘teacher quality’, ‘teacher change’ and ‘teacher knowledge’ were used to search studies on teachers’ professional learning conducted since 2000 through using a literature search engine ‘Google Scholar’. In addition, through this process, original studies referenced in the searched literature have been accessed and reviewed.

Secondly, theories of learning, and specifically social theories of learning, have been reviewed because they offer the most obvious theoretical framework for the research. It should be noted, however, that further learning theories were reviewed as required following the collection of data, the outcomes of the inductive analytical process and the potential need for different explanatory frameworks. Original studies on learning theories have been accessed through reviewing the searched studies on teachers’ professional learning. In addition, key terms proposed by scholars such as ‘situated learning’, ‘communities of practice’ or ‘learning culture’

were also used to access original studies.

In the third section, the literature on teachers' professional learning in the specific context of physical education (PE) is reviewed. This is a much smaller body of literature than that reviewed in the previous two sections. The search strategy for this section has three phases: (i) three publications by Armour and Yelling (Armour & Yelling, 2004a, 2004b, 2007) had reviewed all the existing international PE-CPD research (published in the English Language) up to that point. These three publications have, therefore, been taken as the starting point for the review. In addition, all those studies identified by Armour and Yelling that focused on CoP have been accessed and the original studies reviewed. (ii) In addition, all studies on PE-teachers' professional development conducted since 2000 and published in the English Language have been accessed in the original and reviewed. The following journals were searched: Physical Education and Sport Pedagogy, Journal of Teaching in Physical Education, European Physical Education Review, and Sport, Education and Society. (iii) All of the small number of studies that can be retrieved on PE teachers' professional learning in South Korea have also been reviewed. These were accessed from the following journals: Korean Journal of Sport Pedagogy and Korean Journal of Sport Science. This section also includes an overview of the PE context in South Korea.

2.1 Teachers' professional development

In the first section, several concepts and trends which are closely related to teachers' professional development are explored: different definitions about professional development (2.1.1); CoP approach to ineffective CPD (2.1.2); teacher quality (2.1.3); teacher change (2.1.4); and teacher knowledge (2.1.5).

2.1.1 Definitions of continuing professional development

Although it has widely been acknowledged that continuing professional development (CPD) is

one of most important factors in enhancing educational quality (e.g. Cordingley, 2015), there are numerous different understandings of professional development (Ganser, 2000; Demirkasımođlu, 2010; Evans, 2011). In line with this, Evans (2002, p. 128) argued that research on defining the concept of professional development has been ‘neglected’. As a result, various similar but different concepts have been employed together in educational research (Bolam & McMahon, 2004).

The term of CPD is relatively new. Historically, it has been employed with other concepts such as in-service education, staff development or teacher training in literature on teacher education (Evans, 2002; Goodall, Day, Lindsay, Muijs & Harris, 2005). From this perspective, CPD was understood as a narrow concept referring to activities such as attending teacher training courses. Over time, however, these narrow definitions of CPD have been replaced by broader concepts (Desimone, 2009; Teaching Council of Ireland, 2011; Armour, Quennerstedt, Chambers & Makopoulou, 2015). That is, it has been acknowledged that teachers learn not only in formal teacher training programmes but also through engagement in other activities informally or even non-formally. In this sense, CPD is defined as ‘all the activities in which teachers engage during the course of a career which are designed to enhance their work’ (Day & Sachs, 2004, p. 3) or ‘all types of professional learning undertaken by teachers beyond the initial point of training’ (Craft, 1996, p. 6). This change in viewing CPD as a broad concept is an ongoing process and it has several characteristics.

Firstly, it has been argued that CPD should be regarded as sustained professional learning, as the term ‘continuing’ indicates. That is, teachers’ learning is not viewed as a series of activities comprising of attending a number of training courses which are not related each other; rather, teachers’ learning should incorporate learning generated in their initial degree to late career which is seamless. In line with this, the concept of ‘continuum’ in teacher education proposed

by Teaching Council of Ireland (2011) captures the notion of continuity of CPD, as follows:

The continuum of teacher education describes the formal and informal educational and developmental activities in which teachers engage, as life-long learners, during their teaching career. It encompasses initial teacher education, induction, early and continuing professional development and, indeed, late career support, with each stage merging seamlessly into the next and interconnecting in a dynamic way with each of the others (p. 5).

In line with this concept of continuity, Armour et al. (2015) argued that teachers' CPD should be understood as professional 'growth' which is rooted in a Deweyan framework.

Secondly, the broad definition of CPD has added various different dimensions of learning. In other words, researchers have argued that existing narrow definitions of CPD restricted its focus to one of cognitive aspects described as 'being the acquisition of subject or content knowledge and teaching skills' (Day, 1999, p. 4) or the technical work of teaching (Hargreaves, 2006). These concepts, however, could not capture appropriately the nature and process of teachers' professional learning, because along with the cognitive aspect there are various other aspects influencing teachers' dynamic practices (Kelly, 2006). It has been argued, therefore, that teachers' moral (Fullan, 1993; Day, 1999; Jo, 2015), ethical (Sockett, 1996; Korthagen, 2004; Jung & Choi, 2016), and attitudinal (Day, 2004; Evans, 2008) aspects must be incorporated in defining professional development. These arguments are rooted in the belief that teacher development is complicated and can never be generated by cognitive knowledge alone.

Lastly, consideration of the ways in which teachers learn also matters. In other words, it is not enough to ask questions about 'what' kinds of knowledge or activities should be learnt, but also questions of 'how' teachers learn should also be asked. In line with this, Kelly (2006) paid attention to the 'process' by which teachers develop and pointed out the weaknesses of this

understanding in the following tendencies in previous research:

- oversimplify individuals' mind and teacher knowledge;
- knowledge learned in a specific context is seldom transferred to other setting;
- fails to recognise complex relationships between teachers, students and teaching resources; and
- ignore and neglect the wider social contexts of work place and teacher identity.

From this perspective, Kelly argued that cognitive approaches could not elucidate the complexities of teachers' learning processes. Instead, the sociocultural perspective has to be applied in order to understand teachers' professional development. This sociocultural perspective is based on the theories of situated learning (Lave & Wenger, 1991) and guided learning (Billett, 2000) which view learning as social practice. To date, a number of studies have analysed teachers' CPD using sociocultural learning theories (e.g. Tam, 2015).

A definition of CPD proposed by Day (1999) is a good example of a broad definition of the concept:

consists of all natural learning experiences and those conscious and planned activities which are intended to be of direct or indirect benefit to the individual, group or school and which contribute, through these, to the quality of education in the classroom. It is the process by which, alone and with others, teachers review, renew and extend their commitment as change agents to the moral purpose of teaching, and by which they acquire and develop critically the knowledge, skills and emotional intelligence essential to good professional thinking, planning and practice with children, young people and colleagues through each phase of their teaching lives (p. 4).

In this thesis, generally, the term CPD is understood as the broad definition proposed by Day (1999) above. At the same time, the term '(PE)-CPD *programmes*' refers to the narrow definition because it refers to formal teacher training courses offered by various levels of the

educational ministry.

2.1.2 (In)effective CPD and CoP approach

As examined in the introductory chapter, in responding to the international focus on CPD to enhance educational quality, a number of studies exploring general features of effective CPD have been undertaken (Wei et al., 2009; Desimone, 2011; De Naeghel, Van Keer, Vansteenkiste, Haerens & Aelterman, 2016). In this process, some characteristics which make CPD more or less effective have been discovered. For example, Hunzicker (2011) suggested five different characteristics influencing (in)effective CPD: i) supportive; ii) job-embedded; iii) instructional-focus; iv) collaborative; and v) ongoing. Similarly, Bell, Cordingley, Crisp and Hawkins (2012, p. 4) recently reviewed published research on CPD and extracted evidence which make teachers' professional learning more effective. They concluded that CPD is more effective when it is:

- **collaborative** – involves staff working together, identifying starting points, sharing evidence about practice and trying out new approaches;
- **supported by specialist expertise**, usually drawn from beyond the learning setting;
- **focused on aspirations for students** – which provides the moral imperative and shared focus;
- **sustained over time** – professional development sustained over weeks or months had substantially more impact on practice benefiting students than shorter engagement; and
- **exploring evidence from trying new things** to transfer new approaches and practices and the concepts underpinning them to multiple contexts.

Yet, in reality, despite numerous CPD programmes being developed and conducted in many countries (see OECD, 2010) it has been argued that most CPD programmes fail to enhance teachers' pedagogies (e.g. Nieto, 2009). Moreover, despite large investment, the precise impacts of CPD on teachers have not been identified (Garet, Porter, Desimone, Birman & Yoon, 2001; Borko, 2004; Wayne et al., 2008). This phenomenon is closely related to factors that have been

identified as negative characteristics of CPD programmes.

The first negative characteristic is that most programmes fail to take into account the teacher's workplace context (Brownell, Lauterbach, Dingle, Boardman, Urbach, Leko, Benedict & Park, 2014; Snow, 2015). Workplaces, as learning contexts, are highly complex where various components such as curriculum, pupil, and cost-effectiveness are interconnected. A number of CPD programmes delivered by wider educational organizations, however, have been regarded as 'one-size fits all' (Lieberman & Pointer Mace, 2008, p. 227), 'not being linked to the needs of departments of schools' (Craft, 2000, p. 12) and simply 'awareness-raising' (IfL, 2009, p. 3). It has been widely recognised that although these kinds of CPD programmes might be useful to help teachers receive the latest educational knowledge, they are ineffective in supporting teachers' authentic learning which could bring changes to their teaching practices (Kennedy, 2005; Lumpe, 2007). Hodkinson, Biesta and James (2008) similarly argued that teachers' professional learning is less likely to occur where CPD is unable to take workplace context into account.

Secondly, similar to the first characteristic, a number of CPD programmes also fail to give full consideration to aspects of individual teachers' needs and interests. Understanding how to elicit teachers' motivation to learn and support the process of teacher change is an important task in designing effective teacher CPD (Makopoulou & Armour, 2011a). In line with this issue, Day (1999) argued that professional development is an 'individuals' affair' (p. 150). Furthermore, Bolam (2000) also pointed out that most existing CPD programmes have been driven by national educational reform, and argued that it is necessary to find an appropriate balance between national reforms and individual teachers' needs. In other words, these types of CPD programmes that do not consider individual teachers' specific needs result in a 'culture of compliance' (Lieberman & Pointer Mace, 2008, p. 227).

Lastly, there have been problems reported in the ways in which CPD programmes are delivered. In particular, in terms of ongoing support for teachers' sustained professional development, it has been argued that most programmes have no follow-up processes so teachers are not able to expand their learning (Garet et al., 2001; Armour & Makopoulou, 2012). In addition, there have also been temporal and spatial problems. When CPD-programmes are held in a place located outside of school or time after school, it was difficult for teacher to attend (Pritchard & Marshall, 2002; O'Sullivan & Deglau, 2006).

In order to overcome these limitation and barriers above, interestingly, research has suggested that collaborative types of CPD can be effective (Lieberman & Pointer Mace, 2008; Vescio et al., 2008; Priestley et al., 2011; Barab & Duffy, 2012; Parker et al., 2012; Cochran-Smith, 2015; Tam, 2015). This approach is described using various terms such as 'professional learning communities', 'professional community', or 'democratic community' (Toole & Louis, 2002). These teacher learning communities come in a range of different types. For example, there have been a number of studies on school-based communities. McLaughlin and Talbert (2006) reported that there are different levels of communities in a school, such as grade-level, department and even the whole school. Other research has also reported various levels of teacher learning communities and their positive impacts on both developing teachers' pedagogies and building positive learning cultures (Andrews & Lewis, 2007; Wood, 2007; Ellinger, 2008; Goodnough, 2010; Doppenberg et al., 2012; Meirink, Imants, Meijer & Verloop, 2010; Liu, 2013; Park & So, 2014). Along with learning communities within the school level, bigger collaborative units such as local or national levels of learning networks also can offer collaborative learning opportunities. For example, Lieberman and Wood (2002) reported that the National Writing Project conducted in the US not only provided teachers with various collaborative learning opportunities but also offered access to large networks that supported

teachers to engage in sustained professional development once they left the formal course. In addition, Trust (2012) reported on the potentials of different online teacher learning communities (Classroom 2.0., The Educator's PLN and Edmodo)¹ in teachers' professional learning.

In terms of effectiveness, a range of research has reported that teacher learning communities have potential in developing teachers' pedagogies, and ultimately pupils' learning outcomes (see Vescio et al., 2008). Stoll et al. (2006) reviewed research on teachers' learning communities and suggested that five characteristics which make teachers' professional learning in communities most effective: i) shared values and vision; ii) collective responsibility; iii) reflective professional inquiry; iv) collaboration; and v) both group and individual learning. These circumstances allow teachers to have deeper shared knowledge. Recently, Tam (2015) has discovered that a school-based teacher learning community approach could be helpful to change not only teachers' pedagogies but also their educational beliefs.

A range of research on teacher learning communities has similar theoretical roots. The concepts of situated learning and communities of practice (CoP), as developed by Lave and Wenger (1991) and Wenger (1998), offer a different way of conceptualizing teacher learning and they have been adopted widely in CPD (Korthagen, 2010; Levine & Marcus, 2010; MacPhail, Patton, Parker & Tannehill, 2014; Wenger-Trayner & Wenger-Trayner, 2015). Although a detailed analysis of learning theories is undertaken in later sections in this chapter, it is helpful to explore them briefly at this point. The process by which teacher learning in a CoP undertaken is examined through sociocultural learning theories (Barab & Duffy, 2012; Hill, 2012). These

¹ All the three online teacher learning communities are similar to social networking sites which teachers can post and share their pedagogies.

perspectives assume that learning is not about individual knowledge acquisition; but instead should be understood as dynamic interactions in physical and social contexts surrounding the learner (Greeno, 1997; Cobb & Bowers, 1999; Putnam & Borko, 2000). In the theories of situated learning and communities of practice, learning is understood not simply as acquiring new knowledge individually, but as a process of participating in (learning) communities and interactions with others. In particular, *mutual engagement* (identity or membership), *a joint enterprise* (common goals of a teacher learning community), and *a shared repertoire* (subjects or materials what teachers share) characterize learning from this perspective (Wenger-Trayner & Wenger-Trayner, 2015).

It has been reported that CoP approach can be helpful in teachers' professional learning because it engenders trust and respect between members (Whitcomb et al., 2009) and supports a collaborative focus on developing pedagogies (McLaughlin & Talbert, 2006). This perspective aligns with the reported characteristics of effective CPD (e.g. collaborative or exploring evidence from trying new things) proposed by Bell et al. (2012). It could be argued, therefore, that teachers' professional learning in CoPs could be regarded as meeting many of the criteria that evidence suggests signal 'effective' CPD.

2.1.3 Teacher quality

The concept of teacher quality is one of the decisive factors influencing pupils' learning outcomes (Wenglinsky, 2000; Wiswall, 2013). According to Darling-Hammond (2000) and Rowe (2003), teacher quality has much more significant impacts than that of pupils' background on pupils' learning outcomes. Enhancing teacher quality, therefore, has become an important issue for teacher education (Koedel, Parsons, Podgursky & Ehlert, 2015). Like issues of definition of CPD as examined in the section 2.1.1, however, understanding of the concept of teachers' quality has varied (Blanton, Sindelar & Correa, 2006).

Many researchers share the view that teacher quality consists of various elements (Kaplan & Owings, 2001; Goe, 2007; Stronge, Ward & Grant, 2011). In other words, teacher quality cannot be captured as one unique feature; but is instead a complex set of features. For example, Kennedy (2008) argued that teacher quality consists of five different aspects: i) tested ability; ii) credentials; iii) classroom practice; iv) raising student achievement; and v) educational beliefs and values. Moreover, Kennedy argued that teacher quality might be differently understood in response to specific aims. For example, for people who are interested in pupils' test scores, teacher quality is closely related to the fourth value of 'raising student achievement'. Other research has also argued that teacher quality consists of a range of factors. For example, Darling-Hammond (2000) reviewed research on teacher quality and identified five categories that contribute to improving teacher quality and pupil learning outcomes as follows:

- general academic ability and intelligence (e.g. verbal ability or teaching behaviours);
- subject matter knowledge (e.g. content knowledge);
- knowledge of teaching and learning (e.g. teachers' coursework credits);
- teaching experience (e.g. enough teaching experiences); and
- certification status (licensing examination).

In line with this issue, Goe (2007) developed a new framework. Goe argued that first of all, it is necessary to distinguish teacher quality from *teaching* quality. In addition, in order to explain this framework he divided teacher quality into three different elements: i) inputs (teachers' qualifications and teacher characteristics); ii) processes (teacher practice); and iii) outcomes (teacher effectiveness). The first element 'input' consists of two sub-elements which are certification or teaching experience (teacher qualification) and teachers' educational beliefs or attitudes (teachers' characteristics). Secondly, 'processes' is the concept of *teaching* quality which refers to teachers' actual teaching practices in and out of the classroom such as planning lessons, specific teaching strategies, interactions with pupils or assessment methods. The last

Note that teacher qualification, characteristics, and practices are all used to define teacher quality and exist *independently* of student achievement, whereas teacher effectiveness is wholly dependent on student achievement. In other words, teachers effectiveness cannot be determined without outcomes such as standardized test scores. (p. 9, original italics)

This perspective is aligned with the argument from wider CPD research that teachers' professional learning should be evaluated by pupils' learning outcomes (e.g. Desimone, 2011).

In addition to the argument that teacher quality consists of a range of factors, it has also been argued that teacher quality is clearly dependent on the nature of the context (Troman, 1996). In other words, teachers are required to meet standards which are defined by the cultural, economic and social contexts in which they live and work. For example, Li (2005) argued that there is a difference in perspectives about the ideal profile of an educated person or teachers between Eastern (including Korea) and Western countries, and this difference influences learning activities. Research on teacher quality written in Korean also supports this argument; for example, there has been a tendency to place relatively more emphasis on teachers' moral and ethical aspects compared to that of Western countries in defining teacher quality (Kim, 2007; Choi, 2014a).

In this thesis, Goe's (2007) framework will be used as one framework to define and attempt to evaluate teacher quality in the context of the South Korean CoP in PE.

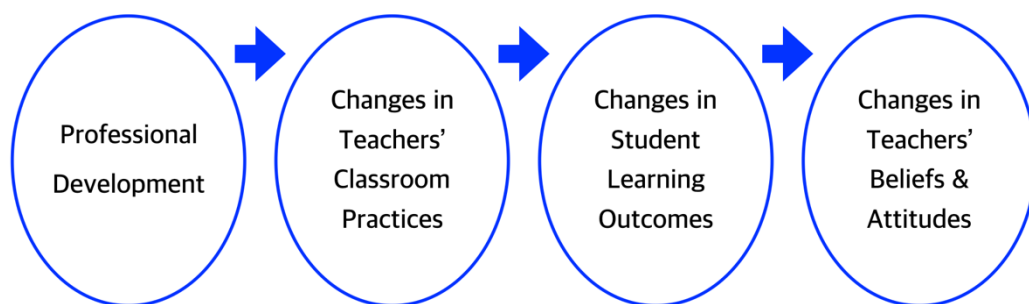
2.1.4 Teacher change

As this section has illustrated, teachers' professional development is a complex process which is influenced by various factors such as the characteristics of different CPD programmes, having opportunities to engage in collaborative learning or even level of teacher certification. In this sub-section, the concept of teacher change is explored. As the term indicates, teacher change is closely related to a *process* of how teachers develop. There have been two typical models

explaining the process of teachers' professional development.

Firstly, Guskey (1986, 2002) approached the analysis of change processes through professional development differently to the traditional way. Guskey argued that our understanding about the process of change in teacher learning is incorrect. According to Guskey, existing professional development models assume that CPD programmes influence teachers' beliefs, attitudes and perceptions, and that this then leads to changes in practice and, ultimately, impacts on pupils' learning outcomes. He argued, however, that this simple linear model which is rooted in the Lewin's (1935) psychological theory (cited in Guskey, 2002) does not fully take into account educational context, especially in cases of experienced teachers.

Figure 2. Teacher change (Guskey, 2002)



Instead, Guskey presented an alternative model of teacher change, as the Figure 2 above illustrates. This model indicates that changes in teachers' teaching practice come first, and that it is perceived impact on pupils that leads to changes in teachers' beliefs and attitudes. In other words, from this viewpoint, authentic teacher change does not occur unless teachers see an improvement in pupils' learning outcomes:

The crucial point is that it is not the professional development *per se*, but the experience of successful implementation that changes teachers' attitudes and belief. They believe it works because they have seen it work, and that experience shapes their attitudes and beliefs. Thus, according to the model, the key element in significant change in teachers' attitude and belief is clear evidence of improvement in the learning outcomes of their students (Guskey, 2002,

pp. 383-384, original italics).

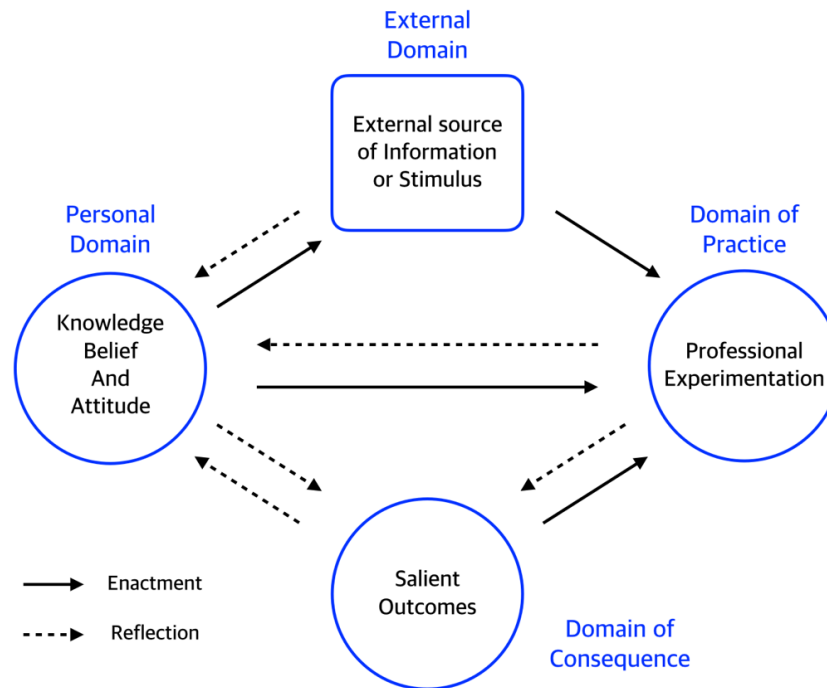
From this perspective, CPD programmes should take into account the process by which teachers continuously receive feedback on pupils' learning. In line with this issue, it is important to note that the range of pupils' learning outcomes varies, ranging from changes in test scores to levels of engagement in learning activities. Thus, a change in pupils' learning outcomes includes 'whatever kinds of evidence teachers use to judge the effectiveness of their teaching' (Guskey, 2002, p. 384).

Guskey's alternative model of teacher change, however, does not fully enough capture the process of teacher change and, as a result, has been criticized because it presents teacher change as too simple and a *linear* process (Clarke & Hollingsworth, 2002). According to Clarke & Hollingsworth, the argument that changes in teachers' beliefs and attitudes are generated *only* after teachers confirm changes in pupils' learning outcomes might be challenged. They offer, therefore, a different model where each level of change, labelled as a domain, is influenced by a range of other factors in a *non-linear* process (see Figure 3).

This model consists of a personal domain (teachers' beliefs and attitudes), an external domain (teaching sources or information), a practice domain (teaching practices), and a consequence domain (pupils' learning outcomes).

According to the framework, 'change in one domain is associated with change in another' (p. 947). For example, changes in teachers' educational beliefs or attitudes is not a process influenced by confirming changes in pupils' learning outcomes (domain of consequence) *alone*; it is also influenced by seeking new teaching strategies (external domain) or reflecting on teaching practices (domain of practice).

Figure 3. Teacher change (Clarke & Hollingsworth, 2002)



Another point to note is that there are different types of arrow, as the Figure 3 above illustrates. Enactment, illustrated by a solid line, refers to changes to teachers’ educational beliefs or teaching practices (pedagogies). For example, the solid line between the personal domain and external domain indicates that teachers who look for new teaching strategies in CPD programmes in order to develop their pedagogies. On the other hand, reflection which is illustrated by a dotted line refers to teachers’ reflections on each domain and the relationships between them. For example, an image of a teacher who makes reflections on how his/her new teaching strategies impacts on pupils’ learning outcomes could be an example of reflections between domain of practice and consequence.

In this study, both models proposed by Guskey (2002) and Clarke and Hollingsworth (2002) will be used as frameworks to explore processes in which teachers in the CoP develop their educational beliefs and pedagogies.

2.1.5 Teacher knowledge

Teacher knowledge (i.e. the content of teachers' learning) is one of the important factors in understanding teachers' professional learning and has also been defined differently (Liakopoulou, 2011; Santoro, Reid, Mayer & Singh, 2013). For example, historically, Shulman (1986, 1987) categorised seven types of knowledge: content knowledge; general pedagogical knowledge; pedagogical content knowledge; curriculum knowledge; knowledge of education contexts; knowledge of learners and their characteristics; and knowledge of educational goals. It has been argued that both content knowledge and pedagogical content knowledge have the most powerful influence in teachers' professional learning (e.g. Petrie, 2010). Recently, Adoniou (2015) developed a more elaborate framework. The framework combines six 'domains' which are based on Shulman's categorization; i.e. knowledge about: content; theory; teaching; learners; school context; and sociocultural context, with three 'ways of knowing' which are knowing *how*, knowing *why* and knowing *what*. For example, in the first domain of 'knowledge about content', teachers need to have enough content knowledge (what) and to know the importance of having it (why), and to know effective methods to deliver it (how).

Cochran-Smith and Lytle (1999) developed a different framework. According to these authors, teachers are required to develop three types of knowledge: (1) knowledge *for* practice, (2) knowledge *in* practice and (3) knowledge *of* practice. There are several benefits of this way of categorizing, because it can: i) explain different 'types' of teacher knowledge; ii) offer views about how different knowledge is constructed in a teacher learning community; iii) explain the relationship between teacher knowledge and practice; and iv) explain learning generated between experienced and novice teachers. The three types of knowledge are examined below.

Firstly, knowledge *for* practice can be understood as the basic and abstract knowledge underpinning teaching theory and practice. In this sense, this knowledge is recognized as

‘formal knowledge’, ‘the knowledge base’ (Cochran-Smith & Lytle, 1999, p. 254) and ‘codified academic knowledge’ (Wilson & Demetriou, 2007, p. 214). Shulman’s (1987) knowledge, except with pedagogical content knowledge, could also be categorized into this knowledge. Furthermore, the knowledge about learner, curriculum and teaching, which is defined as a domain of teacher learning, proposed by Bransford, Darling-Hammond and Lepage (2005), is also included into this type of knowledge. In terms of agents of generating this knowledge, it is generated generally in universities or by experts outside of schools and its purpose is to improve teachers’ teaching skills. It is assumed, therefore, that teachers’ teaching skills would be improved if teachers learned more of this type of knowledge. Focusing only on this form of knowledge, however, has a danger in that it views teachers as little more than agents of transmission of knowledge. From this perspective, simply gaining more formal knowledge cannot guarantee a high quality of teaching.

Secondly, knowledge *in practice* is knowledge which is embedded in teachers’ teaching practices. That is, this form of knowledge is ‘expressed or embedded in the artistry of practice, in teachers’ reflections on practice, in teachers’ practical inquiries, and/or in teachers’ narrative accounts of practice’ (Cochran-Smith & Lytle, 1999, p. 262). In this sense, it can be defined as ‘practical knowledge’ (p. 264). In terms of generating this knowledge, it cannot be ‘transferred’ or easily ‘delivered’. Instead, this knowledge requires teachers’ engagement in sustained reflection on their teaching practices. Moreover, this knowledge is also learned through active interactions between experienced teachers and less-experienced teachers. That is, teachers with limited teaching skills are able to receive support and tacit knowledge from experienced teachers in a teacher learning community.

Lastly, the third type is knowledge *of practice* which recognizes that teachers’ learning is not limited to a dimension of the application of general teaching theory or generating practical

knowledge. Instead, the third type of teacher knowledge is defined as:

knowledge in this third conception is regarded as not existing separate from the knower. Rather, knowledge making is understood as a pedagogic act – constructed in the context of use, intimately connected to the knower, and, although relevant to immediate situations, also inevitably a process of theorizing (pp. 272-273).

Thus, in terms of range of contexts, in contrast to knowledge *for/in* practice that emphasizes changing teaching practice within class or school dimension, knowledge of practice goes beyond that. In other words, the goal of knowledge *of* practice is ‘understanding, articulating and ultimately altering practice and social relationships in order to bring about fundamental change in classrooms, schools, districts, programs, and professional organizations’ (279). In terms of agents of generating this type of knowledge, it is important to note that this knowledge is generated through teachers’ collaborative learning in communities. In other words, in order to generate knowledge *of* practice teachers’ sustained collaborative inquiry in a teacher learning community is essential.

2.2 Theories of learning

In the previous section, several concepts which are helpful to understanding teachers’ professional development were examined. In order to understand teachers’ professional learning at a deeper level, however, it should be analysed using fundamental learning theories. In this section, therefore, a range of learning theories are explored in depth.

Learning theories have been differently categorized by the ways a researcher views the relationship between mind/body and individual/society. For example, Jarvis (2006) categorized human learning into four different approaches: i) behaviorist; ii) cognitive; iii) emotive; and iv) experiential. Ertmer and Newby (2013) divided it into three different categories: i) behaviourism; ii) cognitivism; and iii) constructivism. In addition, Sfard (1998) used two

metaphors which are ‘acquisition’ and ‘participation’ in order to categorize teachers’ learning and to understand both of them, and Hager (2005) added another metaphor to both metaphors, named as ‘learning as construction’. Hodkinson et al. (2007, 2008) suggested another dimension influencing learning. Hodkinson et al. argued that not only aspects of individuals and communities, but also cultures in which learners engage should be taken into account in understanding learning. In this section, an overview of metaphors of ‘learning as *acquisition*’ (2.2.1), ‘learning as *construction*’ (2.2.2) and ‘learning as *participation*’ (2.2.3) is provided. In particular, a detailed overview of the framework of communities of practice (CoP) is provided (2.2.4). Lastly, relationships between learning and culture is fully examined (2.2.5).

2.2.1 Learning as acquisition

The metaphor of learning as acquisition is derived from the Cartesian idea which is rooted in Greek concepts (Hager, 2005). This perspective views learning as a ‘solitary activity’ (Winch, 1998, p. 13) or ‘a change in the contents of an individual mind’ (Hager, 2005, p. 651) so that the analytical unit of learning is the individual. From this perspective, knowledge is regarded as an *object* which exists independently outside an individual’s mind. Similarly, human mind is viewed as ‘a container to be filled with certain materials and about the learner as becoming as owner of these materials’ meaning that the key concepts of cognitivism are ‘idea’, ‘notion’, ‘internalization’, ‘transmission’ (Sfard, 1998, p. 5). Thus, researchers have investigated the processes and factors, by which individual learners effectively memorize, store, organize and retrieve information or knowledge (Greeno, 1997; Ertmer & Newby, 2013). In this sense, the cognitive approach has been regarded as a ‘computer metaphor’ (Dai & Sternberg, 2004).

To date, this perspective has been the most typical way in which people understand learning and knowledge, and it has been described as ‘standard paradigm of learning’ (Beckett & Hager, 2002, p. 165) and ‘so strongly entrenched in our mind’ (Sfard, 1998, p. 6). As a result, most

schooling, as a formal education process, has been developed within a cognitive approach (Ford & Forman, 2006). Wenger (1998) examines this phenomenon as follows:

issues of learning explicitly, are largely based on the assumption that learning is as individual process, that it has a beginning and an end, that it is best separated from the rest of our activities, and that it is the result of teaching (p. 3).

This approach to understanding learning and knowledge, however, has been criticized in a wide spectrum of constructivist and sociocultural learning theories. This is because learning and knowledge in the acquisition metaphor are too narrowly defined (Hager, 2005; van Egmond, Kühnen & Li, 2013). In addition, Hager and Hodkinson (2009) argue that the processes by which learning occurs in the metaphor cannot examine individual learners' interactions with learning contexts. Jarvis (2006) thus regarded cognitivism as a 'disservice to the wider understanding of human learning' (p. 157).

2.2.2 Learning as construction

Constructivism, the metaphor of 'learning as construction', has actively been applied in the educational field, especially in teacher education since the 1990s, to respond to the shift in the 'subjective turn and postmodernism' (Boghossian, 2006, p. 714). From this perspective, it is important to note that constructivism is not simply a kind of teaching strategy but is, instead, a fundamental difference in the way of viewing the world. That is, contrary to the acquisition metaphor that views learning as the process of obtaining knowledge which exist outside an individual's mind, the construction metaphor assumes that there is no existence of privileged objects which constitute knowledge. Thus, learning is viewed as the process by which learners actively engage in learning contexts; i.e. they construct their own knowledge. As the name of the metaphor indicates, constructivism focuses on ways in which 'learners construct or find meaning in their subjective experience' (Boghossian, 2006, p. 714). That is, as Ertmer and

Newby (2013) argue, knowledge is ‘linked to the context under study and to the experiences that the participants bring to the context’ (p. 57).

A statement by Duffy and Cunningham (1996) is helpful to understand learning in a constructivist framework:

all learning as a social, dialogical process of construction by distributed, multidimensional selves using tools and signs within contexts created by the various communities with which they interact (p. 13).

In addition, they identified seven features of the construction metaphor, as follows:

- All knowledge is constructed; All learning is a process of construction;
- Many world views can be constructed; Hence there will be multiple perspectives;
- Knowledge is context dependent, so learning should occur in contexts to which it is relevant;
- Learning is mediated by tools and signs;
- Learning is an inherently social-dialogical activity;
- Learners are distributed, multidimensional participation in a sociocultural process; and
- Knowing how we know is the ultimate human accomplishment.

There has been a wide of spectrum of constructivist theories ranging from mediated learning to radical constructivism, meaning that the term is described as an ‘umbrella’ concept (Fox, 2001; Kivinen & Ristela, 2003; Boghossian, 2006). Broadly, however, it is possible to divide the approaches into individual cognitive and sociocultural constructivism (Cobb, 1994; Duffy & Cunningham, 1996). There are several differences between these two positions (see Table 1 below); for example, Piaget, the most famous individual cognitive constructivist, places particular importance on ‘the individual within group, and cognition occurs in the head of the individual’ (Duffy & Cunningham, 1996, p. 6). In other words, the main interest of this framework is the ways in which individuals actively construct and find their own meaning in their learning processes.

Table 1. Cognitive and Sociocultural constructivist

	Cognitive Constructivist	Sociocultural Constructivist
The mind is located:	in the head	in the individual-in-social interaction
Learning is a process of:	active cognitive reorganization	acculturation into an established community of practice
Goal is to account for:	the social and cultural basis of personal experience	constitution of social and cultural processes by actively interpreting individuals
Theoretical attention is on:	individual psychological processes	social and cultural processes
Analysis of learning sees learning as:	cognitive self-organization, implicitly assuming that the child is participating in cultural practices	acculturation, implicitly assuming as actively constructing child
Focus of analysis:	building models of individual students' conceptual reorganization and by analyses of their joint constitution of the local social situation of development	individual's participation in culturally organized practices and face-to-face interactions
In looking at a classroom, we see:	an evolving microculture that is jointly constituted by the teacher and students	institution of the culturally organized practices of schooling
In looking at a group, we stress:	the heterogeneity and eschew analyses that single out pre-given social and cultural practices	the homogeneity of members of established communities and to eschew analyses of qualitative differences

<Adapted from Duffy & Cunningham, 1996>

In contrast, in sociocultural constructivism, the main focus is on the ways individuals participate in learning environments (Vygotsky, 1978). That is, from this perspective, the process of constructing meaning(s) should not be restricted within a dimension of individuals' mind; but, it should be understood as activities strongly associated with social mediation (Hodkinson & Hodkinson, 2004a; Hodkinson et al., 2007). A statement of Hager and Hodkinson (2009) indicates the nature of sociocultural constructivism:

what is learnt is now a complex entity that extends well beyond the learner; a set of more or less complex practices; a social construction undergoing continuous change. The learner

learns by active participation in the practices and is gradually subsumed into the complex social construction that is the evolving set of practices (p. 626).

From this perspective, learning should be understood as activities of *participating* specific situations. This point is now examined in more detail.

2.2.3 Learning as participation

The third metaphor is ‘learning as participation’. This is a type of sociocultural constructivism. As discussed above, from this perspective, engaging in learning activities goes beyond individuals’ acquiring propositional learning or skills. As Hager and Hodkinson (2009) argued ‘it is evident that the learning in this metaphor cannot be located fully within the learner’ (p. 626), and learning cannot be detached from an individual learner’s interactions with contexts. In other words, learning occurs through engagement in specific *situations*. From this perspective, the metaphor of learning as participation is understood as ‘situated learning’. Lave and Wenger (1991) examined the notion of ‘situated’, as follows:

it took on the proportions of a general theoretical perspective, the basis of claims about the relational character of knowledge and learning, about the negotiated character of meaning, and about the concerned (engaged, dilemma-driven) nature of learning activity for the people involved. That perspective meant that *there is no activity that is not situated*. It implied emphasis on comprehensive understanding involving the whole person rather than “receiving” a body of factual knowledge about the world; on activity *in and with* the world; and on the view that agent, activity and the world mutually constitute each other (p. 33, italics added).

The third metaphor has a unique feature. As the name of metaphor indicates, the concept of ‘participation’ is the core element in understanding learning in this metaphor. In other words, although the third metaphor shares the same fundamental understanding of how learning occurs through engagement in sociocultural activities, this metaphor uses the concept of ‘participation’ as the core element in learning process. Lave and Wenger defined the participation as follow:

given a relational understanding of person, world, and activity, participation, at the core of our theory of learning, can be neither fully internalized as knowledge structures nor fully externalized as instrumental artifacts or overarching activity structures ... The notion of participation thus dissolves dichotomies between cerebral and embodied activity, between contemplation and involvement, between abstraction and experience: persons, actions, and the world are implicated in all thought, speech, knowing and learning ... participation in social practice – subjective as well as objective – suggests a very explicit focus on the person, but as person-in-the-world, as member of a sociocultural community. This focus in turn promotes a view of knowing as activity by specific people in specific circumstances (pp. 51 - 52).

In this sense, Lave and Wenger view participation as bridging people and learning contexts, and learning as changes to forms of participation in a specific context. Furthermore, in order to examine this new approach, they also developed the concept of ‘legitimate peripheral participation’. In this framework, the learning process is by a *newcomer* who is new and unfamiliar with a community becoming an *old-timer* who does more important tasks in the community. The newcomers are able to gradually move into a central position in the community thereby continuously experiencing the history and culture of the community and interacting with other members. In this sense, it is closely related to the concept of apprenticeship which ‘reveals a more complex set of relationships through which learning takes place mostly with journeyman and more advanced apprentices’ (Wenger-Trayner & Wenger-Trayner, 2015, p. 4).

2.2.4 CoP in the context of this study

In this sub-section, the process of how I regarded the teacher learning community as a CoP is presented. As noted in the introduction, I determined the teacher learning community as a legitimate CoP when I selected it as the case for this study. This was based on my prior experience gained from: i) information about the CoP which I had received – as a teacher – through educational channels; ii) personal relationships with some of teacher participants; and iii) my experiences in two teacher learning communities.

Firstly, I had received information about the CoP through educational pathways. As a PE teacher, I had attended a number of CPD programmes which were held by the educational ministry. As the new national PE curriculum named ‘creativity and character curriculum’ was developed, a number of pedagogies using the X teaching model were presented by the professor and some members of the CoP in these CPD programmes. Through this process, I knew of the existence of the CoP and the X teaching model. Moreover, I was taught a total of three modules of sport pedagogy by the professor at my post graduate school. In the three modules, I was given access to more detailed information about the X teaching model and the CoP.

Secondly, I had built personal relationships with some of teacher participants in this project (John, Peter and Michael). I met the three teachers in a workshop which was held by the CoP in 2009. In addition, I met these teachers in other CPD programmes and also social events organized by the CoP and some members recommended that I should join the CoP.

Lastly, my prior experiences in two teacher learning communities also impacted on the process of how I identified the CoP. I joined two different PE teacher learning communities (*not* the CoP in this study) in 2008. The first community which was associated with a local educational ministry and it offered members opportunities to share their pedagogies (once a month). The community, however, disappeared in 2009 because of low attendance rates and the lack of specific aims and contents. The second community was created in 2002 with PE teachers who shared an interest in basketball. The community offered two kinds of activities: i) playing basketball every Tuesday and ii) sharing each member’s pedagogies (once a month). Although the second community offered some opportunities for teachers’ professional learning, its main aim was playing basketball and building personal relationships with members.

These factors, therefore, helped me to identify this CoP and understand its legitimacy as a CoP:

i) having clear aims; ii) using the shared X teaching model; and iii) close relationships between members.

Firstly, as mentioned in the introduction, the CoP had the clear aim of supporting ‘whole-person education’ through using the X teaching model. The aim has not changed since the creation of the CoP in 2003. Furthermore, all teachers who voluntarily joined the CoP had positive views about the goal and the X teaching model. In this sense, the CoP has maintained a clear aim.

Secondly, the CoP shares the X teaching model that was developed by the professor (detailed information about the X teaching model was presented in the introduction). Given that a total of five different activities for teachers’ professional learning (presented in section 5.1) are all linked to the X teaching model, it can be established that it is a core concept for the CoP.

Lastly, members had tight relationships. Some thought that the CoP was not only a learning community to develop their pedagogies but also a ‘family-like community’ where they shared their personal lives. Members have built positive relationships through holding a number of social events. In addition, the fact that some of members (13 of the 35) graduated from the same university and were being taught by the professor is also an important factor in understanding their close-knit relationship.

These features are closely related to three core dimensions of CoP theory and each dimension is now examined in-depth.

2.2.5 Communities of practice theory

As discussed above, learning in the third metaphor is about the activities of participating in specific situations. Lave and Wenger (1991) developed the notion of ‘communities of practice’ (CoP) which refers to specific situations where people are located in order to learn. Wenger, McDermott and Snyder (2002) defined CoPs as:

groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis (p. 4).

To date, in CPD area, the concept of CoP has been used ‘both as an explanatory framework for learning and as a metaphor for how instruction should take place’ (Hoadley, 2012, p. 286). It is important to note, however, that the concept of CoP is distinct from concepts of team, group or network. According to this theory, there are three important dimensions in a CoP (Wenger, 1998).

1) Mutual engagement

The first core element of a CoP is the mutual engagement. As discussed earlier, in the situated learning theory section, learning occurs through engagement in a specific situation consisting of active interactions with others. In this sense, relationships between members of a CoP are an essential element in understanding learning. Mutual engagement, however, should not be understood as simply belonging to an organization. It is closely related to the membership that is part of the unique identity of a CoP. Another important characteristic is that it is a reciprocal relationship where each member’s practices (learning) need contribute to other members’ learning. In addition, in terms of degree of intimacy, mutual engagement in a CoP is ‘a very tight node of interpersonal relationship’ (p. 76).

2) Joint enterprise

The second element ‘joint enterprise’ is closely related to the aims of a CoP. In other words, this indicates the focus of a CoP. In this sense, joint enterprise is ‘not just a stated goal, but creates among participants relations of mutual accountability that become an integral part of the practice’ (p. 78). That is, it offers directions which a CoP can pursue. It does not, however, have to require the same purpose or aims from all individuals; there might be some conflict in

the process of setting goals and developing working strategies. In this sense, the joint enterprise of a CoP is constantly negotiated. Importantly, joint enterprise and practices for their enterprise have to be negotiated by members of a CoP, not ‘by outside mandate, by a prescription, or by any individual participant’ (p. 80).

3) Shared repertoire

Shared repertoire is the process by which members share in order to achieve the joint enterprise of a CoP. Every CoP has their own shared repertoire; including minutes, working sheets, specific working processing, even a way of greeting each other. These tangible or intangible kinds of repertoire can become an important part of practice (learning) in a CoP.

As mentioned above, a CoP has other features which are different from the characteristics of general teacher learning communities (Hoadley, 2012; Parker et al., 2012; Wenger-Trayner & Wenger-Trayner, 2015). Recently, MacPhail et al. (2014) reported characteristics of ‘authentic CoP’ which differentiate them from a collection of teachers or established groups (see Table 2 below). MacPhail et al. argue that when teacher learning communities become an authentic CoP, teachers’ learning is likely to be more effective and in-depth.

It could be argued that the CoP in this project has – more or less – the features of an authentic CoP in that it: i) is sustained (over the 10 years); ii) has a facilitator who guides teachers’ professional learning (the professor who developed the X teaching model); iii) has a clear purpose (focused on whole-person education through PE); and iv) has higher level of trust (close relationships between members).

Table 2. The landscape of CoP as teachers' professional learning

	Collection of Teacher Educators	Established Groups	Autentic CoP
SUCCESS	Success determined as an individual	Group goal / shared objective	Interrogation and integration of beliefs and practices Engage with posed challenges
GUIDEPOSTS	Limited social investment Social networking and informal discussion	Everyday discourse in an informal manner	Shared appreciation of enactment and engagement
ROLE OF FACILITATOR	Active individuals	Creation of sub-groups Groups facilitated by one member Common goal but lack of consensus on how to achieve the goal	Willingness to negotiate, look beyond self and share facilitation Internally initiated and negotiated facilitation together
ROADBLOCKS	Individual conceptual and philosophical attributes that do not encourage discussion and are subsequently not solved	Engage socially but do not interrogate conceptual and philosophical attributes	Engage as a group with posed challenges
POTENTIAL	No shared facilitation Haphazard individuals / groupings Intellectual isolation	Realization of a shared impact	Sustained over time Clear purpose Trust and respect Social element

<Adapted from MacPhail et al., 2014>

2.2.6 Learning and culture

This section has explored both ‘individual’ (learning as cognition) and ‘a community’ (learning as participation) dimensions influencing the process of learning. It has been argued, however, that wider factors such as policies or cultures should be taken into account in order to understand learning (e.g. van Egmond et al., 2013). For example, Li (2005) argued that there are different cultural beliefs about learning between Eastern and Western countries and these influence individuals’ learning beliefs and their actual learning. Li argued that learning is understood as the acquisition of knowledge, intelligence and wisdom in Western countries. This understanding stems from the Socratic view which is described as a ‘mind orientation’ to learning. On the other hand, learning in Eastern countries, including Korea, has been influenced by the Confucian view which takes a more holistic view of development. From this perspective, learning is regarded not only as cognitive but also as moral and ethical development which is characterized as a ‘virtue orientation’ (Li, 2005, p. 191). Li suggested that these differences in

general beliefs about learning have influenced in both the aims of learning and the motivations of learners between Eastern and Western countries.

It has been argued that existing theories of learning – both cognitive and situated – fail to fully account for learning processes (Hodkinson & Hodkinson, 2004b; Hodkinson et al., 2007; Biesta, 2011). This is because, firstly, the existing learning theories do not take into account wider dimensions such as learning culture. Secondly, most of them take dualist approach which sees a separation between: i) mind and body; ii) individual and social; and iii) agency and structure. Lastly, there has been a tendency to focus on one dimension of learning. Hodkinson et al. (2007, 2008) developed two theories: i) *the theory of learning culture* and ii) *the cultural theory of learning* in order to overcome these limitations above. Each theory, and the importance of combining them, is now examined.

The theory of learning culture refers to the importance of incorporating learning culture into the processes of understanding learning. As discussed in previous sections, it has been argued that cognitive learning theories tend to overlook the importance of situations and contexts around learning (Hager & Hodkinson, 2009). These theories place emphasis on the process of conceptual change in the mind of an individual learner. Hodkinson et al. (2008) suggested the necessity of considering a variety of scale of learning culture and its impacts on learning. The term learning culture here refers not to merely learning context; rather it is ‘social practices through which people learn’ (p. 34). Learning cultures, therefore, have shared expectations about teaching and learning and, in turn the learning cultures influence, directly or indirectly, sites in which learning takes place. In line with this, Biesta (2011, p. 203) argued for the ‘interconnectedness’ between each culture; i.e. ‘unlike learning contexts, learning cultures do not have clear boundaries, so we always need to look beyond what is immediately present’. This perspective was derived from the concept of *field* developed by Bourdieu (1985).

According to Bourdieu, there are various types and levels of fields which constitute culture and society, and each field is ‘interconnected’. Thus, a learning culture, as a unit of a field, is influenced by other learning cultures. For example, in order to fully understand a learning culture of the CoP which is studied in this study, it is essential to take into account a higher level of culture such as the culture of schooling or the general educational system in South Korea.

Using *the theory of learning culture* alone, however, cannot examine learning process holistically. Hodkinson and Hodkinson (2003) argued that Lave and Wenger’s (1991) approach might overlook ‘the significance of individual dispositions and biography in relation to community of practice development’ (p. 5). In other words, in order to understand learning generated in a CoP, not only aspects of social practice (interaction with members of a CoP) but also an individual learner’s characteristics (beliefs or dispositions) should be taken into account. In line with this, Bloomer and Hodkinson (2000) developed the concept of ‘learning career’ to examine how an individual’s dispositions towards learning changed and how this influences learning. That is, individual’s dispositions have significant influence in the learning process and should be taken into account in order to understand learning (Hodkinson & Hodkinson, 2004b).

It is also important to note that individual learners are not passive beings who are merely influenced by learning culture. That is, there are active transactions between learners and learning cultures: ‘individuals influence and are part of learning cultures just as learning cultures influence and are part of individuals’ (Hodkinson et al., 2008, p. 37). In this sense, individuals have the ability to actively construct practical knowledge embodied by transactions with environments, not just conceptual change by knowledge acquisitions. From this perspective, Hodkinson et al. (2008) argue also for the necessity of incorporating a dimension of individual learners into learning culture. Hodkinson et al., therefore, suggest: *the cultural*

theory of learning to complement limitations of using *the theory of learning culture*.

Thus, Hodkinson et al. (2007, 2008) take a holistic view about learning theory by combining two theories: *the theory of learning culture* refers to the influences of learning cultures, and *the cultural theory of learning* which focuses on the individual learner dimension. In summary, in order to examine learning processes in any learning location, therefore, it is essential to *integrate* the learner's dispositions (individual), a CoP (community) and learning culture (wider context). Moreover, as examined above, each factor is interconnected.

2.3 PE CPD

In this section, the range of literature is focussed specifically on PE. An overview of PE-CPD is provided (2.3.1), and the strengths and weaknesses of PE-CoP literature reviewed (2.3.2). In addition, research on PE-CPD in South Korea context (2.3.3) is provided.

2.3.1 PE-CPD literature

It has widely been argued that pupils' learning outcomes through engagement in PE lessons depend, to a large extent, on PE teachers' quality (e.g. UNESCO, 2014). Moreover, the enhancement of the PE teachers' quality is influenced by PE-CPD (e.g. Armour, 2010). In this sense, studying effective PE-CPD is important in order to enhance PE teachers' quality, and ultimately, pupils' learning outcomes.

To date, a comparatively small amount of research on PE-CPD has been undertaken (Parker & Patton, 2016). Research on PE-CPD has been conducted both conceptually and empirically. For example, in a conceptual dimension, Armour (2010) argued that PE teachers need to view themselves as 'learners' rather than teachers in order to engage in sustained process of professional learning so that they could be equipped with professional responsibility. Moreover, Armour et al. (2015) recently suggested the application of the Deweyan perspective of

‘education as growth’ to designing effective PE-CPD. Along with few conceptual research, there is also empirical research which explores characteristics of (in)effective PE-CPD. Parker and Patton (2016) recently reviewed research on PE-CPD which had been undertaken from the 1980s to the present and summarised conditions which it has been found help to make PE-CPD effective. According to the research, PE-CPD is likely to be more effective when it:

- is on-going and sustained;
- is based on teachers’ needs and interests;
- includes opportunities within learning communities;
- is supported;
- acknowledges teachers as learners in an active and social environment;
- enhances teachers’ pedagogical skills and content knowledge;
- is facilitated with care; and
- focuses on improving learning outcomes for students.

These characteristics are similar to those of findings from research on CPD in the wider educational context (e.g. Bell et al., 2012), as examined in section 2.1.2, Teachers’ perspectives on PE-CPD which they have experienced, however, are somewhat different from the conditions for effective PE-CPD above. In other words, despite the fact that the characteristics of effective PE-CPD have been investigated and even suggested, in reality, ineffective PE-CPD has still ‘endured’ (Armour, 2010, p. 4). There is clear evidence about those weaknesses and limitations of PE-CPD which act to restrict teachers’ effective professional learning. Firstly, in terms of content (i.e. what kinds of activities or knowledge are dealt with), most PE-CPD has a limited focus. For example, it has been found that PE-CPD tends to focus on updating knowledge about sports-skills (Armour & Yelling, 2004b). This tendency has resulted in a ‘discrepancy between ideal and reality’ (Makopoulou & Armour, 2011b, p. 418). That is, some teaching strategies or pedagogies which teachers would like to learn are rarely addressed in PE-CPD. This is partly because much PE-CPD is developed without taking into account individual teacher’s needs or

school contexts:

this system encourages CPD providers to offer largely identical courses to different teachers at different stages in their career who work in range of different schools with different facilities and pupils who differ in their learning needs in all sorts of ways (Armour, 2010, p. 5).

PE teachers, therefore, have regarded knowledge delivered in PE-CPD programmes as not being practical, relevant and applicable, meaning that it has little influence in enhancing their pedagogies (O'Sullivan & Deglau, 2006).

Secondly, in terms of methods of delivery, much PE-CPD has faced temporal and spatial problems and these act as strong barriers to teachers' professional learning. In other words, when PE-CPD is held in a place located outside of school or time after school, teachers find attendance to be a burden (O'Sullivan & Deglau, 2006; Bechtel & O'Sullivan, 2007). Lack of support is also important. Much PE-CPD takes the form of one-day, off-site activities with no follow-up. Because of these features, teachers are not able to expand their learning (Armour & Makopoulou, 2012). In addition, the quality of the presenter in PE-CPD programmes is a factor in either encouraging or inhibiting teachers' learning. That is, presenters who are 'enthusiastic, dynamic, well organized, could bring humour to the activity' are more likely to be effective (Armour & Yelling, 2004b, p. 81).

In order to overcome these limitations, researchers have explored different approaches (e.g. Armour et al., 2015). Firstly, it has widely been argued that it is necessary for teachers to view themselves as learners. That is, both teachers and policy makers need to regard teachers as active learners who engage in sustained professional learning activities (Makopoulou & Armour, 2011a). In line with this suggestion, Armour and Yelling (2004a) argued that the term *professional development* may imply teachers' passivity, and that it may be better to consider

professional learning. In this sense, PE teachers need to do more than simply attend in PE-CPD programmes, they must also engage in learning activities that can influence their actual teaching practices. Similarly, Keay (2006) also argued for the importance of active professional learning activities:

professional development opportunities may be experienced through different forms of school-based and off-site events but that *professional learning* is a process that takes time to embed into practice (p. 286, italics added).

Secondly, similar to the first suggestion, it is also necessary to expand the definition of CPD. There has been a tendency for teachers to understand CPD as formal ‘courses’ or ‘workshops’ that are run by educational organisations, rather than recognising school-based and informal professional learning as CPD (Armour & Yelling, 2004b; Duncombe & Armour, 2004; Keay, 2005). Researchers have argued that given the effectiveness of informal and school-based collaborative learning as professional learning, it is important to conceptualise the range of CPD more broadly (Armour & Yelling, 2007; Armour et al., 2015).

Lastly, and interestingly, much research has made a common practical suggestion (e.g. MacPhail et al., 2014); i.e. that a CoP to CPD is a practical method to overcome the limitations of other forms of PE-CPDs. This point is now examined in more detail.

2.3.2 PE-CoP

As mentioned in the previous sub-section, ‘there is a growing recognition that collaborative learning is an effective form of professional development’ in the area of PE-CPD (Keay, 2006, p. 285). Along with this, several studies of PE-CPD have suggested the application of a PE-CoP approach as an alternative to traditional forms of CPD (Armour & Yelling, 2004a, 2004b). In addition, empirical research on exploring the effectiveness and limitations of CoP in teachers’ professional learning has also been undertaken (Keay, 2005, 2006; Deglau, Ward, O’Sullivan

& Bush, 2006; Armour & Yelling, 2007; O'Sullivan, 2007; Parker et al., 2010; Parker et al., 2012; Goodyear, Casey & Kirk, 2014b; Goodyear & Casey, 2015). The findings of existing research on PE-CoP have largely mirrored on those in the wider educational research. In this sub-section, previous studies on PE-CoP are fully examined in terms of: i) forms; ii) effectiveness; and iii) limitations.

In terms of the forms of PE-CoP, there have been several different types. Firstly, school-based PE-CoP has been the most typical form. Keay (2005, 2006) studied how newly qualified PE teachers learned in their subject (PE) department. Keay analysed novice teachers' professional learning through using the framework of legitimate peripheral participation (Lave & Wenger, 1991). That is, the novice teachers (as newcomers) were able to learn through being supported by existing more experienced teachers (as old-timers). Goodyear and Casey (2015) also defined a PE department in a secondary school as a CoP. The teachers in the department were able to apply a new instructional model (Cooperative Learning model) to their existing PE lessons. In this process, a facilitator, who described herself as a 'boundary spanner', helped the teachers to use new instructional model effectively. In primary school contexts, Duncombe and Armour (2004) reported both enablers and barriers that resulted in teachers' learning in a school (as a CoP) more or less effective. Secondly, sometimes PE-CPD programmes acted as CoPs. For example, Deglau and O'Sullivan (2006) and Deglau et al. (2006) designed and implemented workshops for PE teachers in a local area. Teachers voluntarily attended both workshops and were able to have opportunities to interact with teachers from other schools. Thirdly, bigger communities such as teacher networks also function as a form of PE-CoP. Armour and Yelling (2007) argued that teachers were able to obtain practical teaching ideas through interacting with other teachers in teacher networks. In addition, Keay and Lloyd (2009) and Parker et al. (2012) explored the effectiveness of a professional PE subject association in teachers' professional

learning. Fourthly, there have been PE-CoPs which were created to solve specific current issues. For example, teachers and facilitator from universities created a CoP located outside of a single school in order to develop a school district PE curriculum (Parker et al., 2010). In addition, Hunuk et al. (2013) designed a CoP outside of a single school in order to enhance both teachers' and pupils' health-related fitness knowledge. Lastly, virtual space can also act as a form of PE-CoP. Goodyear et al. (2014b) illustrated how social media such as Facebook or Twitter worked as a medium for professional communication between teachers and also acted as a venue for teachers' collaborative learning.

In terms of effectiveness of PE-CoP approaches, a wide range of benefits have been reported. Firstly, and most importantly, most research has reported that teachers were able to develop their pedagogies, through: learning new teaching strategies (Goodyear & Casey, 2015); sharing practical teaching ideas (Armour & Yelling, 2007; Parker et al., 2012); and changing their educational beliefs (Deglau & O'Sullivan, 2006). Secondly, teachers were able to receive appropriate support. That is, in a PE-CoP, teachers could obtain practical support such as receiving specific feedback from more experienced teachers (Keay, 2005, 2006); and working with facilitators who encourage teachers' sustained professional learning (Patton, Parker & Pratt, 2013; Goodyear & Casey, 2015). This is because most PE-CoPs provided teachers with a supportive environment and this influenced positively their professional learning. For example, Parker et al. (2010) argued that positive and professional relationships between teachers and facilitators were particularly helpful in the process of teachers' professional learning and developing a school district PE curriculum. Lastly, in some cases PE-CoPs acted as a place to discuss specific issues. These PE-CoPs offered not only issues related to developing pedagogies but also focused on special issues influencing teachers' practices. For example, teachers in a local district in the US attended a PE-CPD program named 'PEP-Talk'

and they were able to address issues of the marginalized status of PE and specific teaching circumstances (Deglau et al., 2006).

At the same time, however, literature on PE-CoP has discovered some limitations of the approach. Firstly, teachers' professional learning is influenced by the cultures of a PE-CoP. This issue of the impact of culture on teachers' learning is particularly relevant in school-based PE-CoPs. That is, although school-based PE-CoPs have potential to support teachers' effective professional development, a lack of appropriate support from head teacher or co-workers can act as a strong barriers to professional learning (Duncombe & Armour, 2004; Keay, 2006). Secondly, it is difficult apply learning generated in a PE-CoP located outside of a single school to each school context. In other words, because CoPs that are located outside of schools cannot take into account each school's context, it has been found to be difficult for teachers to apply new pedagogies learnt in their PE teacher network (Armour & Yelling, 2007; Parker et al., 2012).

In addition to these limitations influencing the effectiveness of the PE-CoP approach, however, there have also been other limitations in terms of the design of research. Firstly, and most importantly, very few studies have successfully linked teachers' professional learning in a PE-CoP to specific pupils' learning outcomes. That is, although Hunuk et al. (2013) identified learning generated in a CoP and its impacts on the enhancement of teachers' and pupils' health-related fitness knowledge, most other research (e.g. Parker et al., 2010) has tried to explore pupils' learning outcomes by simply investigating teachers' perceptions. Secondly, despite most researchers – except Goodyear and Casey (2015) – argued that they used the CoP theory as an important framework in understanding teachers' professional learning, yet they have not faithfully accounted for teachers' learning in the social nature of learning framework (e.g. Parker et al., 2012). In line with this issue, despite such research offered examples how a CoP

has all three core elements (joint enterprise, shared repertoire and mutual engagement), they still failed to offer detailed examination of how the three elements influenced teachers' professional learning. If there was no endeavour to examine teachers' learning process using the framework, it is difficult to distinguish PE-CoPs from any other form of teacher learning communities.

2.3.3 Literature on PE-CPD in South Korea

There is a relatively small amount of research on CPD and PE-CPD in South Korea (So, 2009; Kang, 2003). Although research has focused on verifying the effectiveness of implementing instructional models (e.g. Yoon & Park, 2014) or suggesting alternative approaches to existing national PE curricula (e.g. Jeon, Yang & Cho, 2013), the area of PE-CPD had not been widely investigated.

Research on PE-CPD in South Korean context can be categorized into four main parts. Firstly, although there are not many studies, there are some that have investigated the definitions of PE teachers' professionalism and professional development (You, 2000; Kim, 2013; Choi, 2011). Secondly, comparatively more research has explored the effectiveness and limitations of PE-CPD programmes which are driven by the national or a local educational ministry. The Korean Journal of Sport Pedagogy published a special issue on this topic (2006). Most research has focused on PE-CPD programmes and reported the limitations of them and the findings are very similar to the findings of research elsewhere in the world; for example:

- focusing on sports-skills oriented (Lee, 2007);
- focusing on 'too' theoretical knowledge (Yang, Park & Park, 2013);
- lack of directionality, structural system and connectedness (Choi, 2004);
- lack of considering school contexts (Choi & Son, 2006);
- focusing on training record for promotion (Park, 2006); and
- the low quality of instructors (Kim & Kim, 2003).

Thirdly, there has been very little research on the formation of secondary school PE teachers' identity. For example, Yu (2000) reported that a PE teacher's career identity continuously changes and is influenced by social relations, PE lessons, various roles in school contexts and the marginalised status of PE. Jung (2010) also explored processes by which novice PE teachers adapted to school contexts.

Lastly, a small amount of research on PE-CoP has been undertaken since 2000. In primary school contexts, Lee, Kim and Park (2010) explored factors influencing the process of building a primary school-based PE-CoP. They reported that intimacy between teachers, levels of autonomy and roles of facilitators were important in the process of creating a PE-CoP in a primary school context. Yang (2015) explored the impact of teachers' engaging in a primary school-based PE-CoP on the development of teachers' pedagogies. He reported that teachers were able to develop practical knowledge by sharing members' pedagogies. Jo (2016) recently conducted action research where he acted the facilitator of a PE-CoP located outside of a single school. Primary school teachers who participated in the CoP reported that they were able to share their teaching strategies in a supportive environment. In secondary school contexts, Choi and Ko (2011) explored the process of building a CoP consisting of four female PE teachers. The female teachers reported that they only shared information about national PE curricula or policies at the initial stage, but over time they were able to apply new teaching strategies to their school contexts. Lastly, Oh (2014) investigated the ways in which PE teachers learn in a PE-CoP located outside of a single school and what factors of the CoP influenced teachers' learning. However, similar to studies on PE-CoP written in English, none of these studies were able to explore three aspects of learning: i) what kinds of learning activities are supported?; ii) how does teachers' learning influence their teaching practices?; and iii) how do the changed teaching practices impact on pupils' learning outcomes?

2.4 Chapter summary

This chapter has explored concepts and trends (2.1) which are essential to understanding teachers' professional learning, learning theories (2.2), and PE-CPD and South Korean contexts (2.3). In terms of learning theories, differences in understanding teachers' learning from a cognitive approach to a (sociocultural) constructivist approach were explored. This study uses the communities of practice (CoP) approach which is rooted in a (social) constructivist approach to understanding teachers' learning in a PE teachers' learning community in South Korea. Lastly, in existing research on PE-CoP, there is a clear gap which this study needs to fill, in that it is important to understand how a PE-CoP addresses three aspects of learning: i) what kinds of learning activities are supported; ii) how does teachers' learning influence their teaching practices; and iii) how do the changed teaching practices impact on pupils' learning outcomes.

Chapter 3: Methodology

3.0 Introduction

In this chapter, specific methods selected for data collection and analysis used in this research and issues that related to ethics and quality in social science research are detailed and critically analysed. Following Payne and Payne (2004), it is acknowledged that methodology and methods in social science research should be considered as two different dimensions:

Methods are the specific techniques used in social research whereas, although strictly meaning studies of methods, the term, ‘methodologies’ is usually employed to indicate the sets of conceptual and philosophical assumptions that justify the use of particular methods (p. 148).

This chapter is organized into three sections. Firstly (3.1 - 3.3), fundamental perspectives on methodology, including research paradigms, qualitative research and the case study approach are examined. The congruence between paradigm (social constructivist), qualitative research and the case study approach is also explained. Secondly (3.4 - 3.7), practical methodological skills and issues related to the methods employed in this project are examined. The section on data collection and analysis includes both general guidelines that have been developed elsewhere and specific examples of methods and tools used in this project. Lastly (3.8 and 3.9), fundamental research issues are considered, including ethical issues and data management, and quality in the context of qualitative research.

3.1 Research paradigms

Many facets of human life are influenced by paradigms (Guba, 1990), and the formal and disciplined inquiry that is research is no exception (Patton, 2015). Following the creation of the term ‘paradigm’ by Kuhn (1970), it has been used in various research contexts (Patton, 2015). As Denzin and Lincoln (2011) argue, selection of a ‘paradigm’ reveals a researcher’s

fundamental thoughts about nature, knowledge and the relationship between them and it is not a fixed one:

Paradigms deal with first principle or ultimates. They are human constructions. They define the worldview of the researcher-as-interpretive-*bricoleur*. These beliefs can never be established in terms of their ultimate truthfulness (p. 91, original italics).

Patton (2015, p. 89) defined paradigm as ‘a world view – a way of thinking about and making sense of the complexities of the real world’. A paradigm is made up of three components: the nature of reality or knowledge (ontology), the relationship between the knower and the known (epistemology) and the approaches adopted by the inquirer to seeking knowledge (methodology) (Guba & Lincoln, 1994).

Although it is difficult to draw clear lines between paradigms because there is an overlapping zone, exploring the features of each paradigm from the perspective of ontology, epistemology, methodology and the role of researcher is useful. It can offer the researcher directions in how to understand phenomena in each paradigm. There have been numerous different attempts to categorise paradigms, but most share key features. In this section, four kinds of paradigms in social science research including positivism, post-positivism, critical theory, and constructivism are explored. In the following sub-sections, brief features of each paradigm are examined as the backdrop for explaining how and why (social) constructivism was adopted for this project.

3.1.1 Positivism

Positivists, described as ‘foundationalist’ (Denzin & Lincoln, 2011, p. 119), believe that ‘only verifiable claims based on directly on experience could be considered genuine knowledge’ (Patton, 2015, p. 105) and that reality exists independently ‘out there’ and ‘can be accurately perceived through the human sense (Clark, 1998, p. 1243). From this perspective, the main purpose of inquiry from a positivist approach is making predictions through exploring and

investigating the principles of phenomena. Most research in this paradigm, therefore, is conducted in an empirical experimental frame (Guba & Lincoln, 1994; Lincoln, Lynham & Guba, 2011; Maxwell, 2013) so empiricism is often treated as synonyms with positivism (Hammersley, 2013).

There have been numerous researchers that have employed forms of (quasi) experiments, survey and statistics based on the positivist paradigm in social science (Sanger, 1996; Maxwell, 2013). From this perspective, the role of a researcher is very clearly defined and delimited. That is, in order to investigate correlations between the phenomena and develop new theories, researchers ‘must stand behind a thick wall of one-way glass’ (Guba, 1990, p. 19). In other words, there should be no contamination of the data from the researcher’s involvement and manipulation for experiments is strictly controlled. The primacy of this ‘cumulative, universal and law-centred view of science’, however, has been challenged (Clark, 1998, p. 1244). For example, social science research investigates very different issues compared to the natural sciences, and the involvement of researchers – include their bias and background – is often regarded as inevitable. Thus, acknowledging the ‘value-laden nature of fact and the interactive nature of inquiry’ is essential in social science research (Denzin & Lincoln, 2011, p. 92). Perceptions about the limitations of positivism for much social science research have led to the emergence of post-positivism.

3.1.2 Post-positivism

Post-positivism has been considered as ‘a modified version of positivism’ in that there are some differences between ontology, epistemology and methodology (Guba, 1990, p. 20). Lincoln et al. (2011) argued that whilst the standpoint of positivism in ontology can be understood as ‘naïve realism’, that of post-positivism is one of ‘critical realism’ (p. 98). Post-positivists, therefore, adhere to the view of ‘rejection of the logic of positivism’ (Allmendinger, 2002, p.

86). They deny the view that it is possible to recognise intact objectivities. This does not mean, however, that there is no necessity to seek the fundamental laws of phenomena. Both positivists and post-positivists, with different degrees of intensity, share common research aims centred on prediction and control. The main difference, however, is that post-positivists acknowledge the researcher's inference and involvement. In this sense, 'the researcher and his or her perceptions were not seen as being wholly detached from inquiry' (Clark, 1998, p. 1245) meaning that many forms of variables and methods related to the researcher can be included in research. In other words, from a post-positivist perspective, it is regarded as inevitable that research findings hinge on interactions between the researcher and research subjects. In line with this, the methodological implications are that a range of methods should be used in order to gain multiple perspectives on a research question.

3.1.3 Critical theory

Critical theories, the third paradigm, assume that inquiry and knowledge in society are inevitably *value-laden*. All inquiry within this paradigm aims to evaluate aspects of society (Hammersley, 2013). From this view point, unlike positivist and post-positivist inquiry which seeks new theories and laws, it is impossible to see and understand phenomena except through 'a value window' of a human being, meaning that inquiry should always be regarded as 'a political act' (Guba, 1990, p. 24). As discussed earlier and following Popkewitz (1998), issues in social science cannot be addressed by a solely empirical investigation frame. Denzin and Lincoln (2011, p. 12) noted 'any gaze is always filtered through the lenses of language, gender, social class, race and ethnicity'. Social science research, therefore, should be understood within its political, historical and philosophical frame; indeed that is one core tenet of the critical theory paradigm. The ultimate purpose of inquiry from this perspective is to improve the quality of society by offering individuals and groups the opportunity to gain clear insights into how

social reality is constructed and what it means for them. In this sense, Ngwenyama (2002, p. 117) defined the aim of research conducted in a critical paradigm as ‘emancipation of individuals and the human species in general’. In an ontological sense, the critical theory paradigm follows the critical realism which post-positivists take (Denzin & Lincoln, 2011). In terms of the activities of a researcher, because this paradigm is based on a subjectivist epistemology, active researcher engagement is required in order to obtain data and researchers are required to be sensitive about the current societal issues (Ngwenyama, 2002).

3.1.4 (Social) Constructivism

Constructivists deny the claim of positivism about the objectivity of reality. As Lincoln et al. (2011, p. 120) argue: ‘agreements about truth may be the subject of community negotiations regarding what will be accepted as truth’. Thus, constructivists, as anti-foundationalists, assume that reality is the by-product of reconstructed understandings about the social world. From this perspective, therefore, ‘any notion of “truth” then, becomes a matter of shared meanings and consensus among a group of people, not correspondence with some supposedly objective reality’ (Patton, 2015, pp. 121-122). Instead, reality is ‘intersubjectively constructed’ (Sanger, 1996, p. 14) by individuals’ active engagement in interpretation, meaning that each individual generates their own views of the world. In this sense, epistemologically, constructivism is transactional and subjective (Lincoln et al., 2011):

all knowledge, and therefore all meaningful reality as such, is contingent upon human practices, being constructed in and out of interaction between human beings and their world, and developed and transmitted within an essentially social context (p. 42).

Thus, in the constructivist paradigm, meaning and the processes of meaning-making depend on the role of individual agency and subjective interactions. In this sense, this paradigm has ‘pluralistic, interpretive, open-ended, and contextualized (e.g. sensitive to place and situation)

perspectives toward reality' (Creswell & Miller, 2000, pp. 125-126). This view of constructivism, however, should not be regarded as *solipsism* because this paradigm recognizes that humans have the ability to comprehend other views and interact with them (Guba & Lincoln, 1994). Like the perspective on reality, the aim of constructivist inquiry is one of reconstruction that is informed and sophisticated, rather than prediction or transformation (Patton, 2015). From this perspective, the researcher's role is broad and active. Methodologically, therefore, interactions between the researcher and the subject are encouraged, and researchers' active interpretations are inevitable. In summary, Guba's (1990) concise explanation is useful in understanding this paradigm:

- Ontology – Relativist: Realities exist in the form of multiple mental constructions, socially and experientially based, local and specific, dependent for their form and content on the persons who hold them
- Epistemology – Subjectivist: Inquirer and inquired into are fused in to a single entity. Findings are literally the creation of the process of interaction between the two.
- Methodology – Hermeneutic, dialectic: Individual constructions are elicited and refined hermeneutically, and compared and contrasted dialectically, with aim of generating one or a few constructions on which there is substantial consensus (p. 27).

This paradigm has relevance in the context of learning (Vygotsky, 1978; Lave & Wenger, 1991). Vygotsky highlighted the importance of taking into account things that outside of individuals' minds in order to understand individuals' learning. That is, 'human learning presupposes a specific social nature and a process by which children grow into the intellectual life of those around them' (p. 88). In other words, learning is an inherently social activity. In line with this, Vygotsky developed the concept of the zone of proximal development (ZPD) which is defined as:

the distance between the actual developmental levels determined by independent solving

and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers (p. 86).

In line with the ZPD, the similar concept of ‘scaffolding’, originated with Bruner in 1983 (Walqui, 2006). This concept also has implications for learning in the context of a social constructivist paradigm. In its most literal sense, scaffolding is the process of assisting a learner to learn or do the required work. Bruner (1983) defined the scaffolding as follows:

a process of ‘setting up’ the situation to make the child’s entry easy and successful and then gradually pulling back and handing the role to the child as he becomes skilled enough to manage it (p. 60).

Lave and Wenger (1991) and Wenger (1998) argued that learning is should be understood as participation in a community of practice. In this framework, learning is not understood as the acquisition or conveyance of existing knowledge. Instead, it is a process of participation into a specific situation (Hoadley, 2012; Barab & Duffy, 2012).

As Patton (2015) argued, seeking to identify the ‘best’ paradigm is meaningless; instead, the focus should be upon determining the most appropriate paradigm for the aim of each research project. The aim of the research was to explore: i) what kinds of activities are supported in the CoP and how teachers learn through engagement in the activities; ii) how does learning influence teachers’ pedagogies and practices?; and iii) how do changes practice impact on pupils’ learning outcomes? To capture these aspects of learning, the study is located logically within the (social) constructivist paradigm. The term social constructivism is sometimes used interchangeably with the term social *constructionism*. Each paradigm, however, takes a different unit of analysis as its focus. According to Young and Collin (2004), social constructionism focuses on the collective and social dimension of meaning-making, whereas social constructivists are interested in individuals’ learning processes. In social constructivism,

therefore, meaning-making occurs through interactions between individuals, events and physical settings around learners. In line with this, and as noted earlier, learning in the constructivist paradigm is concerned with individuals' own construction through reciprocal actions rather than on acquisition or conveyance of existing knowledge. Thus, given the purpose of this study and the focus on the processes of teachers' professional learning, this study is located in the social constructivist paradigm.

3.2 *Qualitative research*

In social science research, various types of qualitative research emerged in the late 1970s and these were, at odds with the traditions of natural science research (Schwandt, 2000). Since then, qualitative research has attracted increasing attention in many research fields (Patton, 2015). This reformist movement was in response to what was described as the 'depersonalization' and 'dehumanizing effect' of the prevailing positivist paradigm that is characteristic of research in the natural sciences (Cohen, Manion & Morrison, 2011, p. 14), and 'growing division between theory and empirical research' (Charmaz, 2000, p. 510). Research conducted in the positivist paradigm has usually been conducted using quantitative approaches that focus on investigating the casual relationship among variables within controlled situations. This paradigm, however, has a limitation in research that seeks to gain a more *holistic* understanding of subjects and social events (Schwandt, 2000; Lincoln et al., 2011; Maxwell, 2013; Patton, 2015; Kuklick, Gearity, Thompson & Neelis, 2016). In line with this issue, Cohen et al. (2011) classified conventional quantitative research methodology as the *normative* paradigm, and qualitative research as *interpretive* paradigm which argue that:

the social world can only be understood from the standpoint of the individuals who are part of the ongoing action being investigated and that their model of a person is an autonomous one, not the plastic version favoured by positivist researcher (p. 15).

Thus, in sharp contrast to normative research, qualitative research aims to gain an in-depth understanding of subjects or events described as ‘fine-grained details of daily life’ in natural settings (Schwandt, 2000, p. 190). In addition, unlike the endeavour of quantitative research that aims to find generalizable and universal rules and ways to predict, qualitative researchers aim for findings that are ‘practically relevant – which means relevant for producing or promoting solutions to practical problems’ (Flick, 2007, p. 6). That is, qualitative research can offer vital insights which have potential to solve practical problems through exploring phenomena in-depth (Cooper, 2015). Although there are some difficulties in defining qualitative research precisely and drawing clear lines between quantitative and qualitative research (Preissle, 2006), Denzin and Lincoln’s statement (2011) is helpful in grasping the essential nature of qualitative research.

Qualitative research is a situated activity that locates the observer in the world. Qualitative research consists of a set of interpretive, material practices that make the world visible. These practices transform the world. They turn the world into a series of representations, including fieldnotes, interviews, conversations, photographs, recordings, and memos to the self. At this level, qualitative research involves an interpretive, naturalistic approach to the world. This means that qualitative researchers study things in their natural settings, attempting to make sense of or interpret phenomena in terms of the meanings people bring to them (p. 3).

Unlike quantitative researchers, therefore, qualitative inquiry usually focuses less on answering questions about ‘what?’, ‘how much?’ or finding ‘causal effects’ and instead seeks to answer questions such as ‘how?’ and ‘why?’ (Thomas, 2011; Maxwell, 2013). From this perspective, human action is ‘inherently meaningful’ and the prime purpose of research is to understand or interpret meaning, rather than investigating the correlation between cause and effect of the action (Schwandt, 2000, p. 191). Thus, qualitative research usually selects ‘detail’ as its focus rather than ‘scope’ (Silverman, 2013, p. 105), meaning that qualitative and quantitative research

could be regarded as *complementary* rather than in opposition (Cohen et al., 2011). It is of course important to acknowledge that exploring the features of qualitative research and comparing it to quantitative research is not, in itself, a guarantee of the appropriateness of qualitative research in the social sciences. As Silverman (2013) noted, it is impossible to argue that qualitative research methods are *better* than quantitative method in addressing research questions. The selection of a research paradigm and specific methods hinges on research questions, not on the researcher's epistemological position (Cohen et al., 2011; Thomas, 2011).

In terms of data collection, as Denzin and Lincoln (2011, p. 12) argue 'no single method can grasp all of the subtle variation in ongoing human experience' in qualitative research. Instead, a number of tools and methods are needed and, in this sense, they used the terms 'bricoleur', 'quilt maker' and 'montage' to describe the qualitative researcher and research processes. From this perspective, researchers should use a range of established methods, but also that they may need to develop instant and specific methods in response to the constant changes in research procedures (Silverman, 2013; Charmaz, 2014). In terms of the role of researcher, it has widely been argued that the researcher has significant influence in qualitative research (Lincoln et al., 2011; Creswell, 2013; Berger, 2015). In line with this, Miles, Huberman and Saldaña (2014, p. 9) argued that 'the researcher himself or herself is essentially the main instrument'. In particular, in the social constructivist paradigm, as was discussed in the previous section, thought and knowledge are understood as being generated by active interactions between individuals, not by passive acquisition of new or existing knowledge. From this perspective, knowledge from qualitative research methods is co-constructed by the researcher and participants. As Cohen et al. (2011, p. 227) stated, 'researchers are in the world and of the world. They bring their own biographies to the research situation and participants behave in particular ways in their presence'. Taking this into account, in this project, it is inevitable that I will influence and

indeed co-construct the data with participants. In other words, it is impossible to remove characteristics of the researcher, including bias, belief or background of inquiry. Instead, prior knowledge and personality which I had are provided in detail for readers to understand how I view and analyse data collected from the fieldwork (provided in section 3.7).

3.3 The case study approach

Case study is one type of social science research methods, although it can also be understood as a framework within which a range of different methods can be used (Thomas, 2011). Yet despite case study has been applied extensively in numerous research settings (Yin, 2009), some have argued that it is an inappropriate method to conduct social science research which described as ‘less desirable form of inquiry’ (Yin, 2009, p. 14) or ‘unscientific’ (Armour & Griffiths, 2012). Flyvbjerg (2006, p. 219) argued that these arguments usually share five *misunderstandings* about case study research as follows:

- 1) Theoretical knowledge is more valuable than practical knowledge;
- 2) One cannot generalize from a single case;
- 3) The case study is most useful for generating hypotheses, whereas other methods are more suitable for hypotheses testing and theory building;
- 4) The case study contains a bias toward verifications; and
- 5) It is often difficult to summarize specific case studies.

These misunderstandings are closely related to the fundamental thoughts which (post)-positivists shares in social science research, as examined in the previous sections. In the (post)-positivist paradigm, social science research should focus on activities of creating theoretical (synonymous with propositional) knowledge and its generalization under circumstances of erasing (or minimizing) influences of the researcher. The case study, however, takes an opposite position which is rooted in the interpretive paradigm and in so doing, it can contribute to social science research.

Cohen et al. (2011, p. 289) argued that case study can provide ‘a unique example of real people in real situations’ which is useful for examining complex social phenomena. This aspect is closely related to the aims of case study. That is, as Flyvbjerg (2011, p. 312) argued, the goal of case study is ‘not to make the case study be all things to all people. The goal is to allow the study to be different things to all people’. In order to achieve this, case study employs research methods which can delineate particular phenomena in depth (Rathwell & Young, 2015; Kuklick et al., 2016). In this sense, case study is an ideal method for addressing ‘how’ and ‘why’ social science research questions (Yin, 2009). In terms of the form of knowledge, unlike knowledge resulting from surveys or experiments, knowledge generated from a case study is ‘embedded’ in the context of the case. It should not be, however, understood that this form of knowledge is less useful than theoretical knowledge. Flyvbjerg (2006) argued that ‘context-dependent knowledge’ generated from a case study is also useful to understand social phenomena:

Social science has not succeeded in producing general, context-independent theory and, thus, has in the final instance nothing else to offer than concrete, context-dependent knowledge. And the case study is especially well suited to produce this knowledge (p. 223).

In terms of generalization, it has been argued that because the core purpose of case study is exploring and understanding the wholeness of a particular thing, traditional notions of generalization are not meaningful. Instead, Thomas (2011, p. 11) argued that case study can ‘gain great detail, but this is at the expense of being able to make generalization’. Moreover, Yin (2009) adds a different dimension to the argument by distinguishing ‘statistical’ from ‘analytical’ generalization. He argued that, in case study, analytical generalization can ‘expand and generalize theories’ (p. 15). Along with the concept of generalization, validity and reliability are also factors that should be taken into account in all forms of social science research (further examinations about this issue are provided in section 3.8). Thomas (2011),

however, takes a different view of the concepts of validity and reliability. In terms of reliability, Thomas argues that the term cannot be meaningful in case study research because it only applies to those forms of research that seek to apply the findings to other contexts:

In a case study, where is one case, expectations about reliability drop away. They drop away because, with just one case, there can be no assumption from the outset that, if the inquiry were to be repeated by different people at a different time, similar findings would result (p. 63).

In addition, given ‘there is no probability sample and we may have no idea at all about what we expect to find out from the research’ (p. 63), validity is also less meaningful in case study. Rather, Thomas (2011) argues that the *quality* of case study has to be the central concern. In this sense, Thomas stresses the goodness-of-fit of the case study as follows (pp. 67-68):

1. How well has the case been chosen?
2. How well has the context for the study been explained and justified?
3. How well have arguments been made? Have rival explanations for the same kind of observation been explored?

In line with the issue of quality of case study, as discussed above, within a case study framework, numerous different forms of data collection might be used (or, indeed, only one). Using more methods, however, does not guarantee the quality of findings (Thomas, 2011); rather the key questions are about suitability of methods, fit with the research questions and relevance to the context in which data collection takes place (Maxwell, 2013). In this sense, employing appropriate data collection tools is another important issue influencing the quality of case study. Information about data collection used in this project is examined in section 3.5.

There have been several attempts to classify different ‘types’ of case study. For example, Yin (1994) initially identified three kinds of case study: i) exploratory (used as a pilot to serve as a

point of interest to the researcher); ii) descriptive (in order to describe the phenomena in a narrative way); and iii) explanatory (explore the phenomena in depth). Bassey (1999) identified three types of case study determined by the purpose of research: i) theory-seeking/theory-testing (test a hypothesis related to a case); ii) storytelling/ picture drawing (in order to provide accurate phenomena); and iii) evaluative (in order to make decisions the effectiveness of a case). Stake (2005) also developed three categories of case study: i) intrinsic (in order to understand specific aspects of a case in depth), (ii) instrumental (study particular events in order to understand another case) and (iii) collective (in order to obtain comprehensive perspective from several cases). Thomas (2011) reviewed all the different classifications that had been identified in terms of purpose, approach and process (pp. 91-93). As Bassey (1999) and Thomas (2011) both note, there are large areas of overlap within these classifications making it difficult to define precisely the nature of this particular project. It can be argued, however, that this project shares some features of explanatory (Yin, 1994), evaluative (Bassey, 1999) and collective (Stake, 2005) case studies in that the purpose of this project was to explore: how (explanatory) learning generated in the CoP impacts (evaluative) on the case-study teachers (collective) and pupils' learning.

3.4 Research design

The purpose of this study was to explore the 'learning trail' from teachers' professional learning in the PE-CoP to pupils' learning outcomes in the specific areas that the new national PE curriculum in South Korea proposed. The main research question of this study was:

Is a community of practice approach to professional development an effective way to enhance teacher and pupil learning in physical education in South Korea?

In order to meet this aim, specifically, the sub-questions were posed as follows:

- How is an existing community of practice for PE teachers in South Korea structured and organised and what are its aims?
- What kinds of professional learning are supported in the CoP and how is ‘impact’ measured?
- How does the learning undertaken in the community of practice influence teachers’ pedagogies and practices?
- Is it possible to trace the trail from teachers’ learning in the CoP to changes in practice and impact on specific pupil learning outcomes?
- Is the CoP an effective – and cost effective – form of professional development in this case study?
- What can be learnt from this case study about the role of CoPs in helping teachers in South Korea to deliver high quality PE as outlined in the government curriculum documents?

In order to address these research questions, potential research participants and the research process was set out prior to conducting the fieldwork. In this section, information about research participants and research procedures is provided.

3.4.1 Research participants

A professor, 8 secondary school PE teachers and 41 pupils participated in this project (detail on the process of recruiting the research participants is provided in section 3.9). The professor developed the X teaching model in 2002. He has considerable experience of teaching sport pedagogy in universities and it is important to note that he also taught sport pedagogy to some of the teacher members of the CoP during their initial degrees. The 8 case-study teacher participants (6 males and 2 females) had different teaching experiences, ranging from 3 to 17 years. Table 3 below provides a brief profile of the teacher participants (each teacher’s background are provided in vignettes in the next chapter).

Table 3. Profile of teacher participants

Name	Gender	Age	Teaching Career	Year of joining the CoP	School level	District
John	Male	41	13	2003	K high school	Gyeonggi-do
Michael	Male	32	6	2011	S middle school	Seoul
Kimberly	Female	40	17	2011	Y middle school	Seoul
Steve	Male	35	10	2005, 2011 (re-join)	N high school	Gyeonggi-do
George	Male	31	3	2012	P middle school	Gyeonggi-do
Peter	Male	40	14	2003	B middle school	Seoul
Judy	Female	38	10	2009	H middle school	Gyeonggi-do
Henry	Male	30	4	2011	C middle school	Gyeonggi-do

The data are as at 1 Mar 2015

All the case-study teachers worked at different public secondary schools. John and Steve worked at high-schools (pupils' ages range from 16 – 18) which are located in Gyeonggi-do province and others worked at middle-schools (pupils' age range from 13 – 15) within Seoul or Gyeonggi-do province. In terms of participants' roles in their school contexts, Peter and Judy acted as head of a department and others worked as a homeroom teacher.

Along with the case-study teachers, a total of 14 members of the CoP participated in this project: Alex (a 40-year-old male and a founding member of the CoP) participated in a teacher focus group and the CoP meetings; the other 13 members of the CoP (7 males and 6 females) attended the CoP meetings so that I was able to collect their views on activities supported in the CoP.

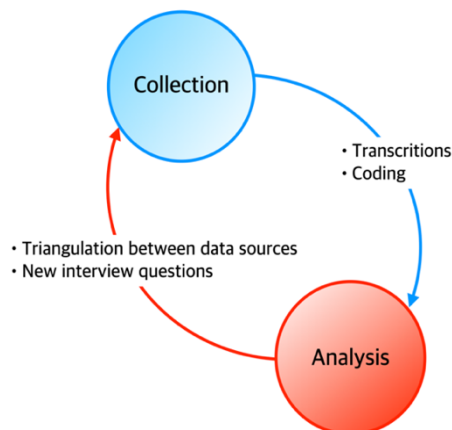
A total of 41 pupils (17 males and 24 females) were selected through typical case sampling (Creswell, 2012). I asked the case-study teachers to recruit pupils for focus groups. I asked the teachers to recruit male and female pupils equally if possible, and to avoid recruiting pupils who would find it too difficult to speak in focus groups. As a result, except the K high school

where John recruited 6 female pupils only, a total of 4 – 6 male or female pupils in each school in participated in this project.

3.4.2 Research procedure

It should be noted that, data collection and analysis are not separated processes in this project. The aim was to collect in-depth data over time (10 months) within an iterative process of data collection and analysis (total 12 months). The ‘iterative process’ meant that all data collected were immediately transcribed and analysed, so that I was able to consider new ideas as they arose and refine the data and codes in order to construct meanings (Corbin & Strauss, 2008; Charmaz, 2014; Miles et al., 2014).

Figure 4. Iterative process



For example, as Figure 4 illustrates, after conducting an interview with a teacher participant, I immediately transcribed as soon as possible. During analysis of data collected in the interview, key issues emerged and new phenomena that needed further exploration were identified. As a result, new questions were then designed and asked in follow-up interviews.


There were two phases of data collection and analysis. This was due to the main research aim and also practical issues. That is, as detailed in the research questions, identifying, analyzing and mapping the learning trail was a key aim of this project. In this sense, collecting various cases was a helpful way of understating and illustrating the learning trail. In addition, in terms

of practical issues, I realized it would be very difficult to visit two schools to conduct both an interview and PE lesson observations on the same day given that all the case study teachers worked at different schools.

In the first phase, five different methods were used (examined in next section) to collect data with the professor, 4 teachers (each teacher works at a different school) and 25 pupils from 4 different schools in the autumn term (from 16 September to 16 December) in 2014. The period between the first and second data collection phase was used to maximise the activities of theoretical sampling and data saturation (Charmaz, 2008b, 2014). That is, after the first data collection phase, all data were analysed so that tentative themes were constructed. At the same time, new interview questions were then set which were based on the tentative themes in order to deepen theoretical and conceptual understanding during the second data collection phase. For example, I could explore activities supported in the CoP and its impacts on teachers' and pupils' learning in the first data collection phase. At the same time, I also recognised some critical concerns that the case-study teachers had (e.g. the professor's different roles and its influence and losing focus on activities centred on developing pedagogies together). During the period between the phases 1 and 2, therefore, I could capture phenomena which I needed to further investigate. These phenomena were explored in depth in the second data collection phase. The second data collection phase was undertaken using the same methods with the same professor but 4 additional teachers and 16 pupils in the spring term (from 16 Mar to 2 June) in 2015. Table 4 below provides an overview of the research procedure of this study.

In terms of managing and analyzing data collected, this project used computer assisted software NVivo 11 (Hoover & Koerber, 2011; Bazeley & Jackson, 2013). The process by which data were analysed using the NVivo is presented in later sections about coding and writing memos (3.6.3 and 3.6.4).

Table 4. Research procedure



Phase 1	<ul style="list-style-type: none"> • 17 September – 16 December, 2014 (autumn term) • 4 teachers (Kimberly, John, Michael, and Steve) • The professor, and 25 pupils at 4 different schools • Interview, observations, focus groups, questionnaire, and document analysis
Analysis 1	<ul style="list-style-type: none"> • 17 December, 2014 – 10 March, 2015 • Analysis of the data collected in the phase 1 • (tentative) Themes constructed • Made new interview questions set
Phase 2	<ul style="list-style-type: none"> • 13 March – 15 June, 2015 (spring term) • 4 teachers (Judy, George, Peter, and Henry) • The professor, 16 pupils at other 4 different schools • Same as the first phase of data collection
Final Analysis	<ul style="list-style-type: none"> • Whole data analysis (by end of August) • Themes constructed

3.5 Data collection

Lofland, Snow, Anderson and Lofland (2006) argue that gathering data is the pivotal factor in deciding the quality of research in social sciences and high quality interpretation of data depends on appropriate processes of data collection. Given the purpose of this research was to understand in depth complex human activities and events in the CoP, it was essential to collect rich data from different angles and dimensions (Maxwell, 2013; Charmaz, 2014). In order to gain multi-layered data to answer the research questions, therefore, five different methods were employed in this project: i) individual interviews; ii) focus groups; iii) observations; iv) questionnaires; and v) document analysis. Table 5 below indicates briefly that how the five different tools for data collection were undertaken in this project.

Table 5. An overview of data collection

	Phase 1	Phase 2
Interview	7 times with each teacher - Except Michael: 6 times 3 times with the professor	7 times with each teacher one time with the professor
Focus group	7 times with pupils (n=25) one time with 3 teachers	4 times with pupils (n=16)
Observation	19 PE lessons 2 CoP meetings	18 PE lessons 2 CoP meetings
Questionnaire	4 teachers 11 pupils	4 teachers 9 pupils
Document analysis	Minutes of the CoP meetings Teaching plans or materials of each teacher Any document created within the CoP	

Collecting different sources of data allowed me to gain a comprehensive understanding of the CoP. For example, I was able to discover, from individual interviews, that all the case-study teachers placed the highest value on activities focused on developing pedagogies together. At the same time, after observing a CoP meeting in the first phase data collection, I was able to capture the finding that very little time in the meetings (5 -10 minutes) was devoted to developing pedagogies. As a result, I was able to further explore the reasons for the loss of focus on these shared pedagogy activities and the teachers' views on the phenomenon. Detail on the process of data analysis is provided in sub-section 3.6.3.

The following sub-sections provide general information and specific ways in which each data collection method was used in this project.

3.5.1 Interview

As conceptualized in the 'interview society' (Atkinson & Silverman, 1997), the interview has become one of the most important means to interact with others and has increasingly been employed in qualitative research (Fontana & Frey, 2000). Along with aims of the research

interview that elaborate or refine the data from other forms of data collection (e.g. observations), the main purpose of an interview is ‘transaction’ of information between the interviewer and the interviewee (Cohen et al., 2011, p. 411). In line with this, Brinkmann and Kvale (2015) define the research interview as follows:

The research interview is based on the conversations of daily life and is a professional conversation; it is an inter-view, where knowledge is constructed in the inter-action between the interviewer and the interviewee. An interview is literally an inter-view, an inter-change of views between two persons conversing about a theme of mutual interest (p. 4).

In so doing, an interview allows researchers to acquire ‘privileged access to people’s basic experience of the lived world’ (p. 32). In addition, given that interviews pay attention to a variety of aspects of participants, including voice, expression or emotion, it is a ‘flexible’ and ‘multi-sensory channel’ research method (Cohen et al., 2011, p. 409).

Brinkmann and Kvale (2015) have developed two different kinds of metaphors to account for the roles of the researcher. The first metaphor is that of a *miner*. A miner is one who, literally, digs up information from interviewees to collect knowledge. In the miner metaphor, the researcher’s role as a research instrument is somewhat limited. The researcher could be regarded as a ‘passive receptacle’ who aims to elicit *objective* information as far as possible (Charmaz, 2014, p. 27). From this perspective, participant’s perceptions and understandings about phenomena are should not be ‘contaminated’ by a researcher’s interventions or bias. This perspective is close to the ‘traditional’ approach where the researcher was regarded as just one type of neutral data collection instrument. As Lofland et al. (2006, p. 16) argued ‘so-called objectivity and distance vis-à-vis the field setting will usually result in failure to collect much data that are worth analysing’, so it could be argued that using the traditional approach alone is

unlikely to gather meaningful data.

In contrast to the miner metaphor, the second metaphor is interviewer as a *traveller*, and this characterises the researcher as one who actively interprets an interviewee's statements. In this metaphor, as Walford (2001, p. 90) argues, 'interviewers and interviewees co-construct the interview' so the interviewee is not merely a passive participant who just offers information. Instead, data collected from interviews are a form of shared negotiation through joint work (Charmaz, 2014; Brinkmann & Kvale, 2015). In line with this, Fontana and Frey (2000, p. 663) described a research interview in social sciences as follows:

Interviewers are not the mythical, neutral tools envisioned by survey research. Interviewers are increasingly seen as active participants in interactions with respondents, and interviews are seen as negotiated accomplishments of both interviewers and respondents that are shaped by the contexts and situations in which they take place.

From this perspective, the traveller metaphor is close to the constructivist paradigm in that it acknowledges that meanings are co-constructed by negotiation between the researcher and the researched. Given the purpose of this study, and the adoption of the social constructivist paradigm as a main perspective, it seems appropriate to adopt the traveller interview metaphor.

The quality of data collected in interviews depends, largely, on not only interview techniques but also human relationships between the researcher and research participants (Lofland et al., 2006; Corbin & Strauss, 2008; Charmaz, 2014; Wolgemuth, Erdil-Moody, Opsal, Cross, Kaanta, Dickmann & Colomer, 2015). In line with this issue, Brinkmann and Kvale (2015) identify two key dimensions of which interviewers should be aware: the *thematic* and *dynamic*. The *thematic* dimension describes how an interviewer should be fully competent in knowledge about the subject matter prior to conducting an interview. In this sense, interviewers should know about cultural and social features relevant to the research participants in advance. Moreover, sequence

and framing of interview questions should be carefully developed prior to conducting each interview (Cohen et al., 2011). In line with this, when interviewing pupils, terms, use of jargon and locations should be carefully chosen (Ennis & Chen, 2012). The *dynamic* dimension, on the other hand, is related to developing an interpersonal relationship with the interviewee. It is important to note that an interview is a social encounter which is a highly connected dimension of human relationships. Building positive rapport, therefore, is essential in research interviews. In order to establish positive rapport, researchers have to adopt a ‘disarming demeanor’ (Charmaz, 2014, p. 62), for example by adapting their appearance, keeping to time or the agreed boundaries, and ensuring they are well-mannered. That is, the researcher should make any effort to ensure both the interviewer and interviewees reach an appropriate level of ‘intimate familiarity’ (Lofland et al., 2006, p. 16). Stance, pace and accent of a researcher in interviewing can also affect a participant’s responses. These factors should be properly tailored to specific interview situations. Furthermore, the researcher should also pay attention to participants’ non-verbal clues. Sometimes non-verbal responses provide more valuable meanings than dialogue. Gorden (1980, p. 335, cited in Fontana and Frey, 2000) categorized four types of non-verbal communications that researchers should be concerned with:

Proxemic communication is the use of interpersonal space to communicate attitudes, *chronemics* communication is the use of pacing of speech and length of silence in conversation, *kinetic* communication includes any body movements or postures, and *paralinguistic* communication includes all the variations in volume, pitch and quality of voice.

Through careful considerations on these dimensions of interviews, researchers can construct in-depth meaning and knowledge with interviewees. Along with this, a researcher’s ‘on-the-spot-decisions’ (Brinkmann & Kvale, 2015, p. 194) during an interview are also a decisive factor in determining the quality of data collected and the professional functioning of the

interview process. From this perspective, Patton (2015) argued that:

No single correct format exists that is appropriate for all situations, and no particular way of wording questions will always work. The specific interview situations, the needs of the interviewee, and the personal style of the interviewer all come together to create a unique situation for each interview (p. 471).

Interviews can be categorized by their different degrees of structure or freedom (Lofland et al., 2006; Cohen et al., 2011; Ennis & Chen, 2012; Patton, 2015). Tightly structured interviews seek to find out the frequency of predetermined answers or similar responses from a number of different participants. These interviews are usually at the more formal end of the interview spectrum and they are wholly pre-planned. In contrast, a semi-structured or unstructured interviews can provide ‘a greater breadth of data than the other types, given its qualitative nature’ (Fontana & Frey, 2000, p. 652). These also engages with participants on a deep level, seeking insights into their thinking and meanings. As a result, they are much more flexible than structured interviews.

The semi-structured life world interview seeks to obtain descriptions of the life world of the interviewee with respect to interpreting the meaning of the described phenomena; it has a sequence of themes to be covered, as well as some suggested questions. Yet at the same time there is openness to changes of sequence and forms of questions in order to follow up on the specific answers given and the stories told by subjects (Brinkmann & Kvale, 2015, p. 150).

In this project, individual interviews with the professor and 8 teachers were undertaken as a main data collection tool. Open-ended and emergent semi-structured interviews conducted through active interaction with participants helped this study to generate in-depth meanings (Charmaz, 2014). 4 interviews (45 – 60 minutes) with the professor were conducted at his university. Interviews (45 – 50 minutes) with teachers were mostly undertaken in their schools.

Each teacher was interviewed 7 times over the course of the study (except: 6 times with Michael). In the first interview with each teacher, his/her personal information and general views on the CoP were explored. From the second interviews, issues of their professional learning such as content (i.e. what kinds of professional learning activities have they been involved in?), ways (i.e. how they have learned in the CoP), effects (i.e. what kinds of changes they have made in their pedagogies?) were explored in depth. Furthermore, as the interviews were undertaken alongside other tools of data collection, some questions to corroborate or refute phenomena discovered from other data sources (mainly observations, document analysis) were added. During conducting the interviews, I wrote down brief notes about participants' non-verbal responses (e.g. feeling of hesitations, meaningful changes in facial expressions or big gestures). The interviews were digitally recorded and were transcribed verbatim as immediately as possible.

3.5.2 Focus group

Focus groups, as one type of group interview, were initially developed in the field of marketing research area (Ennis & Chen, 2012), and they have been used in social science research because of a number of potential advantages. First of all, data collected from focus groups can add complementary material to the data from individual interviews (Barbour, 2007; Cohen et al., 2011). Secondly, in this project, it was highly appropriate to collect data on the collective perspective of a group. Barbour (2007) argues that:

one-to-one interviews are generally better suited to eliciting detailed contextualized histories. If the focus of the research is on how people construct and reconstruct their stories, however, focus groups are likely to facilitate discussion and unpicking of the rethinking involved (p. 42).

In this sense, using both individual interviews and focus groups was productive in that they could offers a variety of dimensions (Krueger & Casey, 2009). Thirdly, focus groups can give

‘great candour’ to participants who are reluctant to express their thought in individual interview situations (Barbour, 2007, p. 21). In line with this, given focus groups can offer participants a supportive environment, it was anticipated that focus groups would be useful in interviewing pupils (Mauthner, 1997; Krueger & Casey, 2009; Ennis & Chen, 2012) Lastly, compared to conducting individual interviews, focus groups can save time and money.

There are some guidelines that the researcher, as a moderator of focus groups, needs to keep in mind (Barbour, 2007; Krueger & Casey, 2009). Firstly, a moderator should prepare ‘stimulus material’ which helps focus groups to run smoothly. Stimulus materials include well-chosen and specific questions, and sometimes humours can work as an ice-breaker. Secondly, the characteristics of a moderator also impacts on the conduct of focus groups. The moderator, therefore, should pay attention to his/her personal features when interviewing with vulnerable participants such as pupils. In line with this issue, when conducting focus groups with pupils, it is appropriate that the moderator dresses casually and uses colloquial language. Thirdly, researchers have a responsibility to ensure that discussion is well structured. When a participant dominates a group discussion and others are reluctant to express their thoughts, researchers should moderate the situation. Fourthly, researchers should also take field-notes that record detail around the participants responses as soon as possible after conducting focus groups as this helps researchers to understand how the collective outcome has been constructed. Lastly, as with individual interviews, the environment and creating a supportive and relaxed atmosphere has important impact on the quality of participants’ response.

In this project, focus groups were undertaken as follows: a focus group with 3 teachers and 11 focus groups with pupils (n = 41). A focus group with 3 teachers was conducted in a café at the early phase of the first data collection phase in order to capture their views of the CoP and professional learning more generally. Each focus group with pupils was conducted with 4 – 6

pupils in their own school setting and took 30 – 50 minutes. Before beginning each focus group with pupils, I made brief notes about each pupil's voice or intonation characteristics for overcoming difficulties of transcription (Creswell, 2012). In order to create a comfortable and relaxed interview environment with pupils, some snacks were prepared (Krueger & Casey, 2009). Furthermore, 5 – 10 minutes of ice-breaking time was devoted to talking about celebrities or interesting societal issues. In terms of expressing the questions, I tried to use colloquial terms as much as possible especially in interviews with pupils in middle schools (aged 12-15). The focus of the interview was pupils' collective perspectives (Barbour, 2007) on their PE lessons and finding out whether they had noticed any differences in the way in which the teacher taught and they learnt after the government mandated the teaching of character education in PE. Like the individual interviews, the focus groups were digitally recorded and transcribed verbatim as immediately as possible.

3.5.3 Observation

Patton (2015, p. 14) argued that 'data from observations consists of detailed descriptions of people's activities, behaviors, actions, and the full range of interpersonal interactions and organizational processes that are part of observable human experience'. Thus, observation has been described as 'the fundamental base of all research methods' (Adler & Adler, 1994, p. 389), or an 'authentic first-hand impression of ongoing practice' (Öhman & Quennerstedt, 2012, p. 190) in the social sciences. Lofland et al. (2006) select participant observation and intensive interview as the pivotal sources of data collection. Cohen et al. (2011) also argue for the importance of observational data by commenting:

It (observation) offers an investigator the opportunity to gather 'live' data from naturally occurring social situations. In this way, the researcher can look directly at what is taking place in situ rather than relying on second-hand accounts (p. 456).

In this sense, the purpose of doing observation in qualitative research is to seek to observe, understand and analyse participants' activities in natural settings that cannot be studied by other methods such as interview or questionnaire (Bailey, 2008). Also, data from observation can be used to supplement other forms of data (Angrosino, 2007; Cohen et al., 2011).

Spradley (1980) argued that the typical procedure of recording and analysing observations consists of: descriptive, focused and selective phases. First, the descriptive phase can be described as adopting a 'child-like posture' (Angrosino, 2007) in which as much data as possible is recorded without adding any observer inference or interpretation. Second, the focusing phase is a process of filtering out data which were not relevant to the research questions or central phenomena. Lastly, the selective phase is the process to make data elaborate and detail.

Locating the researcher at appropriate places on the observation continuum impacts on the quality of data (Gold, 1958; Spradley, 1980; Angrosino, 2007). Angrosino (2007) suggested seven types of observation drawing on the original work of Gold (1958), which identified four kinds of observation: complete participation, participation-as-observer, observer-as-participant and complete observer. Spradley (1980) also categorized similar kinds of observations: complete, active, moderate, passive and non-participation. On the right hand side of both continuums (complete observer and non-participant), the roles of observer are somewhat limited. From this perspective, eliminating researcher bias and investigating phenomena in as natural a form as possible is the most important factor. In contrast, the methods on the left hand side of the continuum (complete participation), are where observation is considered to be a much more active and subjective effort. Here, the researcher is not merely an independent observer. In other words, by gaining 'situational identities' (Angrosino & Rosenberg, 2011, p. 468) from the community in which the research is generated, the researcher actively takes part

with people, in events and physical settings. Participation observation is useful when seeking tacit rules of a small community or trying to ‘get under the skin of behaviour or organization’ through gaining in-depth information (Cohen et al., 2011).

Two types of observation were employed in this study, differentiated by the degree of observer engagement: ‘complete observer’ and ‘observer-as-participant’. In PE lesson observations (n = 37), in order to capture teachers’ changes in pedagogy and pupils’ activities, a ‘complete observer’ approach was employed². This meant that I had no engagement in the class and did not intervene in the flow of the class with the aim of collecting data in a setting that was as natural as possible. In the CoP meeting observations (n = 4), however, I took the role of ‘observer-as-participant’. I was already familiar with some of the teachers in the CoP and the professor (based on previous educational history) so the ‘complete observer’ approach would have been impossible. According to Angrosino (2007), this stance could be the most effective way to study a community and a researcher needs to spend more time to build positive relationship with participants. In order to this, I took part in most of the CoP meetings and informal activities during the period of data collection. Building relationships with teachers and engaging in interactions with them in the CoP meetings were useful ways in which to gain a deep understanding of the learning processes. All data from observations were recorded in my field notes. Moreover, after each lesson and the CoP observation, further details about observations were added as soon as possible. Data collected from observations were used to design interview questions or questionnaires rather than being used as data by themselves (Angrosino, 2007).

² As Angrosino (2007) argues that it is difficult for researcher(s) to have a ‘complete observer’ position because of his/her presence in the field which inevitably, directly or indirectly, impacts on research participants’ actions. However, PE class observations undertaken in this project were most close to the concept of ‘complete observer’ among the seven types of roles of observation.

3.5.4 Document analysis

In qualitative research, there has been a tendency to use both interview and observation as more substantive tools for data collection (Atkinson & Coffey, 2011). Documents, however, as social facts which are co-constructed by members of a society, have considerable value for research (Prior, 2011). In this sense, despite documents analysis having limitations, such as difficulties in accessing material or inaccuracy in contents (Creswell, 2012), it has the potential to offer additional insights into a social phenomenon or structure. For example, Benedict (2005) explored Japanese' culture without conducting any interviews or observations. Instead, the research was undertaken through using documents analysis alone. This example indicates that document analysis can be 'a stand-alone method' in social science research (Bowen, 2009, p. 29).

Along with using document analysis as an independent data collection method, it has also been combined with other data collection methods in many qualitative studies (Rapley, 2007; Bowen, 2009). In particular, document analysis is useful in helping to develop a key phenomenon in depth because it can offer both 'a behind-the-scenes look' that may not be collected from other data collections tools (Patton, 2015, p. 390) and contextual richness (Creswell, 2012). In line with this, Bowen (2009, pp. 29-30) characterizes five different benefits of documents as being supplementary data, which are helpful in:

- 1) Providing background and context of research;
- 2) Suggesting additional questions to be asked or situations to be observed;
- 3) Providing supplementary research data which can be valuable additions to a knowledge base;
- 4) Providing a means of tracking change and development; and
- 5) Verifying findings from other data sources.

In this project, any documents created within the CoP such as the meeting minutes, organization charts, and boards in the online café, were available as data. Moreover, documents which the case-study teachers created, including teaching plans and materials, were collected. All the documents collected were converted to PDF format and imported to the NVivo 11.

In terms of use, most documents collected in this project were used mainly to triangulate data collected from other sources (e.g. individual interviews) (Creswell & Miller, 2000). I collected and analysed roughly documents collected within the CoP before conducting the individual interview with each teacher. In this process, the documents were helpful both to understand general characteristics of the CoP and to design interview questions. Furthermore, documents were also used to verify or disconfirm findings from other sources. In this sense, document analysis in this project is not used as an independent tool; but in the process of ‘back-and-forth interplay with the data’ (Bowen, 2009, p. 37).

3.5.5 Questionnaires

It has been argued that the form of open-ended questionnaires are suitable for smaller scale that they fit well with qualitative research (Cohen et al., 2011). In this project, both the teachers and pupils were asked to respond to an open-ended questionnaire after the last interview and focus groups in both data collection phases. The open-ended questions for both teachers and pupils consisted of five to six items exploring or specifying existing constructed themes. For example, I was able to identify different indicators of levels of development in pupils’ ‘character’ after conducting focus groups with pupils. In order to explore this phenomenon in depth, questions such as: ‘what kinds of learning activities of PE lessons impact on your character?’; ‘how do the activities influence in your character?’ or; ‘if any, could you give an example?’ were designed. All questionnaires were constructed, distributed, completed and returned in electronic format. Although all the 8 teachers completed and sent back the questionnaires only 20 out of

41 pupils (48% of return rate) responded.

3.6 Data analysis

Data analysis in this project was undertaken by using a Constructivist Grounded Theory approach (Charmaz, 2014) which is rooted in Grounded Theory that was originally devised in 1967 by Glaser and Strauss. It should be noted, however, that data analysis is not a separate process from data collection, as examined earlier. In other words, unlike most forms of quantitative research, data analysis is not undertaken only once data collection has ended. Instead, in this project, the collection and analysis of data are ‘iterative’ operations, meaning that the researcher goes backward and forward to refine data and to construct findings. In this section, the potential limitations of the original Grounded Theory are outlined firstly (3.6.1), the key features of Constructivist Grounded Theory then are explained (3.6.2), and examples of the analysis process using coding and memo-writing undertaken in this study are provided (3.6.3 and 3.6.4).

3.6.1 Grounded theory

Grounded theory (GT) has widely been used as an effective method of data analysis in social science research (Mills, Bonner & Francis, 2006). Originally, GT was devised to overcome a set of challenges identified in the social sciences:

- arbitrary divisions between theory and research;
- views of qualitative research as primarily a precursor to more “rigorous” quantitative methods;
- the quest for rigor made qualitative research illegitimate;
- qualitative methods are impressionistic and unsystematic;
- separation of data collection and analysis; and
- qualitative research could produce only descriptive case studies rather than theory development (Charmaz, 2000, p. 511).

Thus, GT is a different data analysis method from those used in natural science or some social science research fields where the generation and testing of theory/hypotheses is the main aim of research. In a GT approach, as the term “grounded” indicates, a theory is instead generated from data in the field.

Stated simply, grounded theory methods consist of systematic, yet flexible guidelines for collecting and analyzing qualitative data to construct theories from the data themselves (Charmaz, 2014, p. 1).

In line with the sense that theories are constructed from data, ‘emergence’ was the core concept of GT (Glaser & Strauss, 1967). In other words, it was argued that theories ‘emerge’ from a number of systematic processes such as theoretical sampling, coding, constant comparison, memo writing, and diagramming, rather than by applying established theories (Corbin & Strauss, 2008). Since the original version of GT was developed in 1967 by Glaser and Strauss, a range of further refinements have been developed and used (Strauss & Corbin, 1990; Glaser, 1998; Charmaz, 2000; Corbin & Strauss, 2008; Charmaz, 2014).

The rigorous and systematic procedures used in ‘traditional’ forms of GT have been useful to many researchers. At the same time, however, they have also been criticized because of the ways in which collecting and analysing data is *too* positivistic and mechanical (Hall & Callery, 2001; Mills et al., 2006; Charmaz, 2000, 2014). In other words, traditional GT is characterized by an emphasis on seeking objective external reality, an ‘unbiased’ observer, and a claim to a rigorous data collection and analysis approach. From this perspective, theories are present in the data and are waiting to be ‘discovered’ by the researchers rather than ‘constructed’. Although Strauss and Corbin (1998) later acknowledged that findings can be influenced by the researcher, they still argued that the influences related to researcher’s bias or preconceptions should be minimized. Thus, Mills et al. (2006, p. 3) argued that the Strauss and Corbin’s (1998)

evolved GT ‘vacillates between postpositivism and constructivism’. In line with this, Charmaz (2014) characterized both the original version of GT and Strauss and Corbin’s GT as ‘objectivist’ GT and developed what she termed ‘Constructivist Grounded Theory’ drawn from a (social) constructivist paradigm. The following sub-section explains this approach and its suitability for this project.

3.6.2 Constructivist approach to grounded theory

Mills et al. (2006) argued that GT has evolved from the prototype GT developed by Glaser and Strauss in 1967 to constructivist GT (CGT) proposed by Charmaz (2000). According to Mills et al., each GT has not developed in isolation; rather, it is ‘a spiral of methodological development’ (p. 3). Thus, if the original GT is placed on the starting point of the spiral close to post-positivist paradigm, Charmaz’s CGT can be placed on the opposite side in relation to, as the name indicates, the constructivist paradigm.

The CGT shares some fundamental features of the original GT such as simultaneous data collection and analysis, open-ended interviews and an inductive procedure. Moreover, CGT accepts that the systematic guidelines used in GT are helpful in conducting qualitative research. Charmaz (2014), however, clearly rejects its mechanical applications because there are some differences in viewing and interpreting realities:

In the original grounded theory texts, Glaser and Strauss talk about discovering theory as emerging from data separate from the scientific observer. Unlike their position, I assume that neither data nor theories are discovered either as given in data or the analysis. Rather, we are part of the world we study, the data we collect, and the analyses we produce. We *construct* our grounded theories through our past and present involvements and interactions with people, perspectives, and research practices (p. 17, original italics).

From this perspective, the CGT is based on a relativist ontology and subjectivist epistemology. Because CGT does not assume that there is one universal single reality, researchers do not have

to seek to find that one reality. Instead, it is accepted that social realities are multi-layered phenomena, and are co-constructed by people as active agents of society and influenced by context (Lincoln et al., 2011). Having one kind of reduction of understandings is not the concern in CGT. The aim of CGT is, therefore, to investigate ‘an image of *a* reality, not *the* reality’ (Charmaz, 2000, p. 523).

Given the assumption that social realities are co-constructed from multiple perspectives, it is impossible to understand social realities simply from one perspective. Thus, acknowledging the role of researcher’s understanding and perspective in the research process is inevitable. In short, from a CGT perspective it is regarded as impossible to erase completely the researcher’s preconceptions about the researched (Charmaz, 2008a). Unlike viewing researchers as neutral observers as in the original GT, therefore, the researcher is conceptualized as a co-producer of knowledge who actively interacts with research participants and interprets data collected in CGT. This does not mean, however, that the researcher can have ‘freewheelingness’ in conducting collecting and interpreting data; instead, a researcher’s reflexivity ensures that the researcher is constantly mindful of his/her own influences on the research participants and research procedures (Hall & Callery, 2001; Harry, Sturges & Klingner, 2005; Charmaz, 2014).

As noted earlier, the fundamental assumptions about ontology and epistemology in CGT are aligned well with social constructivism. The purpose of this project was to explore PE teachers’ professional learning in a teacher learning community from a social constructivist theoretical perspective. This means that employing CGT data collection/analysis creates a clear alignment between research question, paradigm (social constructivist perspective), learning (as participation) and the specific research methods of this project.

3.6.3 Coding

Coding is the core concept in the analysis of data in GT (Corbin & Strauss, 2008). Charmaz

(2014, p. 113) defines coding as ‘the pivotal link between collecting data and developing an emergent theory to explain these data’, meaning that it acts as a foundation for developing theories. Coding ranges from naming each piece of data to categorizing data. Although several different ways of coding processes have been introduced (Glaser & Strauss, 1967; Corbin & Strauss, 2008); for example, open coding or axial coding, as data analysis in this project followed CGT by Charmaz (2014), so the coding terms in CGT were used and presented. In the following section, basic concepts and examples of initial, focused and theoretical coding used in this project are provided.

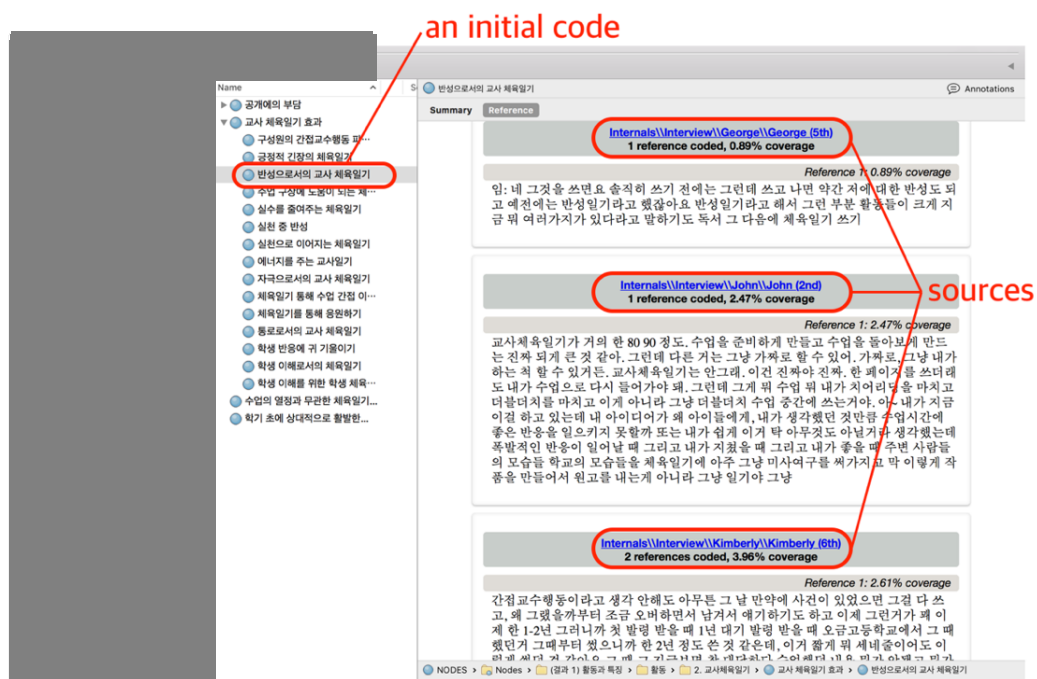
1) Initial coding

Initial coding is a way to understand in-depth raw data collected. In order to achieve this, initial codes must stick closely to the raw data (Corbin & Strauss, 2008). In other words, initial codes must be ‘well-grounded’ in the raw data. It should be noted, however, that in order to capture emerging concepts, initial codes must arise from research participants’ perspectives and the central phenomena; rather than from researcher’s preconceptions about existing theories (Corbin & Strauss, 2008; Maxwell, 2013).

In terms of data amount within an initial code, rather than using the ‘word-by-word’ or ‘line-by-line’ coding (Allan, 2003), the project employed the ‘chunk’ – as a unit of meaning(s) – coding ranging from a word to a paragraph (Miles et al., 2014). In creating these initial codes, each code was as grounded as possible by using the words of the research participants. Furthermore, following recommendations from Charmaz (2014), formatting all codes as gerunds was used as far as possible. Through this process, I was able to concentrate on participants’ actions and also to be sensitive in distinguishing small differences between similar codes. For example, “planning PE lessons systemically in advance” or “sharing PE lesson plans with members” both would have gathered “PE lessons’ preparation” in the circumstance

without using gerunds. Using the concept of ‘In Vivo codes’ (e.g. a code named ‘brainwashing’ was created by a pupil who used the word to articulate barriers to character development through physical education) was also useful (Saldaña, 2012). Figure 5 below illustrates an example of initial coding. In this phase, each initial code was labelled through using the function of creating ‘child nodes’ in NVivo. That is, a chunk which includes a unit of meaning(s) in each transcription was coded and imported into ‘nodes’.

Figure 5. Initial coding

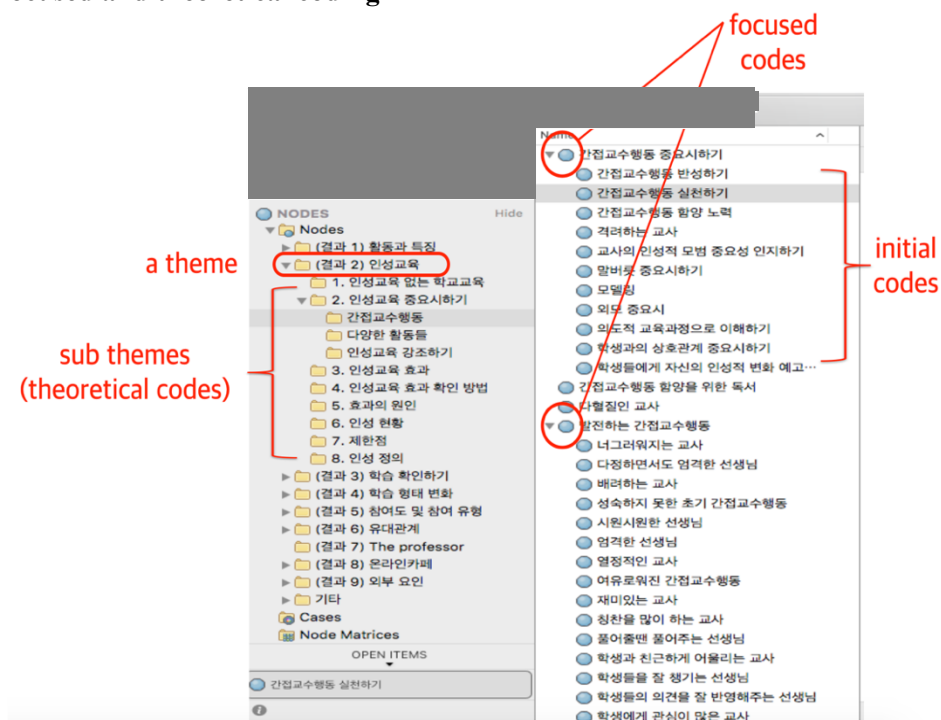


2) Focused coding

The goal of focused coding is to secure the ‘adequacy and conceptual strength of your initial codes’ (Charmaz, 2014, p. 141). In order to achieve this aim, two methods were used in the process of creating focused codes in this project. Firstly, existing initial codes which were similar to each other were grouped into a bigger code. In this process, having similar but small differences in initial codes created during initial coding were helpful to avoid making unsupported conceptual leaps (Corbin & Strauss, 2008). That is, focused codes which are more dense were better able to faithfully reflect research participants’ perspectives and central

phenomena. In this phase, processes of (re)arrangement of initial codes and (re)naming of focused codes were repeated to facilitate systematic categorization. Secondly, after all the initial codes were grouped or merged, some of them which were not related to the research questions or central phenomena, such as codes of ‘family support to join in the CoP’ or ‘inexpensive annual fee of the CoP’ were excluded. Through engagement in this process, I was able to focus on the central phenomena which address the research questions.

Figure 6. Focused and theoretical coding



During the process of making focused codes, the function of making a ‘parent node’ which aggregated similar ‘child nodes’ (initial codes already made) was employed, as illustrated in the Figure 6 above.

3) Theoretical coding

Charmaz (2014) described the last phase of coding, named theoretical coding, as follows:

The purpose of these codes is to help you theorize your data and focused codes. Theoretical codes are meant to be integrative; they lend form to the focused code you have collected.

These codes may help you tell an analytical story that has coherence. Hence, theoretical codes not only conceptualize how your substantive codes are related, but also may move your analytic story in a theoretical direction (p. 150).

This phase is to merge substantive codes which relate to each other to make a narrative that clearly illustrates the core categories. That is, this coding is not simply combining existing focused codes; rather, it is a process of weaving each concept and making stories. In order to achieve this, similar to the work of creating focused codes, existing focused codes which were illustrating central phenomena and related to the research questions were merged in order to create bigger concepts (sub-folders) and themes (folders), as illustrated in the Figure 6 above. For example, existing focused codes which indicated: i) activities supported in the CoP for teachers' professional learning related to character education; ii) changes to teachers' pedagogies; iii) pupils' learning outcomes in terms of character education; and iv) barriers to delivering character education through PE were merged into a story (the second theme presented in section 5.2).

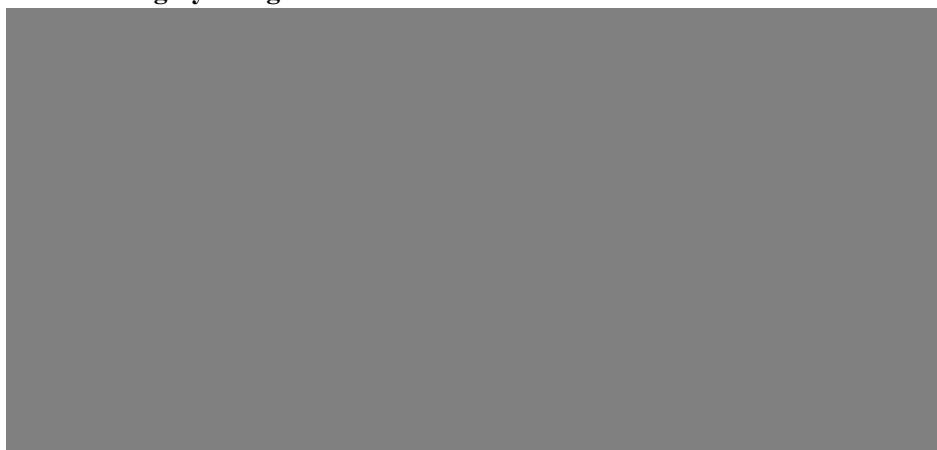
3.6.4 Memo-writing

Writing memos – records of the researcher's analytical thought – is one of the most important tools influencing the quality of data analysis and it ranges from a comment to a full sentence (Maxwell, 2013). Memo writing in this study was particularly important because it not only identified connections between tentative themes (Charmaz, 2014) but also it triggered my reflexivity, impacting on the process of data analysis (Mruck & Mey, 2007). That is, memo writing was the most appropriate way of 'keeping track of the cumulative and complex ideas that evolve as the research progress' (Corbin & Strauss, 2008, p. 140).

In this project, memo writing was undertaken in two different ways. The first method was conducted during data coding using the NVivo 11. Whenever meaningful but ambiguous initial

codes were created, I wrote a memo which linked the created initial codes through using the function of creating a memo in the NVivo. For example, when an initial code named ‘feeling out of place from the CoP’ was created during analysing an interview transcript, I wrote a memo indicating aspects which I needed to further investigate; for example, ‘what kinds of aspects of the CoP need to be further investigated about this issue?’, ‘what kinds of activities or culture in the CoP made her feel out of place should be explored?’, ‘why does Kimberly stills has feeling of out of place; why have Michael and Steve taken a central position in the CoP?’. These analytical memos then could be related other initial codes (e.g. losing focus on developing pedagogy) and further explored in next data collection phase. In this sense, through writing memos, I was able to capture ‘something to work with, to ponder later, and to explore further’ (Charmaz, 2008b, p. 166). This work also applied to the process of developing theoretical codes. Whenever existing focused codes which related to each other were grouped to make conceptual categories (theoretical codes), I wrote memos which explored whether the focused codes strongly supported and underpinned potential theoretical codes. Figure 7 below illustrates memos using the NVivo 11.

Figure 7. Memo writing by using NVivo



Along with these memos using the NVivo, I also had written memos by using a memo application (Evernote) that could be used on both my laptop and mobile phone in order to record

ideas instantly. It was particularly helpful to record instant ideas which related to not only data analysis but also the overall process of the fieldwork. These memos had been accumulated and were easily accessed and retrievable for future examination (Maxwell, 2013). In this sense, it acted also as a kind of methodological journal (Charmaz, 2014). Figure 8 below illustrates the accumulated instant ideas using a memo application.

Figure 8. Memo writing by using Evernote



3.6.5 Construction of vignettes

As explained in the previous sub-section, data collected from different sources were analysed by using Constructivist Grounded Theory (Charmaz, 2014) and writing analytical memos. Through this process, as illustrated in Figure 6, codes that illustrated teachers' professional learning in the CoP as related to the research questions were merged to construct themes. As a result, a total of 10 themes were constructed (presented in Chapter 5).

At the same time, each teacher's vignette was also constructed (presented in Chapter 4). During the fieldwork, I could recognize that the case-study teachers' professional learning in the CoP was highly interconnected with their personal lives and school contexts. For example, in the case of Steve, experiencing his wife's childbirth (personal life) highly influenced his re-

engagement in the CoP. Moreover, in the case of George, overload in administrative tasks in his school (school context) negatively influenced his professional learning in the CoP. That is, teachers' lives outside of the CoP were, to some extent, connected to their professional learning within the CoP. In this sense, although the 10 themes report central phenomena of the CoP and general views of research participants (including the professor), each vignette can be particularly helpful in understanding each teacher's professional learning in depth.

The process of constructing each teacher's vignette was in three phases: i) through conducting the first interviews with each teacher, I was able to obtain teachers' profiles, the process and motivations to join the CoP, and his/her school context. ii) During constructing the 10 themes, I recognized that each teacher had different views on the activities and culture of the CoP, and this was due not only to internal factors of the CoP but also to each teacher's personal life. For example, contrary to Michael and George who had highly been motivated to engage in all activities supported in the CoP, Kimberly found it a burden to go to the CoP meetings because she was engaged in another post-graduate course. Through this process, I was able to capture each teacher's different personal factors, and how the factors were interconnected with activities supported in the CoP. iii) Finally, each teacher's vignette was constructed by combining: teacher profile, the process of joining the CoP, his/her school context, and (critical) different views on activities or culture of the CoP.

3.7 Reflexivity

As noted earlier, in qualitative research which is rooted in the social constructivist paradigm, the researcher acted as an important instrument in the process of data collection and analysis (e.g. Miles et al., 2014). In line with this, it is important to note that every researcher has different preconceptions which could (in)directly influence the quality of data analysis, as follows:

Ground theorists, like other researchers, may and do unwittingly start from their own preconceptions about what a particular experience means and entails. Preconceptions that emanate from such standpoints as class, race, embodiment, culture, and historical era may permeate an analysis without the researcher's awareness (Charmaz, 2014, p. 156).

From this perspective, sustained reflections on researchers' influences in the overall research process is essential. In line with this issue, the concept of reflexivity has been an important factor in deciding the quality of qualitative research (e.g. Johnson, 2015). This, however, should not be understood as meaning that in qualitative research the aim is to completely erase a researcher's preconceptions or biases:

it is impossible to deal with these issues by *eliminating* the researcher's theories, beliefs, and perceptual lens. Instead, qualitative research is primarily concerned with understanding how a *particular* researcher's values and expectations may have influenced the conduct and conclusions of the study (which may be either positive or negative) and avoiding negative consequences of these. Explaining your possible biases and how you will deal with these is a key task of your research proposal (Maxwell, 2013, p. 124, original italics).

Instead, incorporating information about the researcher is a better method for readers to understand easily the process of the researcher's analysis and variables influencing the data collection and analysis (Peshkin, 2000; Hall & Callery, 2001; Tracy, 2010; Gentles, Jack, Nicholas & McKibbin, 2014). The concept of reflexivity has been defined differently in terms of its scope (Hall & Callery, 2001; Mruck & Mey, 2007; Ahmed, Abdulla, Hundt & Blackburn, 2011; Gentles et al., 2014). Berger (2015) recently argued that reflexivity of researchers impacts on the overall research process in three ways, when researchers: i) share the experience of research participants; ii) move from the position of an outsider to that of an insider of the context of the study; and iii) have no personal familiarity with research participants. In line with this, Peshkin (1988) examined the influence of 'subjectivity' of a researcher which he described as the 'I's' in the process of conducting research. In the following paragraphs, I present 'each of

my selves' as they influenced the conduct of this project.

It is helpful to provide some background about my interest in PE teachers' professional learning because most social science research begins from the researcher's curiosity, and this curiosity influences the processes of data collection and analysis (Lofland et al., 2006). This study also began an enduring personal interest; more precisely, an interest in how PE teachers can retain a continuous passion for teaching, and this was closely related to my personal life.

I was a secondary school PE teacher who had worked at a middle school (3.5 years) and a high school (2.5 years) from September 2007 to September 2013. I was then able to secure a 3 year leave of absence to conduct my PhD. During my initial career (2007 – 2010), I was very enthusiastic about enhancing my teaching quality. I participated in various PE-CPD programmes. Although most PE-CPD programmes were held outside of my school so I had to do catchup lessons in order to attend, I tried to attend PE-CPDs programmes as much as possible. I met John, Peter and Michael in several workshops. Some PE-CPDs programmes were helpful in developing my pedagogies. In particular, whenever I obtained fresh teaching ideas I tried to apply it to my lessons. Some pedagogies, however, were not helpful because they had low levels of relevance or coherence. Secondly, I joined two different PE teacher learning communities (*not* the CoP in this study) in 2008 (detailed information is presented in section 2.2.4). Through engagement in both communities, I was able to experience other PE teachers' pedagogies and also apply them to my lessons.

Along with these efforts, I also went to a post-graduate school. The post-graduate course started on the same day which my career began and took 2.5 years. In the course, I took a total of three modules which were taught by the professor in this study and I was able to learn various instructional models (including the X teaching model). I enjoyed this learning experience

although maintaining the life-style of working during the day and studying at night was very challenging.

After I married in December 2010, however, my passion for teaching was totally different. In my defense, as I was teaching the same (or very similar) subjects year after year there seemed to be few new stimuli. Moreover, my new life with my wife was much more enjoyable than my former life as a single person. In these circumstances, the introduction of a new national PE curriculum by the government – named ‘creativity and character curriculum’ – acted as just another headache. Sometime I reflected critically that unlike me, there were still a lot of (even) experienced PE teachers around me who had maintained their enthusiasm for developing teaching, but these reflections didn’t last long. As a result, contrary to the enjoyable nature of family life, my career was stagnant. Something new was needed. I decided to enter a PhD course and to study PE teachers’ professional development. So, this project started with my curiosity. Fortunately, I knew a lot of exemplary PE teachers whom I had met in PE-CPD programmes and several PE teacher learning communities. Finally, I selected the CoP as the case because of: i) unique features (the X teaching model, over 10 years, existence of the professor) and ii) access issues (personal relationships with some participants already built).

Several I’s (e.g. ‘a PE teacher who had experienced PE-CPD programmes’) have been described above. These multiple ‘selves’ influenced (un)consciously the overall research process. Firstly, the 6 years of teaching experience was helpful in order to understand the research participants and their work contexts. For example, I was able to predict the amount of time and effort that the case-study teachers invested to develop their pedagogies through observing their PE lessons. Furthermore, as I had experienced a lot of lessons which my colleagues had practiced in my school context, I was also able to capture some fresh approaches (fresh activities which the case-study teachers’ developed are presented in section 5.1). There was also a clear limitation,

however, in that my experiences which are ‘too’ familiar with PE lessons in the context of South Korea could also inhibit the ability to have a fresh outlook (Corbin & Strauss, 2008). Secondly, similar to the experience of teaching PE, my experiences of engaging in the teacher learning communities had both strengths and limitations in the process of understanding phenomena from the CoP. Lastly, positive relationships with some participants (John, Peter and Michael) were already built and these would have had some influence on the process of data collection (Berger, 2015); for example, it was easier to recruit the three teachers and the interviews were undertaken in an open and warm climate. This level of familiarity resulted in greater in-depth understanding of their perceptions. In summary, it is clear that my ‘I’s’ impacted on the overall research process including: i) selection of research topic; ii) recruitment of research participant; iii) data collection; and iv) data analysis. It should not be understood, however, that the ‘I’s’ downgraded the quality of this study. I used several tools in order to ensure that my preconceptions did not *force* the nature of data collected (examined in the next section).

3.8 Research quality

Traditionally, in quantitative research which is based mainly on the positivist paradigm, the quality of research depends on both the concepts of validity and reliability (Creswell & Miller, 2000; Golafshani, 2003; Thomas, 2011). In a general sense, *validity* refers to the degree to which the research faithfully measures what it was originally intended to assess and *reliability* refers to the extent to which results are consistent and repeatable. In qualitative research, however, the work of evaluating quality is not as straightforward as in quantitative research; rather, it has been a hotly debated issue with a range of different – but also overlapping – concepts and terms being developed – such as trustworthiness or authenticity (Lincoln & Guba, 1985; Seale, 1999; Creswell & Miller, 2000; Maxwell, 2013). In line with this issue, Rolfe (2006) argue that there are three distinct positions on evaluating quality in qualitative research,

which depend on how the researcher views the paradigm of qualitative research and concepts of validity, reliability or rigour.

The first position adopts the concept of validity used in the positivist paradigm. This perspective shares the characteristics and aims of quantitative research, which are rigorous, objective and replicable (Healy & Perry, 2000; Cho & Trent, 2006). In this sense, researchers in this position value systematic research processes which aims to generate 'scientific evidence that must be integrated into our developing knowledge base' (Morse, Barrett, Mayan, Olson & Spiers, 2002, p. 19). In these 'hard' versions of qualitative research (Rolfe, 2006, p. 305), validity and reliability are applied in the same ways as in research conducted in a positivist paradigm.

The second position takes different perspective (Seale, 1999; Healy & Perry, 2000). That is, given that there are big gaps between the aims and characteristics of quantitative and qualitative research, there are difficulties in using the traditional concepts of validity and reliability. In particular, qualitative research is contextualized, interpretive and pluralistic. Hence, if the both concepts are to be applied to qualitative research, changes are required to the concepts (Creswell & Miller, 2000; Healy & Perry, 2000; Winter, 2000; Stenbacka, 2001; Golafshani, 2003; Corbin & Strauss, 2008; Sparkes & Smith, 2009; Tracy, 2010; Thomas, 2011; Johnson, 2015; Patton, 2015).

In line with this, Lincoln and Guba (1985) suggest the concept of *trustworthiness* should be replaced with validity and they further divided it into four criteria: credibility, transferability, dependability and confirmability. These factors correspond to the positivist concepts of internal validity, generalizability, reliability, and objectivity. Furthermore, Creswell and Miller (2000) argued that the concept of validity should be defined as the degree to which the research accurately represents the social phenomena being studied and the three different lenses of the

researcher, participant, and individuals external to the research. From this perspective, the three views should be considered together in the process of data analysis to enhance validity. In order to raise the level of validity and trustworthiness, a number of specific techniques for enhancing them have been developed, including: triangulation, member checking, peer debriefing, prolonged engagement in the field, thick description, intervention or the audit trail (Lincoln & Guba, 1985; Creswell & Miller, 2000; Golafshani, 2003; Shenton, 2004; Onwuegbuzie & Leech, 2007; Corbin & Strauss, 2008; Maxwell, 2013; Patton, 2015). Cho and Trent (2006) labelled these ways as ‘transactional’ validity which is:

an interactive process between the researcher, the researched, and the collected data that is aimed at achieving a relatively higher level of accuracy and consensus by means of revisiting facts, feelings, experiences, and values or beliefs collected and interpreted (p. 321).

It is clear that the concepts of validity and trustworthiness in the second position represent efforts to capture better data by avoiding or minimizing misunderstandings in the field. That is, as Sparkes and Smith (2014) argued researcher in the second position have the assumption that ‘qualitative can be more credible as long as certain techniques, methods, and/or strategies are employed during the conduct of the study’ (p. 189).

According to Rolfe (2006), the third position is more radical. Rolfe argued that ‘the quality of the (qualitative) research cannot be assured by the rigorous application of a set of previously agreed strategies and procedures’ (p. 309). This argument is based on the assumption that all the social phenomena are co-constructed and are influenced by the researcher in the process of understanding or interpreting them (Crotty, 1998; Corbin & Strauss, 2008; Maxwell, 2013; Charmaz, 2014; Sparkes & Smith, 2014). From this perspective, qualitative research exploring highly context-dependent and unpredictable social phenomena cannot be evaluated by pre-set

criteria or standards. Rather, using pre-set methods – which is described as ‘cookbook approaches’ (Harry et al., 2005, p. 12) – might limit or weaken creativity in qualitative research (Green & Thorogood, 2014). Furthermore, Sparkes and Smith (2009) argued that this approach ‘closed down conversations, blunts the knowledge of the discipline, and stifles creativity so that concepts and issues are not explored in new ways’ (p. 496). In line with this, Cho and Trent (2006) labelled this third position as ‘transformational’ validity:

that is to be achieved by the research endeavour itself. Such a process in qualitative research, as a critical element in changing the existing social condition of the researched, involves a deeper, self-reflective, empathetic understanding of the researcher while working with the researched (p. 322).

From this perspective, the validity and quality of qualitative research could be assessed by researcher reflecting on how and why these kinds of social phenomena are found in their research (Peshkin, 2000; Davies & Dodd, 2002; Sparkes & Smith, 2014). As Cho and Trent (2006) warn, however, an ‘either/or’ approach between transactional and transformational approaches should not be taken, given that both have benefits; instead, each approach should be viewed as ‘complementary’. In this project, following Cho and Trent’s (2006) suggestion, different tools for enhancing the quality of data analysis were undertaken.

Firstly, triangulation was the most effective way to raise the level of trustworthiness in this project and two types were undertaken. Firstly, findings from different sources were constantly compared to each other. For example, the content of field notes from PE observations worked as sources to verify, supplement, or dispute findings from individual interviews with the case-study teachers. Moreover, documents created within the CoP and focus groups with pupils were used either to support the findings from interviews or discover disconfirming evidence between them in order to inform the development of new interview questions. Secondly, comparing data

from across each case study teacher was also helpful in order to be able to take a comprehensive view of professional learning. Through conducting 8 different case studies, various views on learning generated in the CoP could be gained.

Secondly, ‘member reflection’ (Tracy, 2010) with participant were also undertaken. After the last interviews with the professor and each teacher, the whole transcription set was sent to each participant through electronic mail. I asked to the participants to check the transcriptions in terms of accuracy and intensity of their expressions. None of the teachers made any changes to their transcriptions, while the professor made some clarifications. The final data analysis was, therefore, conducted after making changes to the original transcriptions as requested by the professor. In this project, however, there was no further member reflection after the themes were constructed. Instead, before starting follow-up interviews each time, I verified the initial analysis by reminding each participant of the views expressed in the previous interview and my brief analysis and summary.

Thirdly, peer debriefing was also conducted. Whenever I discovered meaningful phenomena from the fieldwork, a professor who has conducted qualitative research over 20 years offered advice which guided directions for further investigations. Through engagement in this process, I could be aware of which aspects I needed to explore in next data collection, and this was particularly helpful to minimize unsupported conceptual leaps (Corbin & Strauss, 2008) and to seek alternative explanations. In this sense, the professor acted as ‘a supportive but critical friend’ (Sparkes & Smith, 2014, p. 182).

Fourthly, offering thick and rich description of the process of research was also an important factor influencing the quality of this study. In order to achieve this, this study offers: i) detailed contexts of South Korea (section 1.2) and the CoP (sub-section 2.2.5); ii) examples which

describe the process of both data collections (section 3.5) and analysis (section 3.6); iii) my subjectivity influencing the fieldwork (section 3.7); and iv) vivid and detailed phenomena through reporting 10 different themes (sections 5.1 - 5.10) in the findings chapter and 8 vignettes of each teacher (Chapter 4).

Lastly, the researcher's journals were also written from entering the field (September 2014) to finishing the data analysis (August 2015). As noted earlier, I had written the research journal through using a memo application (Evernote) and it was particularly helpful not only to reflect on the process of data collection and analysis (e.g. 'are there some leading questions?' or 'are there any logical jumps in connecting this phenomenon to tentative themes?') but also to navigate aspects which the study needed further (e.g. 'what kinds of aspects need to be further investigated for supporting this phenomenon?').

3.9 Ethical consideration

It is no surprise that research ethics is one of the important factors to be considered in social science research (e.g. Wolgemuth et al., 2015). Miller, Birch, Mauthner and Jessop (2012, p. 14) defined the concept of research ethics in the social sciences as 'the moral deliberation, choice and accountability on the part of researchers throughout the research process'. In this sense, research ethics is not just about receiving permission to conduct research from an institute or organization; rather, it is the researcher's constant consideration of respecting research participants over the course of research. In the following section, the ethics procedures considered while undertaking the research are examined.

As a case study, the key issue to be addressed prior to entering the field was gaining permission for access and informing any (potential) research participants about this project. In order to address the research questions, this research needed to obtain permission from both: i) members of the CoP to explore learning in the CoP and ii) pupils (their parents as well) and the head of

each school to observe PE lessons and interview pupils. Firstly, gaining permission from the CoP was conducted before entering the field. Before the specific research procedure was designed, I contacted the chair of the CoP (the professor) and potential participants (teachers) and asked whether they wished to consider being involved in the research. After contact was made with potential participants, I had examined the aims and procedures of the study. Participant information sheets (see Appendix 2) and the informed consent form (see Appendix 1) which were approved by the research ethic committee of the University of Birmingham were sent to each participant. Secondly, gaining permission from pupils and the heads of schools was undertaken after entering the research field. I explained the research procedure to the head of school and head teachers in the PE department in each school before conducting the first interviews with each teacher, and they were asked to sign the informed consent form. Regarding pupils, after each teacher selected potential participants, both participant information sheet and consent form were sent to their parents and were signed. In addition, during the field work, I again fully explained the research procedure orally and also reiterated their right to withdraw from the research at any time up to an agreed date. Furthermore, they received assurance that data from them would not be used for any purpose than the specific research study and the publications arising from it.

Secondly, another key ethical consideration is securing confidentiality. To ensure that participants' personal information is protected, data excerpts were identified by pseudonym (teachers) or combination of number and an alphabet (pupils) in this project. Furthermore, any issues which had the potential to reveal the identity of the CoP were altered (e.g. using 'X' teaching model instead of the name of model).

Thirdly, protecting and securing data collected from research participants is another important responsibility. All data collected from research participant was stored on a password-protected

laptop.

Lastly, I tried to ensure I made participation in the research as convenient as possible for the participants. For example, interviews with the teachers and pupils were (re)adjusted by participants at least a week earlier regarding places and times that suited their preference and the school academic calendar.

3.10 Chapter summary

This chapter has provided a detailed overview of the methodology and methods used in this project. This project took a case study approach which is rooted in a social constructivist paradigm and qualitative research. The iterative fieldwork was undertaken from September 2014 to June 2015 and was divided into two phases. A professor who created the CoP, 8 case-study teachers, and a total of 41 pupils from 8 different secondary schools participated in this project. In order to collect various aspects of phenomena, 5 different methods were used: i) semi-structured individual interviews with the professor and the case-study teachers; ii) observations of the case-study teachers' PE lessons and the CoP meetings; iii) focus groups with teachers and pupils; iv) an open-ended questionnaire to teachers and pupils; and v) document analysis. The data collected were analysed using a constructivist revision of Grounded Theory (Charmaz, 2014). In order to enhance the quality of this study, five different approaches were taken: i) triangulation; ii) member reflections; iii) peer debriefing; iv) offering rich description; and v) writing research journal. In terms of securing research ethics: i) gaining access permissions and being informed; ii) confidentiality; iii) protections of data collected; and iv) providing research participants with convenient environments were successfully undertaken. Finally, the personal engagement of the researcher in the research process has been critically analysed.

Chapter 4: Vignettes

4.0 Introduction

In this chapter, each teacher's vignette including his/her personal life and issues related to themes constructed (presented in next chapter) are reported. One contextual factor which is helpful to understand relationships between research participants is that all the case-study teachers – except Kimberly – graduated from the same university and some of them already had relationship before joining the CoP. Moreover, the professor lectured undergraduate studies to the 7 teachers at the 'K' university and post-graduate studies to Kimberly at another university. In terms of the system of secondary school PE teacher employments, in order to be certified as secondary school PE teachers, the teacher candidates are required to complete courses of teaching subjects and 4-week teaching practice in a college of education or graduate school of education. Moreover, in order to work at public schools, the candidates are required to take a national recruitment test which is highly competitive³. Most newly qualified PE teachers work as both a PE teacher and a homeroom teacher.

4.1 John

John is a 42-year-old teacher, a husband and a father of two daughters. Since he passed the secondary PE teacher exam in 2002, he has worked at three different middle schools, and moved to a high school. After John began his career, he was disappointed about some more experienced PE teachers' non-passionate attitudes to PE and their professionalism.

In schools, most of them (experienced teachers) always said 'do sloppily, why do you make it complicated?'... I had a lot of worries about teaching PE, but they didn't care about my interests and wanted me to be with them in just get-togethers (Interview 1).

³ This phenomenon is closely related to economic status. As South Korea has been experienced business depression since late 1990s, people prefer working at a tenure job such as public enterprises or schools. In 2011, the competition rate of the national recruitment exam was 32.77.

John joined the CoP in 2003 in order to solve his interests of developing his pedagogies. Along with joining in the CoP, he had also participated in several PE teacher learning communities such a PE teacher basketball club. He was disappointed again, however, about characteristics of the other PE teacher communities.

I joined many PE teacher communities. But, strangely, their main activity was not something about thinking PE teaching ... get-togethers and sharing information about moving schools are the main thing... in conclusion, it was a kind of personal connections (Interview 1).

Unlike the other communities, the CoP offered what John wanted. He had actively engaged in all activities supported in the CoP, and took the role of 4th president from 2010 to 2011. During this period, his priority was clearly engaging in the CoP.

It was quite busy, I needed to have dates with a girl-friend and to go to educational ministries to work and to have get-togethers managed by a school, but I really did my best to avoid absence of every single meeting (Interview 1).

John was able to develop his teaching skills after he joined the CoP. As a result, he could get opportunities to introduce his pedagogies to PE teachers in a number of PE workshops. Furthermore, his pedagogies have been widely known as he appeared on TV shows and in PE magazines few times. In the area of PE, therefore, John was a 'celebrity'. He had become a busier PE teacher as he had been involved many educational organizations relating PE. As a result, he had various roles including a member of the CoP and a vice president of a PE teacher organization which was managed by a local educational ministry, and an appointed PE teacher who gave advice to general PE teachers in secondary schools. Naturally, taking these various roles took his time to engage in the CoP. Furthermore, more importantly, he pointed out that there was no fresh activities in the CoP meetings.

Attending the CoP meetings used to be the priority, it was everything, all other activities must be behind the meetings, but if something else get intervened the meetings would not be an urgent thing anymore ... my life has become more busy, I need to drop my daughters off at a nursery or to go educational ministry more often... and nothing special to get for me in the meetings, it is a bit cliché (Interview 1).

In summary, John was able to enhance his teaching quality through engagement in the CoP. However, as he had become an influential PE teacher and had got used the activities of the meetings, his enthusiasm to engage in the CoP had decreased.

4.2 Kimberly

Kimberly is a 40-year-old PE teacher and a wife. As her father majored in PE and mother majored in dance, she had naturally been exposed to sports and dance, which led her to major in PE and to specialize in dance. Kimberly began her career in 1998. As a female PE teacher who specialized in dance, she felt that she needed to be skilled in teaching various sports subjects. To do this, she went to a number of PE-CPD programmes and entered a post-graduate course at 'S' university.

I majored in dance, I felt my skills to teach physical activities or sports subjects and demonstration abilities were not enough. It was really difficult (to teach PE) in my early career. Obviously teachers who specialized in PE were better than me in terms of teaching sports skills, so I searched and attended a lot of teacher training programmes ... entering a post-graduate school was in the same vein (Interview 1).

In 2007, Kimberly attended a workshop that was held by the CoP. She was impressed by the X teaching model and as a result, she continuously participated in workshops which were held by the CoP every year.

It (the workshop) was quite different from other teacher training programmes. It exactly meshed with my interest. Because, as a female PE teacher, how to make girls and marginalized pupils actively participate in my PE was the main focus, for example 'how I

give girls and passive pupils motivations', the contents and methods of the X teaching model were fresh and helpful, so I participated in a low for four years (Interview 1).

Naturally, Kimberly joined the CoP in 2011 with a higher level of satisfaction to the X teaching model and she could develop her own pedagogies.

I really like this model, I can give pupils various activities and also pupils are satisfied with this model. Of course the processes of preparing this model is difficult, but whenever I practice the X teaching model I can feel the 45 minutes (a lesson) is short ... I could develop a lot of things in my pedagogies (Interview 1).

However, Kimberly's passion to engage in activities of the CoP was somewhat different from her higher level of satisfaction with the X teaching model. This was due, firstly, to internal changes in the CoP. She joined the CoP with an expectation that she could receive or obtain specific tips about using the X teaching model from existing members. When Kimberly joined, however, the CoP had a number of other activities.

As I know they made tremendous things about teaching together, in fact I wanted things like that. But this CoP has become too big and now has a lot of external things like PE text books or something else, but I couldn't join in the external things and the founding members are always busy ... I think of this CoP is in the middle of an overall crisis (Interview 5).

Secondly, after two times of failure in school inspector recruitment exams, Kimberly decided to enter a counselling graduate school. Like any other female PE teachers in South Korea, Kimberly also worried about potential difficulties to teach PE such as physical fitness issues when she becomes an old teacher. She stated that acquiring a counsellor teacher certificate is an insurance of her future career. As she attended the post-graduate school at weekends it was very difficult for her to attend the CoP meetings.

In summary, although Kimberly had been highly interested in using the X teaching model, being

involved in other activities supported in the CoP was challenging because she could not meet her expectations. Changes to her personal life also acted as a barrier.

4.3 Michael

Michael is a 33-year-old teacher and a husband and a father of a son. He had 6 years of teaching experiences. Being a PE teacher was his old dream. He was able to get some recommendations and specific advice about routes for teaching from a PE teacher in his high school. As a result, due to the support and his enthusiasm, his route for reaching the goal was straightforward. Unlike the process of being a PE teacher, however, he faced difficulties to teach pupils in his early career phase. Michael realized his unpolished pedagogies.

It was my first year, I realized ‘Oh! I am so inexperienced!’, my teaching was a kind of ‘working without any plans’, I just focused on offering pupils something funny so I couldn’t find any important meanings in my teaching (Interview 1).

This realization led him to search PE-CPD programmes. In this process, by chance, he had an opportunity to participate a workshop which was held by the CoP. He received positive stimuli from the workshop. Participating in the workshop was a turning point making him think about philosophy of PE differently, then he wanted to join in the CoP to learn the X teaching model in depth.

I was really studying hard in the workshop, never dozed and wrote everything down. I got something new, it (the X teaching model) was a kind of a new shock, challenge and stimulus. So I had a feeling like ‘I would like to join this CoP and hang out with them’ (Interview 1).

The professor and a president (John) evaluated positively Michael’s higher enthusiasm and interest in the X teaching model and suggested he join the CoP. He gladly accepted the suggestion. After joining the CoP, Michael actively engaged in all activities supported in the CoP and as a result, he was elected as a general affair. He positively evaluated all the activities

offered from the CoP. Above all, having opportunities to enhance teaching quality was the most important reason for him to engage in the CoP.

Whenever I got some feedback or ideas from other members I could feel like ‘I am getting something energetic’, it makes me happy ... Charles (a member) is quite good at writing the diaries, so I got some positive stimuli through reading his diaries ... These parts are the most important things, I mean this CoP makes me think about my teaching continuously at least, it is the reason why I engage in this CoP (Interview 1).

Michael thought, however, that as the CoP had become involved in more external works such as holding more workshops or writing PE text books it might lose activities and characteristics that were helpful for teachers to enhance teaching quality. This phenomenon was disappointing for him.

it (involving other activities) is really frustrating for me because I am quite new to the X teaching model. I am still learning to grasp the theory for implementation. Thus, I really need these CoP meetings to focus on discussions on teaching and classes of the X teaching model. With each study meeting, less time is spent studying the X teaching model. ... I am rather disappointed with this situation. I know that it’s not only myself that feels this way about the study meetings. We all hope that the study meetings retrieve its fundamental objective (Interview 6).

In summary, Michael could get some positive stimuli in the workshop and highly engaged in the activities of the CoP for professional development. However, he worried about the issue that the CoP had lost collaborative learning activities.

4.4 Steve

Steve is a 36-year-old teacher and a husband and a father of one son and one daughter. He had 10 years of teaching experience. Steve was a kind of model student in the ‘K’ university. He could use the professor’s office. While Steve was studying in the office he received a lot of advice and support from the professor. Steve naturally built relationships with existing members

(including John and Peter) of the CoP as they had meetings in the office in the early phase. Steve passed the PE teacher recruit exam and made an early graduation at the same time. He joined the CoP in 2005. In this process, his relationship with the professor which was built earlier worked as an essential role.

I had a mind, I mean like because the professor helped me a lot so I had to join in the CoP and do something hard, there was a part of recompense for his kindness ... And also the professor also asked me to audit his post graduate lectures and join in the CoP (Interview 1).

Steve, as a novice teacher, had big difficulties in managing his PE lessons in his early career. That is, despite that fact that he was trying to use the X teaching model, managing pupils was the key task which he had to solve.

I couldn't communicate with the pupils very well, I had no problem in preparing class contents for lessons, but I definitely had problems in interacting with the pupils ... Beatings were allowed in that time (laugh). So my solution for communication with the pupils was to punish them during my first couple of years in teaching (Interview 1).

In addition to the problem of disruptive relationships with pupils, he received negative feedback from colleagues when he showed them his lesson in a school-based supervision.

I showed my lesson to co-workers because I was quite enthusiastic to develop my teaching, it was a school-based supervision ... but I got many negative feedback in the supervision, for example, a teacher asked 'what is the A philosophy (basic concept of the X teaching model)?', or 'why the hell did you use the TV?' (laugh), I couldn't reply at all. The negative responses made me depressed (Interview 2).

Under these circumstances, although joining the CoP with a mind helping the professor and the CoP, he was not able to focus on any activity of the CoP. Finally, Steve quit the CoP in 2005. Studying the X teaching model or developing pedagogies were not his interest any more.

Steve re-joined the CoP in 2011. Two factors acted as important roles for him to re-engage in PE lessons and the CoP. Firstly, he said that he had totally different attitudes for pupils after his wife gave a birth.

After I got my baby, something about my educational philosophies or attitudes to pupils fundamentally changed, in a very positive way ... for example, 'if these pupils were my kids how should I teach them?' This kind of thought hammered me. My attitudes changed differently. I mean, I could have more positive and more responsible attitudes (Interview 2).

Secondly, Steve entered a post-graduate school (not a school where the professor worked). In a lecture of the course, he introduced his pedagogies using the X teaching model. Unlike the negative experience in the school supervision, Steve received positive feedback and compliments from students.

There was a lesson, each teacher had to present his/her best and worst lesson (laugh), I got some confidences (by experiencing other teachers' teachings), some teachers always do the style of 'roll out the ball' ... I got many positive responses about my previous teaching using the X teaching model from students. A lecturer and others told me like 'you look like have a lot of concern for teaching' (Interview 1).

Eventually, his re-interest in the X teaching model led him to re-join in the CoP in 2011. After the re-entrance, his level of engagement in activities of the CoP and relationships with members were incomparably better than his previous experiences. The professor and teachers also evaluated his passion higher so that Steve was elected as the sixth president in 2014.

In summary, Steve lost his interest in the CoP because of his inappropriate relationships with pupils and negative experiences in using the X teaching model. However, experiencing his wife's childbirth and receiving positive feedback from other PE teachers led him to re-interested in the X teaching model which triggered his re-entrance to the CoP.

4.5 George

George is a 32-year-old teacher and a husband, and had 3 years of teaching experiences. He was not interested in a PE teacher as his job. Instead, he had dreamed of being a professional baseball player. After he was discharged from the Korean Army, however, he abandoned the dream to be a sport professional and then began to study for the secondary school PE teacher exam. The way to become a PE teacher, however, was quite hard and long. He failed 3 times of the exam, then finally passed the exam in 2012. An interesting part is that whenever he was notified of the failures he mailed the professor and received the professor's encouragements. It was due to George's positive views on the professor's character.

Researcher: Were there any reasons to contact with the professor? As you know this kind of contact between a professor and a graduate is unusual in South Korea.

George: I had positive thought on his ways of teaching students, he was very enthusiastic and looked like he has concerns students' careers ... I couldn't imagine other lectures to mail in order to get some advice (Interview 1).

When George visited the professor to inform his of his success on the exam the professor suggested to George that he join the CoP. George accepted the suggestion with an expectation that being a member of the CoP would be helpful to his career.

I could feel like 'the professor takes care of me'. Actually I had a mind which joining in the CoP was somewhat burden because I knew that there were many activities in the CoP, and PE teachers viewed this CoP as not a pushover community, but I regarded this CoP as a community which is helpful to my teaching and career (Interview 1).

After joining the CoP, his involvement and progress has been amicable and exemplar. George attended almost all the CoP meetings, and he invited members to his wedding. In this process, both his teaching quality and the level of intimacy with members had increased.

First of all, there are lot of things to get, clearly I could develop my teaching. And I have

got closed to them. Another thing is that I got married last year, I could feel strong sense of belonging and family-like atmosphere during that time (Interview 1).

I have had a feeling that I now stand inner space of this CoP. I have been attending the regular meetings, and in doing so I could share something personal with other members. This part has made me more comfortable and think like ‘this CoP is really helpful to me’ (Interview 3).

This is due, in part, to his school context. Unlike George’s exemplar progress of involving in the CoP, he struggled with negative circumstances including a heavy workload and unprofessional co-workers in his school context.

I have roles including a manager of this school football team, a home-room teacher and even a head of PE department at the same time this year (laugh) ... assigning roles and tasks in this school is unfair ... PE teachers are all old, and they have no will to offer good PE lessons, so there is nothing I can learn from them, they are totally different from the members in this CoP (Interview 1).

In summary, George’s positive view on the professor resulted in his participation in the CoP. Contrary to the positive professional development in the CoP, however, the circumstances in his school were not supportive.

4.6 Peter

Peter is a 41-year-old teacher, a husband and a father of one son and one daughter. He is one of founding members of the CoP and worked as the second president from 2006 to 2007. Like John, he was also one of ‘celebrity’ in the area of PE. From the early phase of his career, he was able to have many opportunities to introduce his pedagogies in many workshops. This made Peter could get a reputation in the area of PE.

I am a member who has got many benefits from this CoP, it has been the central axis and the biggest benefit in my career, for example, I appeared on TV programmes and

newspapers so I got calls from friends of mine who never contacted me after graduation (laugh), and I wrote books. Of course, these things would've not been able if I did it alone, I really appreciate this CoP (Interview 3).

However, as Peter had become an experienced teacher, he needed to consider his future career. At first, he weighed up the option of entering a PhD course and being a PE school inspector. He ended up deciding to being a PE school inspector. After making the decision, his career life was different from what he used to do in the early phase. In order to obtain points which are required for his potential promotion, he should take a more important role, such as a department head and manage other issues related the route. In this process, his enthusiasm to develop his pedagogies had decreased.

I need to accept to take a position, for example I have been doing works as a head of research team this year ... colleagues recommend me like, 'you need to do this' or 'you have to apply this exam this year (in order to get other points)', this is complicated but I have no choice, I need to do all of the activities (Interview 1).

I have been stuck in a rut a bit, no stimulus in this school, my will or passion for teaching at the moment is somewhat different. In addition, as I have a lot of central tasks in this school, so the central axis moved from my teaching to administration work, if I don't carry out my work a lot of problems will occur (Interview 1).

In line with this issue, his level of engagement in the activities of the CoP also naturally had decreased. Peter pointed out an issue of no fresh stimuli in the CoP meetings was one of important factors for him.

Personally I did almost all (sport) subjects for 14 years. Honestly there is no fresh stimulus in the meetings. It has been a kind of routine. Like other subjects or works, if everything has been done routinely, passions for engagement necessarily decrease (Interview 2).

In summary, Peter was very enthusiastic to enhance his teaching quality and as a result, he could

gain some reputations. However, after he entered in a track of being a PE school inspector his career life changed and he began to lose his passion on both teaching and the CoP.

4.7 Judy

Judy is a 38-year-old female teacher in a middle school. She began her career in 2005. Her first dream was not being a PE teacher. Judy entered a post graduate course majoring in sport physiology at the same university with an expectation of being a researcher. Unfortunately, however, she had economic problems for extending her study at that time. Judy visited the professor to obtain some advice about her future career.

I couldn't expect any economic support from parents, and still needed to be a head of household in my home ... I talked with the professor a lot, one thing is memorable. He said 'normally people think only the best way, but why don't you consider the second best plan?'. It was right. I wanted to study in the field of sports physiology and to be a researcher. But as I had experienced many things such as working in a hospital I could realize that it is quite limited and difficult to be a researcher in the field (Interview 1).

Judy finally decided to study to be a PE teacher and then passed the exam in 2005. She joined the CoP in 2009. It took 4 years for her to join the CoP after starting her career. In this process, her interest in the X teaching model acted one of the important reasons.

I already knew the X teaching model a bit before I joined 2009. I liked the model, it offers a number of fresh activities, I thought that using this model could be helpful in teaching pupils a concept of diversity. So I thought that learning the model could be helpful to develop my pedagogies. It actually influenced my pedagogies a lot (Interview 1).

In addition to the interest in the X teaching model, more importantly, strong bonds with existing members (including John and Peter) which were built during her undergraduate acted as the essential factor.

I was very close to John and Alex (another founding members) in my undergraduate.

Because I had a thought that all the founding members are very good persons. Moreover, my positive relationships with them were really good. So I thought that I can enjoy activities in this CoP. Intimacy with the members was perfect (Interview 3).

These two factors made Judy actively engage in all activities supported in the CoP at her initial phase.

It was really enjoyable to be involved in this CoP, because I had sense of closeness with them (the founding members) and they always gave me feedback about my teaching. I got many helps from them so I resolved like ‘I would like develop my teaching like those of them’ (Interview 3).

However, she had lost her passion for the CoP due to two kinds of issues: the CoP had lost collaborative learning opportunities; and different levels of intimacy with new teachers (see also sections 5.5 and 5.7).

I think that discussion teaching supposed to be the most important thing in this CoP. I used to actively engage in this CoP because it used to focus on activities to develop teaching, and it was really helpful to develop my pedagogy. But recently, activities in this CoP are not closely connected to my teaching so that my attendance to the meeting and passion has been down ... I barely know new members and this makes me hesitate to go to the meetings. If I make a suggestion for this CoP, we need to get rid of this awkward atmosphere between some members (Interview 3).

In summary, Judy was highly involved in the CoP because she had strong bonds with members and felt the activities of the CoP were helpful to develop her pedagogies. However, her passion to the CoP has reduced as she felt that focus on activities of developing pedagogies and close relationship between members had been weakened.

4.8 Henry

Henry is a 31-year-old male PE teacher who has 4 years of teaching experiences. He is married and a father of one daughter. Henry’s father was a PE teacher and this influenced him to dream

of becoming a PE teacher since his early years. Like Steve, Henry was also a model student at the K university and built relationships with the professor and existing members of the CoP before he graduated from the K university. In this process, as a student who had a dream of being an excellent PE teacher, Henry admired the existing members' higher levels of passion on developing their pedagogies.

I saw the founding members regularly. Whenever I saw them I felt like 'these members are really hard to prepare their teaching', on the contrary in a case of my father, I never saw he prepared PE lessons like that, and I heard he did just the style of 'roll out the ball' ... so I dreamed to be a PE teacher like them (Interview 1).

Naturally, Henry immediately joined the CoP when he passed the secondary school PE teacher exam in 2011. Appearances and activities of the CoP when he joined, however, were somewhat different from what he admired. As a novice teacher, Henry wanted to obtain specific tips about preparing or managing PE lessons from the existing members. As their attendance was low and the CoP had been involved in a number of external activities, however, Henry was not able to obtain sufficiently what he wanted.

Well, this CoP has been bigger and influential, so there were a lot of external activities when I joined. For example, we present our pedagogies in many workshops ... so I felt that the part of sharing or preparing teaching in the CoP meetings that I saw in the past has decreased (Interview 1).

Thus, Henry could not obtain appropriate supports from the existing members. Instead, he had written the PE diaries. Henry thought that writing the diaries was the essential factor influencing the enhancement of his teaching quality.

The biggest growth for me this year I believe is personal development. The improvement in my teaching is not due to the help from the CoP, but I think it is more from reflective journaling (about my teaching). The biggest part is my personal things. In particular, a lot

of changes has been in this year, among them, the fundamental thing is that I feel I may have had some educational philosophies. I have a feeling that I may have found something authentic meaning of the X teaching model, but this thing is based on (writing) my PE diaries and something reflexive thought about my teaching (Interview 5).

Fortunately, due to his continuous efforts, colleagues positively evaluated Henry's teaching and as a result, he could have opportunities to present his pedagogies.

Co-workers knew that I am using the X teaching model and they positively evaluated the ways of my teaching. The school principal asked me to present my pedagogies to co-workers last year ... And I scored higher on my 'teacher evaluation' last year (laugh) (Interview 4).

Furthermore, he was appointed as a research member of a PE teacher learning community which was managed by a local educational ministry.

In summary, Henry joined the CoP with an expectation that he could obtain supports from the existing members. As the CoP lose their somewhat collaborative types of learning, however, he could not receive appropriate support. Instead, he enhanced his teaching quality through his sustained reflections on his teaching which led to a big achievement.

4.9 Chapter summary

As this chapter has reported, each teacher had different motivations to join the CoP. Moreover, the case-study teachers' willingness to engage in activities supported in the CoP were also slightly different. In terms of issues about professional learning supported in the CoP, although all the case-study teachers had a common interest in activities centred on developing pedagogies, some had different needs, such as new activities for sustained professional learning (John and Peter) or developing closer relationships between members (Judy). Moreover, all the case-study teachers had different personal lives and school contexts that highly influenced their engagement in the CoP.

Chapter 5: Findings

5.0 Introduction

In this chapter, 10 different themes that were constructed are reported. Some learning theories (e.g. situated learning or CoP theory) have already been discussed in the literature review chapter, and this chapter focuses on reporting themes which illustrate teachers' professional learning in the CoP in depth rather than analysing the themes by using those specific learning theories. This was found to be helpful in illuminating the central phenomena from the data in depth. In the next chapter, however, each theme is discussed in the context of existing literature and learning theories.

5.1 Activities for professional development and its characteristics

Exploring what kinds of activities were supported in the CoP and its characteristics is the key task to understanding teachers' learning. This section, therefore, includes: 1) professional learning activities supported in the CoP and 2) the activities' characteristics from teachers' views.

1) Professional learning activities

The CoP offered teachers five different activities for their professional learning: i) developing pedagogies together; ii) writing a 'PE diary'; iii) sports reading clubs (SRC); iv) the professor's lectures; and v) workshops.

Firstly, as a teacher learning community, the main activity of the CoP was to develop and share pedagogies. Teachers regularly met together to develop new teaching ideas and to share their teaching practices.

In the beginning of every term, each teacher brought their annual teaching plans to share and discuss with one another. These meetings allowed us to share our teaching ideas and to learn from one another. We would continue to meet throughout the term to review our

plans and implementation (Michael, Interview 6).

Through this process, teachers were able to receive and give feedback to each other.

Yes, I asked specifically about conducting the class. For example, how much time should be spent on. It was a PE class itself, asked them in terms of what types of activity and how much time is taken to do each activity ... not only contents of PE classes but also how manage the contents, for example, how much time should be arranged for lay-up (basketball) activities, I could get that kinds of feedback (George, Interview 5).

Secondly, teachers were encouraged to write a 'PE diary' and to upload it on an online café which was developed in 2004 (detailed information about the online café is provided in section 5.9). The aim of writing this diary was to provide a means for teachers to reflect on their teaching practices⁴.

I have found that keeping the PE diary helps me stay focused on my teaching. I use it as a tool to evaluate myself. If and when I do not write on the journal I have found that I become lazy on class planning and preparation. I am journaling at present, which tells me that I have generally become relaxed on my teaching (Michael, Interview 4).

It (writing the PE diaries) made me reflect on things that I conducted in my lessons. I was able to capture some parts which I needed to consider in order to enhance my teaching. At the same time I could get some stimuli through writing the diaries (Kimberly, Questionnaires)

Moreover, through reading other's PE diaries, teachers were able to experience indirectly other member's perceptions of their teaching practices. Teachers believed that engaging in this process provided them with positive stimuli to enhance their learning.

(By reading members' PE teaching journal) I get to know what other teachers teach in their classes. This allows me to compare my own teaching with others and even more so, it acts

⁴ For this reason, some teachers call the diary 'reflection diary'

as a motivation for me to continuously assess and improve my teaching (John, Interview 2).

In addition, because most members write the PE diaries I could experience indirectly their pedagogies and their thoughts, like ‘Steve recently has tried to develop a teaching activity’ or ‘he has this concern’ ... These gave me a kind of stimulus and an opportunity to reflect on my teaching (Henry, Interview 6).

Thirdly, reading and discussing books was also a way for teacher to reflect on their educational beliefs. The CoP ran ‘sports reading club (SRC)’ which involved reading a book in relation to PE or general education monthly. The CoP had independent time for the SRC in the CoP meetings.

Steve talks about his thoughts and reflections after reading the book (titled ‘the importance of ways of speaking is priceless’), that there were inappropriate behaviours and ways of talking to pupils in his lessons ... Judy made memos on her notes while listening to Steve’s thoughts, then she said that listening to pupils’ voices is also equally important in her teaching practice (Observation, CoP meeting, 25 April 2015).

This SRC focuses on finding different and new class contents to implement, and learning different perspectives on approaching and communication with pupils (Michael, Interview 4).

Fourthly, the professor gave teachers lectures about the X teaching model and educational philosophies in the early phase in creating the CoP and when new teachers came.

During the school winter break, we would meet twice per week to study. The study primarily focuses on the philosophical background and educational objectives of the X teaching model (The professor, Interview 1).

Each time a new teacher joins the CoP, the professor would gather all the old and new teachers of CoP to go through the philosophical and theoretical background of the X teaching model. These lecture, would serve as a much needed reminder for the old teachers

of CoP (John, Interview 7).

Lastly, the CoP regularly held workshops itself. In the workshops, teachers introduced their teaching experiences to general PE teachers. John, who was famous for his high-quality PE teaching, had opportunities to present his teaching practices in the workshops. He believed that the processes of preparing for the workshops were helpful to enhance his own teaching quality.

Annually, I participate in the CoP workshops for professional development. In the workshops, it is mandatory for everyone to each present their classes and teachings. Strangely enough, my class planning and teaching practice improved because of these presentations. The fact that you have to present your class during these workshops impels one to do well for a good presentation. I mean it is a kind of putting the cart before the horse (John, Interview 6).

For example, there was a (the CoP) workshop in February last year which I participated in. I could get some fresh ideas in the workshop through experiencing other teachers' pedagogies. In addition, there was an opportunity to talk about each teacher's pedagogies. It was particularly helpful for me to plan my teaching last year, as you know a school year begins in March (Michael, Interview 6).

2) Characteristics

Teachers thought that there were four different characteristics in the professional learning activities supported in the CoP: i) a supportive environment; ii) practical knowledge; iii) sharing the same teaching model; and iv) the professor effects.

First of all, the CoP offered a supportive environment for teachers' professional learning. Teachers thought that the supportive environment was helpful to make the CoP meetings more productive.

For me, being able to meet and form a personal relationship with the other teachers is the best part of CoP. There are a lot of teachers who have a well-known reputation as "good" teachers who I look up to. It is great to be a part of such community to learn with/from and

gain support (Michael, Interview 6).

It (CoP) is a good place to sow the seeds. It is a positive environment to share and discuss new teaching ideas for implementation. Generally, other teachers outside of CoP are skeptical when a new idea is suggested but within CoP, the teachers are open and welcoming to discuss new ideas. They are very encouraging (John, Interview 2).

Secondly, teachers thought that teaching ideas which dealt with in the meetings were practical to develop their pedagogies.

Generally, ideas and discussions generated from CPD programmes are unrealistic but teachers of CoP deal with realistic goals and issues because they talk from first-hand experience in teaching. Also, within CPD programmes there is tension between the teachers to compete with one another, which makes it hard to talk about genuine topics (John, Interview 3).

Usually contents offered in most CPD provisions were things that cannot be directly linked to my teaching, but more general guidelines, but in the (CoP) meetings, things were much more related to my teaching practice and (they were) very specific tips which are based on the members' actual experiences, so the level of application is much higher, it was a big advantage (Judy, Interview 6).

Thirdly, all members of the CoP shared the X teaching model. Teachers agreed with aims of the X teaching model which offers 'whole-person education' through PE. Michael thought that sharing the same educational philosophy was an essential factor.

All teachers, including myself work hard to provide "good" teaching. We all have the same objective to provide our students with a "good" class. I cannot say that teachers of CoP are better than others. The difference found in teachers of CoP is that they have a common philosophical and theoretical background to work from whereas, other communities (to my knowledge) do not have such kind of common concept or framework to work from (Michael, Interview 1).

Moreover, using the same teaching model was also useful to sustain the CoP and to have sense

of belonging.

We are all apart of CoP because of the philosophy of humanities-oriented PE. This central philosophy is essentially what holds this community together. Therefore, even if cannot physically participate in a meeting, we are all connected through this philosophy spiritually which enables us to sustain this community (Henry, Interview 1).

Lastly, the professor acted as an advisor who helps teachers to engage in sustained professional learning.

In order for them to actively participate and sustain their interest to online community I am constantly giving feedback to their works (reflective journal, class report). This activity naturally leads to CoP, which act as a constant reminder to meet regularly and furthermore, provide them with that sense of community (The professor, Interview 4).

In summary, the CoP provided teachers with five different activities for their professional learning and teachers thought that the activities were more or less helpful in developing their pedagogies.

5.2 Character education and its impacts on teachers and pupils

In the previous section, activities supported in the CoP and its characteristics were reported. In this section, how the professional learning impacted on teachers' and pupils' learning is explored. As examined in the research questions, in this study, some specific areas (character education) that are proposed by the national PE curriculum in South Korea are used as a medium for evaluating pupils' learning outcomes. This section, therefore, includes: 1) teachers' changes; 2) pupils' changes; and 3) barriers to character education through PE.

1) Teachers' changes

All the case-study teachers in the CoP believed that character education (CE) was one of the most important aims in their PE lessons. In order to meet the aim, teachers practiced CE through

PE by: i) emphasizing character and CE; ii) developing various CE activities; and iii) developing his/her indirect teaching behaviours (ITB).

Firstly, teachers emphasized the importance of CE by asking pupils to obey basic rules in PE. For example, George and Michael consistently emphasized pupils to be on time.

I tell pupils to be punctual strictly. Although it is difficult to assess or evaluate (pupils' character), but it (getting to class on time) is a promise ... When I compare myself to other teachers, I would say I put more importance on that (teaching character) (George, Interview 7).

School bell rings. Michael yells out to pupils (ten to fifteen pupils) who are late. 'You guys still walk!!'. Michael instructs the pupils to stand in a line. He asked each pupils for a reason why he/she was late, and emphasizes the importance of punctuality; i.e. 'this is the most important rule in our society' (Observation, Michael's PE lesson, 6 October 2014).

In addition, teachers gave pupils corrective feedback when pupils did uncharacteristic behaviors in their lessons.

In handball games, I intervene when a referee (pupil) makes the wrong decisions or pupils make dangerous fouls ... and at the end of each class I instruct them on the importance of caring by saying 'you should always look out for your friends safety and their well-being during the game' then (I think) they learn to look out for these situations (Kimberly, Interview 2).

Researcher: What do you guys think the PE teacher really values in in PE lessons? Any ideas?

All: Character education! (then pupils say the four values together)

B001: Some of my teammates said some slangs when we lost last game. Peter did emphasize the 'pretty communication' (one of four values) and asked us not to use slangs in PE. He always places too much emphasis on the importance of CE rather than teaching sport skills.

All: (laugh) Right, right (B middle school, first grade, 13 years old, Focus Group 1).

Secondly, the case-study teachers developed various teaching strategies. The most common way was to make groups and to give each pupil a role, such as a leader or a scorer. Teachers thought that this way of giving a role was helpful for pupils to have a responsibility.

Because there (in each group) are responsibilities they have to do at least. Though it is quite difficult to assign pupils roles perfectly, I give each pupil a role that they can do as much as possible ... teacher need to make pupils aware of their role so that they can know it would be problems unless they don't do their role ... I think this way of giving a role could work as stimuli in impacting on character (Michael, Interview 3).

In addition, Henry developed a specific teaching strategy named 'echoing four values'. At the beginning of each class, pupils were required to chant four values⁵ that both teachers and pupils should have in PE lessons.

Pupils state that the activity (saying out loud four values) becomes familiar by saying out loud the values repeatedly, and through this the four values become ingrained in their thoughts ... it's almost like saying your ten commandments everyday, if you say it enough you begin to live by it ... in my case, the main aim of the activity is to help pupils practice the four values (Henry, Interview 7).

In the case of John, he made four standing signboards which indicate the four values. At the beginning of each class, he emphasized the four values by using the signboards.

There are four standing signboards in a gym. Each signboard indicates one of the four values of the X teaching model ... School bell rings. Before explaining the activities of today's lesson, John reminds pupils of the importance of the four values by indicating the four signboards (Observation, John's PE lesson, 22 September 2014).

⁵ The X teaching model emphasizes four kinds of values named 'benevolent mind', 'kind behaviour', 'bright look', and 'pretty communication'. The detailed explanation of each value are provided in section 1.2

Steve also developed a teaching activity. Pupils in 'N' high school were encouraged to pick a 'value' (e.g. responsibility, caring or appreciation) and to discuss the value with friends in a group and announce it in PE lessons.

After warm-up exercises pupils get together in a central position in the gym and sit down. It seems like a kind of routine. Steve calls a pupil's name, then a male pupil steps up in front of pupils with a note. Steve introduces today's value and the pupil announces his thought about the value 'appreciation'. After the speech, pupils give a big hand and Steve gives him a card (he calls it 'four values card') (Observation, Steve's PE lesson, 26 September 2014).

Thirdly, 'indirect teaching behaviours' (ITB), as a teaching skill promoted in the X teaching model which asks teachers to behave and speak to pupils appropriately, was also one of the most important factors. The case-study teachers thought that their ITBs had been developed. For example, Steve had difficulties to manage and interact with pupils in the early phase of his career.

I couldn't communicate with very well, I had no problem in preparing class contents for lessons, but I definitely had problems in interacting with the pupils ... Beatings were allowed in that time (laugh). So my solution for communication with the pupils was to punish them during my first couple of years in teaching (Steve, Interview 1).

However, Steve had made considerable efforts to develop his ITBs, and he thought that positive changes occurred in his ITBs.

I used to have no facial expression at all in my lessons, I thought that I had to do (being strict to pupils) to make pupils obey my instructions ... now I smile well in my PE and make some jokes to pupils ... there have been a lot of changes in my character (Steve, Interview 5).

Pupils who were taught by Steve also positively evaluated his character and ways of interacting

with them.

N004: He is genuinely interested in his pupils. He always calls his pupils by their first names when coaching. The pupils feel his interest in them and reciprocate by their trust and adoration for him.

N003: He praises us well, other PE teachers I have met usually give us some activities to do then they do their own works, but he coaches and commend us accordingly and whenever we need help he gives us feedbacks for improvement (N high school, first grade, 16 years old, Focus Group 1).

2) Pupils' changes

Effects of the teachers' CE through PE was assessed by pupils' change, and there were three stages regarding pupils' character development: i) cognitive change in PE, ii) attitudinal and behavioral change in PE; and iii) transfer to sport context or daily life.

Firstly, some pupils were able to recognize the importance of character and CE. However, even though pupils in this stage admitted the necessity of CE, it was not seen as being able to be practiced in PE contexts.

Researcher: So, you guys mentioned that the PE teacher always emphasizes CE through PE. How do these PE classes impact you?

All: Hmm ... (laugh)

K003: In my case, I now am aware of the importance of CE through PE, but it just remind me of the importance. So, I would say it's more just theory than practice.

K004: Right, it is difficult to know what CE is in practice (K high school, first grade, 16 years old, Focus Group 1).

The competitive nature of sports also acted as a barrier for some pupils to behave in the ways the the case-study teachers taught in their PE lessons.

Researcher: You mentioned that the sportsmanship report homework has impacted your

thoughts on sportsmanship. Has it affected your play?

Y007: No

Researcher: No? How come?

Y008: I think because I am so focused on the results, winning that I forget. I don't swear anymore but I don't think I respect or care about the opponent team

Y002: The underlying fact that the opponent is your competition makes it hard to think about or practice sportsmanship (Y middle school, first grade, 13 years old, Focus group 2).

Secondly, pupils in the second stage thought that they were able to have broad-minded attitudes and voluntary behaviors.

When we were playing T-ball (by group), usually girls are not good at hitting, catching and throwing. This is generally typical for all girls... It is hard to be forgiving to girls' misplay, but I try to help by either giving them some feedback and encouragement like, 'don't worry it will be better next time', I think I am becoming more forgiving to them (N002, first grade of N high school, 16 years old, Focus Group 2).

K001: Usually PE teachers bring the basketballs out from the utility rooms for class but (this year) we have been bringing the balls voluntarily

Researcher: Any particular reason for doing so?

K001: He always focuses on CE in PE, and we thought that these kinds of actions are related to character development

Researcher: Did you ever think to do this before, in middle school?

K001: No not really, usually either the teachers bring the balls or they tells us to bring them. But this year we have been doing it voluntarily (K high school, first grade, 16 years old, Focus Group 2).

These pupils' character development, however, could not be applied beyond PE context.

Researcher: How do these kinds of teaching impact you?

Y008: A little

Researcher: A little?

Y008: Well, it depends on the situation (laugh)

Y005: I am reminded of it when I make a mistake

Researcher: Do you ever think about it outside of the PE classes?

All: (silence) ... No (Y middle school, first grade, 13 years old, Focus group 2).

Lastly, few pupils could bring their character development to their daily lives. Pupils in N high school, however, thought that their changed character could be applied to other sports contexts or daily life.

N003: Yes, for example, the activity in which we pick a value in PE helped me to think and practice not only in PE but also other sports circumstances. The week we had the dodge ball final. The class theme was on 'responsibility.' This value helped me to think the value 'responsibility' in depth, like 'what can I do for my team'. So, I actually tried to do my best to help my team-mates to play their best. Learning the values of responsibility thoroughly helped the whole process.

N002: I chose 'responsibility' as my value too. I am the class president and inevitably the role comes with lots of responsibilities. Because I have always been captain of various sports so I had a mind, like 'I need to act as a captain'. However thinking and writing about the value 'responsibility' gave me another good opportunity to think about it deeply. So I could have thought like 'how can I lead my class well' many times (N high school, first grade, 16 years old, Focus Group 1).

3) Barriers

In this project, some barriers to CE through PE were also discovered. Firstly, pupils at high schools thought that CE through PE began too late. Pupils believed that being taught CE through PE alone was not enough to develop their character.

I think CE should start earlier in elementary and middle school. Because I believe it is difficult to make characteristic changes to high school pupils as they have already begun

establishing their own thought and idea on character (K004, first grade of K high school, 16 years old, Focus Group 2).

This barrier was usually combined with a condition that CE was not conducted in school contexts. Pupils thought that there was no CE in their school contexts and even if some types of CE were conducted it did not impact on their character.

S005: Yes there are a lot of teachers who value the importance of CE. However, CE is usually taught through the utilisation of videos and many pupils don't watch (the video)

S006: It does not work

S004: There is no distinctive CE in our school. It is mostly the duty of homeroom teachers' giving characteristic feedbacks to pupils. I however, do not think that there is only one method for CE (S middle school, third grade, 15 years old, Focus Group 1).

Secondly, it was difficult for CE through PE to have continuity. In South Korea, two to three PE per week are provided in secondary school contexts. Pupils thought that being taught two to three PE were not enough in making significant changes in their character.

K004: It takes at least two years of daily PE in order to acquire such virtues. A sort of brainwashing is needed.

K003: Right, right.

K004: These virtues regardless of classes should be acquired in their daily lives.

K003: It takes a long time (K high school, first grade, 16 years old, Focus Group 2).

Lastly, some pupils had negative perspectives on CE through PE. They thought that PE supposed to be consisting of physical activities and sports. From their perspective, developing various sports skills and having a fun time were more important than CE through PE.

B002: It (CE) might be important to those PE teacher who practice CE in their classes, but

we learn character through Ethics class.

B001: Those who do not teach CE in PE may confuse those who do as an Ethics teacher rather than a PE teacher.

B002: I don't think that he needs to teach CE in PE..

B001: In PE I want to just focus on PE (B middle school, first grade, 13 years old, Focus Group 1).

In particular, male pupils who were good at various types of sport did not like some activities of the X teaching model. Peter thought that they did not understand meanings of the X teaching model, and sometimes he experienced conflicts with pupils.

They don't think this (CE through PE) is useful to them, rather having much time to do sport or free time is much better. Watching, reading and writing something don't suit their constitution. To them, it is meaningless. So we often have conflicts (laugh) ... (pupils say) why we do it? Rather let's do football or dodgeball (Peter, Interview 7).

In summary, the case-study teachers practiced CE through PE by developing new activities and their ITBs. As a result, pupils' learning outcomes followed the three stages: cognitive changes in PE; ii) attitudinal and behavioral changes in PE; and iii) transfer to sport context or daily life. Different kinds of barriers to CE through PE, however, were also discovered.

5.3 From teachers' learning in the CoP to pupils' learning outcomes

This chapter has reported: i) what kinds of activities were supported in the CoP for teachers' professional learning (section 5.1) and ii) how the activities impact on teachers' teaching practices and pupils' learning outcomes (section 5.2). In this section, an example (Michael) of tracking of teachers' learning from the CoP to pupils' learning outcome is reported.

As reported in the Michael's vignette in the previous chapter, he placed a high value on the CoP meetings and thought that activities of discussing and sharing each teacher's pedagogies in the

CoP was particularly helpful to him in developing his lessons.

I have tried not to miss a single meeting of this CoP. Having talks about pedagogies with members has been particularly helpful to plan and develop my teaching. A lot of ideas and feedback actually I was able to get last year. For example, conducting lessons which integrate cheerleading and drama would have not been possible without sharing members' pedagogies (Interview 1).

Along with the CoP meetings, Michael thought that the activity of writing and reading PE diaries was also helpful, not only to develop his pedagogies but also to receive stimuli from other members.

As you saw our online café, we write and read the PE diaries. It makes me reflect on my teaching and I got some stimuli through reading others' diaries. For example, Charles (a member) is quite good at writing the diaries, so I got some positive stimuli through reading his diaries. For example, I could think, like 'Ah! his PE is structured this way' ... These parts are the most important things, I mean this CoP makes me think about my teaching continuously at least (Interview 1).

In addition, the SRC gave Michael opportunities to reflect on his ways of speaking and interacting with pupils, and his educational beliefs.

Actually, I barely read books completely (laugh) because of lack of time. Basically, the SRC has a focus on teaching, PE, educational philosophy or ways to interact with pupils. So, we normally talk about teachers' attitudes or behaviours to pupils or such as 'how could we apply the content of books to our pedagogies' ... so I was able to look back at my attitudes and behaviours to pupils in lessons and sometimes I ask myself whether I've offered something valuable to pupils (Interview 4).

Michael's learning from the CoP influenced his teaching practice; for example, he made some changes to his pedagogies. Michael organised pupils into four groups and used the four values of the X teaching model as the name of each group.

School bell rings. Pupils come and naturally make four rows and sit down. It seems a sort of routine. Michael calls the first group named 'benevolent mind', pupils who sit on the first low reply 'yes, we all have come'. The same procedure was repeated to the other groups (other values) ... Michael explains today's activities 'both groups of benevolent mind and kind behavior will do forward roll first, bright look and pretty communication will do speed stacks first' (Observation, Michael's lesson, 30 September 2014).

Along with the changes in his pedagogies, Michael consistently emphasized the importance of the four values thorough giving pupils some feedback.

Pupils have been practicing forward roll on two mats. A female pupil says 'Damn! I've failed again'. Michael notices and go the the pupil. He says 'What did you say?' with a smile and pretends to punish the pupil humourously. He then teaches the pupil, 'You know we need to use pretty communication in PE rather than using slangs like that, I hope you use nice words' (Observation, Michael's PE lesson, 30 September 2014).

In addition, Michael also made a lot of effort to develop his ITBs which is one of the important teaching skills of the X teaching model. For example, in order to show his positive interaction with pupils, he made a name badge and hung it around his neck during lessons.

Michael is hanging a name badge around his neck. 'No display of annoyance' is written on the name badge ... a pupil asks Michael 'what is this name badge?' with a smile. He says 'this is a kind of my effort to avoid showing my frustration, you know I recently have shown some frustration, so I've decided to avoid it, isn't it cool?' (Observation, Michael's lesson, 6 October 2014).

As you saw the last lesson, I made this (the name badge) and hung it around my neck during lessons. It is a sort of promise with myself. Recently some administrative work made me frustrated, so I always make sure not to show annoyance before going to each class by hanging this badge ... because the CoP and the X teaching model place higher value on ITBs. Hmm, before joining the CoP I thought that my ways of interaction with pupils was one of important factors in my lessons, but now I regard the ITB as a more important factor in my lessons (Interview 5).

Both developing pedagogies and his ITBs impacted on pupils' learning outcomes. For example, some pupils commented on the use of the four values of the CoP as the name of each group.

Because he named our group 'pretty communication'. It made me reflect on the ways of my speaking, for example, whenever he called our group's name 'pretty communication' it pricked my conscience. So, I think that using the four values for naming groups throughout a year has worked (S001, third grade of S middle school, 15 years old, Questionnaire).

In addition, some pupils thought that Michael's continuous emphasis on CE through PE and his effort to show positive ways of interacting with them was helpful to the development of their character.

S002: he (Michael) has always emphasized the importance of punctuality and showing good manners.

S004: Right, he hates being late and not behaving in a good manner. But, except both, he is very humorous and kind, and he is also accepting of other things, for example, in my case, just for fun, I butted his back (laugh) and he pretended to be dead (laugh).

S006: I can know that he has been trying to show good manners to us. The name badge 'no display of annoyance' is really funny (laugh). I've never seen any teachers who make an effort like that (third grade of S middle school, 15 years old, Focus Group 1).

His consistent emphasis on character education has reminded me of the importance of having and showing good manners. I may know why I need to respect my friends and to show good manners, so I actually showed members of group my respect to them (S003, third grade of S middle school, 15 years old, Questionnaire).

In summary, Michael was able to develop his pedagogies and ITBs from activities supported in the CoP, including the CoP meetings, writing and reading the PE diaries and the SRC. The changed pedagogies and his ITBs impacted on pupils' learning about character development.

5.4 Ways of identifying teachers' professional learning

In this section, ways in which teachers identified their professional learning are reported.

Teachers identified their professional learning by recognising: 1) changes in the process of preparing lessons; 2) changes in pedagogies; 3) changes in teaching practices; 4) pupils' responses; and 5) feedback from school parents and colleagues.

1) Changes in the process of preparing lessons

Teachers were able to identify their professional development by recognising changes in the process of preparing PE lessons. For example, Michael was able to have a different attitude where he invested more time in the process of preparing his lessons.

I would stay late at school to sort through and upload pictures that I took from the PE classes for the pupils to respond to. I enjoyed our communication outside of class to which the pupils also seemed to enjoy too. During this time, I would also plan for lessons for the next day so I would only leave the school around 9 pm. But it never felt late for me, like the saying goes "time flies when you are having fun." As much I was having fun, I was also improving and developing my work (Michael, Interview 5).

Being more skilled in preparing teaching could be one of the clues in identifying teachers' learning. John thought that his capacity to prepare his lessons had been developed.

In the beginning, it took me about an hour to prepare for a lesson. This preparation time reduced to half that time to 20 minutes in my 10th year of teaching. The experience allows you to know precisely what you need and become efficient and make you spend less time on unnecessary preparation. I have become to know exactly what is needed for each lesson for both the students and myself (John, Interview 5).

2) Changes in pedagogies

Identifying changes in teachers' pedagogies was an important way to evaluate professional learning. First of all, teachers thought that their teaching qualities were raised by offering new sport subjects or physical activities.

Hmm... first of all, I started to attempt new sports or activities that I never tried before. If I hadn't joined CoP I would've never thought to try new activities, and I would have just repeated activities illustrated in the PE textbooks. I think going beyond the textbook is very important because I can offer diverse activities to pupils to learn. Generally, PE classes are similar from year to year if the teacher only utilises the activities within the PE textbooks (George, Interview 3).

For example, you know we (secondary school PE teachers) need to teach folk games because of the national PE curriculum. But you know it is really difficult to teach the folk games 'entertainingly' ... I developed an activity which combines uninteresting folk games and interesting activities which is very popular for pupils these days. You know these games are on a very famous TV programme so all pupils are familiar with them. Pupils this year have really enjoyed the activity which I developed (Kimberly, Interview 6).

In addition, in the case of John, he made some changes to traditional way that general PE teachers used to assess pupils' levels of sport skills. He believed that his basketball teaching quality had been dramatically enhanced by changing the ways of assessment.

In the past, only scores mattered. Scores were utilised as an assessment criteria. I used to assess pupils' lay-up shot by their movement and success rate. But I thought that I needed to make some changes to the ways of evaluation in order to make pupils exercise more and learn basketball skills in depth understanding. Now I assess the skills by time record. When you think about it, forms or movements is not necessarily the only aspect needed to play well. After the change in assessment criteria (by time record), because they need to complete all the tasks as soon as possible, pupils naturally tried to dribble lower and shoot fast and correctly understanding that this was the way to improve their time record. Improvement in assessment is one of the big different things in my teaching (John, Interview 5).

3) Changes in teaching practices

Along with changes in pedagogies, teachers identified professional learning by recognising changes in their teaching practices. In the case of George, he believed that his attitude to pupils in PE lessons could be an important medium to identify his professional learning.

PE supposed to be fun, you know, if a PE teacher get angry pupils wouldn't enjoy the lesson. This is what I've recently realized. I have taught this pupils (3rd year) for 3 years. I used to scold pupils. So, the first lesson this year I committed to pupils like 'I won't be angry any more, I promise' ... things are much better this year. I have a feeling pupils open their mind. My interactions with them has been nice, I would say. This part is also an important thing to self-evaluate my lessons and learning (George, Interview 7)

Pupils who have been taught from George also thought that his attitude and behaviours had been developed.

P001: There have been a lot of changes in his character.

All: Right (laugh).

P004: There have been no change in content of lessons. Rather, a lot of changes in his personality, I mean his attitude to pupils.

Researcher: Would you guys give me some examples?

P002: (laugh and hesitation) He used to give punishment or to cuss even if we did trifling errors, but much more gentle this year, for example, he just tries to encourage us not to do errors.

P004: He used to have emotional ups and downs. Generally his characteristics in PE lessons much nicer this year. And he has tried to listen to us this year, surely.

4) Pupils' responses

From teachers' perspectives, pupils' responses to their lessons were the most decisive factor to evaluate their professional learning. The case-study teachers regarded pupils' levels of engagement in lessons as the most decisive factor.

Recently, I have felt that I am connecting well with the pupils. This is evident in the pupils' work. In class, pupils are motivated and encouraging to their peers. It is a good class atmosphere, outside of class, pupils are diligent about journaling PE, and furthermore, they seem to value the PE diary. With such positive energy the class has that "alive" feeling. But when the connection is not there between the pupils and myself, the class has that heavy

“dead” feeling (laugh) (Steve, Interview 7).

I think that the most important factor to identify in my lesson is ‘the atmosphere of lesson’. Of course, there could be other clues such as ‘teachers’ efforts to make good lesson’ or ‘quality of pedagogies’. However, my experience has shown me that the atmosphere is the most important factor (in evaluating lesson’s quality). Normally, it contains bright mood, positive relationships between me and pupils, and pupils’ level of engagement in my lessons (Michael, Questionnaires).

Moreover, teachers received positive/negative feedback that pupils made at the teacher competency evaluation⁶. Teachers judged their teaching practice by reading pupils’ statements.

Researcher: Do you mean the ‘teacher evaluation’?

John: Yes, pupils evaluate it during this period, the pupils are very honest and critical these days. These evaluations help reflect on my teaching. Mostly I do receive positive feedback. However, there were times when pupils mentioned about the time when I hurt their feelings and when I was late for class (although it was not my fault). I do try my best to take on these comments and not to make the same mistakes again (John, Interview 5).

After those experiences, the pupils are deeply engaged in PE and further, they enjoy it a greater deal. Pupils’ ask to extend the class time and they ask me to teach them again the following year ... This makes me evaluate my teaching (Judy, Interview 7).

At the end of every school year, I ask pupils to evaluate my teaching and the class. Pupils have criticised the times I have cursed in class (laugh). Some feedback on how friendly I was, other feedback, on how they thought I thoroughly planned my lessons. Pupils are really honest ... Both the compliments and criticism aid me in reflecting my teaching (Kimberly, Interview 6).

A female pupil wrote in the teacher evaluation, like ‘I thought that the X teaching model

⁶ Teachers in elementary/secondary schools in South Korea need to be evaluated their competency and professional development by pupils, parents, and co-workers once a year.

would be interesting and special, but it had not been very different from previous lessons I got in the grade 1 and 2'. I was shocked and made a reflection, like 'Ah! I just emphasized the CE through PE by using my words, but didn't offer appropriate activities for pupils' (Michael, Questionnaire).

5) Feedback from school parents and colleagues

Teachers also received feedback from parents at the teacher competency evaluation. Although parents' response rate was not as high as pupils' response rate, it could offer clues to evaluate their teaching quality.

I received many positive feedback from pupils. And I scored higher on my 'teacher evaluation' last year (laugh). Some parents specifically commented on the positive effects of the X teaching model on pupils. These positive evaluations give me a sort of affirmation that I am making an impact on pupils and even to their parents through my teaching (Henry, Interview 4).

In addition, receiving co-workers' feedback or compliments about teaching were also helpful to identify the enhancement of their pedagogies. For example, Michael invited his co-workers to watch pupils' performance and he received positive feedback.

Last year, I integrated drama and cheerleading... All the teachers who observed the class provided good responses. Teachers complimented on the integration of another subject with PE for effective learning ... The responses of the other teachers felt like an evaluation to my teaching and I felt that I was on the right track (Michael, Interview 2).

In summary, teachers could identify their professional learning supported in the CoP by a number of channels. Above all, pupils' responses were the most important factors to identify changes in their professional learning.

5.5 Changes in types of professional learning

The fourth theme is about changes in types of professional learning supported in the CoP. As a PE teacher learning community, developing and sharing teachers' pedagogies was one of the

important goals of the CoP. The ‘main’ way of professional learning, however, had changed since 2003.

1) Developing pedagogy together

In the early phase of the CoP (2003 – 2006), the main way of professional learning of the CoP was ‘developing pedagogy together’. The X teaching model was developed in 2002 by the professor. In this phase, therefore, there was no unified format or guidelines for using the X teaching model so that teachers were asked to create a new teaching plan format.

At first, we didn’t have a framework for the X teaching model, so there was a need to first make the framework in order to identify the educational contents accordingly. It took several years to create a basic framework that could be applied to all sports. We had to carefully build the framework to incorporate direct and indirect teaching and learning, how each station would be operated, and finding materials took many years. It really was a hard work because it was a completely new teaching concept. We really did make 99.5% of the framework from nothing. But now that the framework exists planning for weekly classes and finding appropriate material have become much easier because we went through all of this process (Peter, Teachers’ Focus group).

Teachers were also asked to develop a range of learning activities that fit with the X teaching model. The main activity of the CoP meetings, therefore, was developing new teaching strategies.

In order to teach volleyball various (teaching and learning) episodes were required. For example, some new activities to teach underhand pass were needed, and also we thought that what kinds of teaching materials that pupils could watch and read needed to be prepared ... making some ‘activity packages’ was the main thing during the phase, and we were offering them to pupils, then made some changes to the packages (John, Teachers Focus group).

In this phase, the developed teaching strategies were then applied to each teacher’s school context. Teachers practiced the teaching activities and shared their teaching experiences of trial

and error in the other CoP meetings. Through this process, teachers were able to refine the developed teaching activities.

When I first joined the CoP, Sue (a founding member) was already teaching step exercise. She developed and adopted three basic movements that she was utilising in class. She asked me to further develop the step exercise based on these movements. I eventually made ten movements for step exercise that students could easily follow and perform. I didn't expect other teachers would apply the step exercise movements when I was developing. Most members actually used the ten movements and they praised the movements I made (Judy, Interview 5).

This process of learning was helpful for teachers to develop their pedagogies. The case-study teachers thought that this kind of professional learning was practical and relevant to enhance their teaching quality.

Usually contents offered in most CPD provisions were things that cannot be directly linked to my teaching, but more general guidelines, but in the (CoP) meetings, things were much more related to my teaching practice and (they were) very specific tips which are based on the members' actual experiences, so the level of application is much higher, it was a big advantage (Judy, Interview 6).

2) Learning from existing members

As the CoP and the X teaching model had gradually become known to general PE teachers, 6 teachers (as the second group in 2006), 9 teachers (as the third group in 2009), and 10 teachers (as the fourth group in 2011) joined the CoP in order to learn the X teaching model. Thus, there was a necessity for existing members to support the new teachers those who were not familiar with using the X teaching model.

A few years ago, I was asked to present the X teaching model to general PE teachers. The host provided me with an assistant, Michael for the day. During our travels to and from the workshop he continuously asked me about my experience using the X teaching model. I feel that I am still in the process of learning, so I was only able to answer from my first-

hand experiences teaching the X teaching model (Judy, Interview 5).

Along with receiving tips about using the X teaching model, the new teachers were able to receive general teaching ideas from the existing members. For example, both John (13 years of teaching experiences) and Michael (6 years of teaching experiences) helped George who started his career in 2012 to develop his pedagogies.

When I prepared for volleyball classes, I asked John questions like ‘what kinds of activities would be appropriate for girls those who dislike physical activities?’ or ‘how much time is required for middle school pupils to practice underhand pass?’ ... Michael had taught tinikling dance the previous year which was well received by the girls, so I asked for specific information about preparing the tinikling dance classes, such as, where to acquire the bamboos. Michael bought real bamboos, he told me that they are really expensive ... to which he further provided with information that utilizing PVC pipes as an alternative though they are not that sturdy (George, Interview 3).

Most of the third and fourth groups of teachers had the same expectation that they were able to learn specific pedagogical skills to use the X teaching model from the existing members. After joining in the CoP, however, it was very difficult for them to have the type of learning.

There was no activity to share specific teaching strategies such as ‘how to make groups’ or ‘how to assign activities to each group’ in the meetings ... I wanted to acquire specific ideas and strategies. I knew the theory of the X teaching model but I absolutely had no idea on how to apply it to class context. Other teachers who joined during that time had similar concerns. They all wanted learn the method for application of X teaching model (Henry, Interview 4).

There was no activity for sharing each teacher’s pedagogies or teaching practices in today’s CoP meetings. Rather, members have discussed ‘A’ project which the professor developed this year ... the professor summarizes today’s meeting and asks Laura (another member) to check the accuracy or relevance of questionnaire which was developed in order to get pupils’ responses (Observation, CoP meeting, 25 October 2014).

3) Reflection

Recently, there had been a sudden transition in terms of way of professional learning in the CoP. When the fourth group joined the CoP, both the first (developing pedagogy together) and the second (learning from existing members) types of learning were no longer the main type of professional learning in the CoP.

Instead, teachers learned through somewhat individual ways. For example, Henry who joined the CoP in 2011 reported that he enhanced his teaching quality through his sustained reflections on his teaching through engagement in the activity of writing PE diaries.

The biggest growth for me this year I believe is personal development. The improvement in my teaching is not due to the help from the CoP, but I think it is more from writing the PE diaries (about my teaching). The biggest part is my personal things. In particular, a lot of changes has been in this year, among them, the fundamental thing is that I feel I may have had some educational philosophies. I have a feeling that I may have found something authentic meaning of the X teaching model, but this thing is based on (writing) my PE diaries and something reflexive thought about my teaching (Henry, Interview 5).

This shift from ‘developing pedagogy together’ or ‘learning from existing members’ to ‘reflection’ was interconnected with some contextual factors. Firstly, a huge amounts of teaching materials had been accumulated in the online café so it was easy for teachers to access the materials.

Searching through the online café is the main approach I utilise to prepare teaching. At the beginning of the each school term we also share teaching ideas and confer on our class plans for the term. But I realised that at the end of the day no material or any number of discussions can entirely prepare you for teaching (George, Interview 5).

Secondly, there had been increased ‘external activities’ in the CoP. As the CoP had become well known to general PE teachers and the public, it could receive some additional opportunities,

such as reporting their teaching to general PE teachers in workshops or writing secondary school PE textbooks. Under these circumstances, teachers were not able to invest the same amount interest and time in the first and second types of learning. Some teachers felt, therefore, that developing their pedagogies was no longer the main activity in the CoP.

Teachers of this CoP are being invited to give lectures and presentations with much gained external attention. Each time, when anyone is preparing for it we gather and help out with the preparation. So more and more, the CoP meetings are turning in to preparing for the presentations rather than studying about teaching (Steve, Interview 5).

For the founding members, in the beginning, they had already learnt the X teaching model at school through regular classes in college. When they became teachers, they would meet once a week, every week to discuss the implementation of the X teaching model with the professor. I mean this is the kind of interaction that I expected from the CoP when I joined. But in reality it wasn't so (George, Interview 3).

Along with these external activities, some internal projects which the professor had developed also influenced the phenomenon of losing focus on the activities for developing pedagogies together in the CoP meetings.

Clearly the focus was on teaching in the past. The study meetings were fundamentally to discuss the implementation and development of the X teaching model and the quality of teaching. Of course we still talk about teaching (in the meetings), but, how can I explain, (hmm...) (helping with the professor's) projects are the central focus at the moment. In a way the projects are linked to my teaching and classes, but the level of relevance to the teaching of the X teaching model has clearly decreased a bit and it is rather disappointing (Judy, Interview 2).

All the case-study teachers had concerns about this phenomenon and thought that focusing on the first type of learning should be the main activity of the CoP.

Some works during the CoP study meetings are not something that is completely related to

our work in teaching. But it is really frustrating for me because I am quite new to the X teaching model. I am still learning to grasp the theory for implementation. Thus, I really need these CoP meetings to focus on discussions on teaching and classes of the X teaching model. With each study meeting, less time is spent studying the X teaching model. ... I am rather disappointed with this situation. I know that it's not only myself that feel this way about the study meetings. We all hope that the study meetings retrieve its fundamental objective (Michael, Interview 6).

I wanted to get practical ideas which are helpful to use the X teaching model and general teaching 'knowhow' from existing members, and this is the reason I joined the CoP. These kind of ideas were partly dealt with in 2011 ... Recently, I shared pedagogies with co-workers in my school. I think that sharing pedagogies should be the most important part of the CoP (Kimberly, Questionnaire).

In summary, in the early phase in the CoP, developing pedagogies together was the main way of professional learning. Then, as new teachers joined the CoP, the type of new members' learning from existing members was added. However, the CoP had lost something of its collaborative learning because of some contextual factors. The case-study teachers had the same concern about this phenomenon, and thought that the first and second types of learning should be the main activity of the CoP.

5.6 Internal factors influencing teachers' engagement in the CoP

There were different factors which influenced teachers' willingness to engage in the CoP. In this section, five different factors: 1) changes in personal life; 2) losing focus on pedagogy; 3) intimacy; 4) no stimuli; and 5) difficulties to attending the meetings are reported.

1) Changes in personal life

First of all, changes to each teacher's personal life impacted on his/her engagement in the CoP. In particular, female teachers had powerful difficulties to engage in the CoP when they married or gave a birth.

Yes, everyone's reasons are different. For example, in the case of female teachers, marriage and birth is a factor that hinders female teachers to attend CoP. It really is hard to time manage between both family and work. But they all do eventually come back once the children are older (Kimberly, Interview 3).

In addition, changes in positions in school contexts also impacted on their engagement in the CoP. For example, after Peter became a research director in his school his engagement in the CoP was somewhat limited.

This could be a reason. In the beginning it was all very exciting to be a part of CoP. I was very enthusiastic and I was committed. I wanted to impress the professor and I really did work hard. But with more commitments and larger workload at school restricts me to regularly attend meetings of CoP (Peter, Interview 7).

2) Losing focus on pedagogy

As reported in the previous section (5.5), teachers thought that the CoP has lost something of its collaborative focus on sharing and developing pedagogies, and this influenced teachers' levels of engagement.

When the primary focus of CoP was on the X teaching model, I hardly missed a study meeting. Recently, the focus has shifted from the X teaching model to other activities or the professor's current interests of research. This change of focus has made me lose interest in attending the meetings (Judy, Interview 3).

It (no feedback from existing members) was also a problem. There were several teachers who wanted to learn specific tips of applying the X teaching model to their lessons ... But some teachers were disappointed in the circumstances and ended up quit this CoP (Henry, Interview 5).

3) Intimacy

Levels of intimacy between members also impacted on teachers' engagement. For example, George could not feel a sense of closeness with members when he joined the CoP in 2012. Over

time, as he had attended in the CoP meetings he could feel personal interactions with members and this impacted on his level of engagement.

I have had a feeling that I now stand inner space of this CoP. I have been attending the regular CoP meetings, and in doing so I could share something personal with other members. This part has made me more comfortable and think like ‘this CoP is really helpful to me’ (George, Interview 3).

Contrary to the case of George, however, Judy felt difficulties in interacting with new members and it acted as a barrier for her to attend the CoP meetings. In line with this, she suggested a way to enhance levels of closeness for the development of the CoP.

When I first joined, the professor and older members encouraged members in the same area to get together regularly to become better acquainted with one another but more so, to form a small community that was easily accessible with no distance constraints in attending meetings... but unfortunately it was not successful (laugh), but anyway they tried to better acquaint teachers. There are no longer any such efforts therefore, I barely know the new members and this makes me hesitate to attend the meetings. If I make a suggestion (for this CoP), we need to break the ice between the unfamiliar members to create a more intimate atmosphere. And for this, trying to have smaller group meetings according to similar areas would be helpful (Judy, Interview 3).

4) No stimuli

For some experienced teachers, offering fresh activities was an important issue. For example, both John and Peter pointed out that fresh stimuli were needed for them to go to the CoP meetings.

John: Now that you ask, frankly, the contents of the study meetings have become uninteresting.

Researcher: What do you mean by “uninteresting”?

John: Well, initially, the meetings provided us comfort, support, motivation but now, well it’s like this, as a founding member there is less and less we can take from the

meetings. But for the newer members, they have much to learn from our experiences because we have been through what they are currently going through by newly teaching X teaching model. In other words, nothing seems new, as the saying goes, been there, done that. I think a lot of the founding members have lost that passion (Interview 1).

We need something fresh. Especially for us such as John and Alex (another founding member). Of course we had developed a lot in terms of our pedagogies through the CoP meetings ... Actually, it (the CoP meeting) is uninteresting now. Of course I need to do my best to make my teaching good, but honestly I have lost my passion. Because I have done it repeatedly. I think that we (founding members) have to find activities which we can invest in (Peter, Teachers' Focus Group).

5) Difficulties to attending the CoP meeting

Lastly, geographical issues also influenced teachers' attendance in the CoP meetings. As a teacher learning community located outside of single school, the CoP had difficulties to have a fixed place for the meetings. Moreover, all teachers lived in different areas so that selecting a meeting place every month an important issue.

The meetings were generally held at the professor's school or other members' schools in Seoul. The distance is a big burden especially because my school is not in Seoul but in the outer skirts of Seoul. The meetings during the week are generally in the evenings, which mean that I have to drive through rush hour. So in other words even if I tried I would never be on time. If there were to be regular meetings, I think that for it to work there would have to be smaller meetings according to similar areas (Judy, Interview 2).

Because I worked at a school in a Suwon (a satellite town) I felt difficulties to go to the CoP meetings which were held in Seoul. So sometimes I wouldn't go because of the distance. In my case, the meetings used to seem pretty distant both mentally and physically (Steve, interview 1).

In summary, teachers' levels of engagement in the CoP was influenced by factors including personal lives, losing focus on pedagogy, intimacy, offering fresh activities, and geographical

matters.

5.7 Family-like community and its impact

Since the creation of the CoP in 2003, it had formed a unique climate. In this section, some factors which had formed the environment and its impact on teachers' professional learning are reported.

Most teachers and the professor regarded the CoP as not only simply a PE teacher learning community, but also 'a community like a family' in which members shared their personal lives.

Researcher: You mentioned that CoP meetings were similar to that of a family gathering, could you specify or give an example as to why you feel this way?

Steve: In a way that we are involved in each other's life like that of a family, not only workwise but also personal stuff too. There is a strong bond between us and the support we give each other is very unconditional. For example, I invited all the members to my house for dinner and it is rare for me to invite colleagues to my home. In other words, I don't think of them as mere colleagues (Interview 6).

There were different factors which had formed the family-like atmosphere. Firstly, some teachers (13 of 35) graduated from the same university and were taught by the professor. Their relationships, which were built in the university, was one of the important factors to form strong sense of community.

First of all, the fact that the majority of them attended the same university, and studied under the same teacher are strong contributing factors in explaining high levels of intimacy amongst CoP members. On top of this basis, they are all walking the same career path as a PE teacher. I think under these circumstances it a strong bond is inevitable (the professor, Interview 4).

Secondly, after the creation of the CoP, members had experienced traditional events. For

example, teachers visited the professor's house to have the New Year's bow⁷ every year.

Peter: I am not sure if this could be an example (that demonstrates our close relationship), but every year on new year's day, we all visit the professor at his home to pay our respects and wish him a good year. We have done this without fail since we established the CoP in 2003.

Researcher: All the members?

Peter: Yes, it is a (CoP's) tradition. We eat lunch with his family, we chit chat like one big family. This tradition is very endearing to me. On occasions like this, I feel that we are more than that of colleagues but more a family (Interview 4).

Thirdly, sharing members' personal lives also could be a way for them to feel higher levels of intimacy. Teachers had experienced members' wedding events or funerals of members' parents or had celebrated members' personal success.

We share our lives, not only work related matters but our personal matters as well. We support each other through hardships and success. For example, we celebrated when Kay (a member) gave birth and when Ben (a member) became a lecturer. And every year on Teachers' Day, we all visit the professor to express our gratitude (George, Interview 6).

For example, my criteria of assessing closeness in a relationship are those whom I have shared personal events such as, weddings, birthdays and funerals with. And members of CoP are friends whom I can rely on and are the first people that I think of for support when the going gets tough or even to share good news (Judy, Interview 4).

Lastly, sharing the X teaching model was also an important factor to unite teachers. Some teachers thought that the X teaching model was the most decisive factor of the CoP.

Sharing the same educational philosophy and specifically, the X teaching model is certainly a key factor to the strong bond within CoP. A group of people that belong to a community

⁷ It is a traditional activity which people perform in Lunar new year. Younger members of a family perform deep formal bow of respect to older members.

with the same career and passion is unique. I think that the bond among the members wouldn't be as strong if there were any conflict of interest (Peter, Interview 4).

You know we have many types of work in the CoP, such as doing some projects, holding workshops or writing PE textbooks. Sometimes I feel a burden to be involved in all the works. But, because we all have a belief that we share the same educational philosophy, this is a big part (Henry, Interview 3).

Teachers thought that the atmosphere was helpful to develop their pedagogies because it gave them comfortable feelings. For example, George was able to have a feeling that he was being supported through experiencing teachers' mutual sharing about their personal stories.

A week ago, Alex (a member) posted his current issues on the online café. He complained about his students and the relationship problem he was having with the head teacher. The content of the post was very personal. Normally, in such a community people would remain very professional and would post online with work related queries. This is evident that we are all very comfortable with one another to share personal issues. We all responded and sympathised with him of course. It is a very tightly knit community and we feel the support from one another, which is very comforting (George, Interview 6).

The atmosphere was also applied to the CoP meetings. As a result, each teacher able to give his/her opinions easily.

It (CoP) is a good place to sow the seeds. It is a positive environment to share and discuss new teaching ideas for implementation. Generally, other teachers outside of CoP are skeptical when a new idea is suggested but within CoP, the teachers are open and welcoming to discuss new ideas. They are very encouraging (John, Interview 2).

Today's meeting begins and members share their personal lives very freely and under in a very comfortable mood. Alex begins to talk about his new school context and his wife. Peter makes a joke 'you need to do more, the good old days are gone now!', and all members laugh. While discussing the A project both Alex and Peter make jokes and other members laugh and respond positively (Observation, CoP meeting, 28 March 2015).

It was helpful to sustain the CoP over the more ten years. The professor thought that the comfortable climate was an essential factor which led to the CoP's development and continuity.

The meetings do not feel like an obligation when you are close to one another like we are in the CoP. This is a great upside of CoP. The meetings are like a family reunion where we can talk about everything whether its work related or personal matters. I think this has been the strongest link to the continued meetings of the CoP (the professor, Interview 4).

However, contrary to the positive impacts of the atmosphere on teachers' professional learning above, it had limitations. That is, some teachers thought the atmosphere was 'too' family-liked so that members could not be critical of each other.

It's like, we prefer to give each other positive feedback. We rarely criticise one another, even if we do criticise, its constructive criticism. We try not to attack or hurt one another with negative criticism so that with every feedback we can approach our work constructively (Peter, Interview 4).

As a result, even where some teachers did not take their responsibilities appropriately, teachers could not be critical.

It seems that deadlines are hard to keep among the teachers (of the CoP). Working with one another would be a lot easier if deadlines were kept. The CoP does not have any penalty for not keeping deadlines. We tend to work with what we have received (by the deadline) and we have managed which may be the reason for the lack of penalties. Regardless, I think this aspect illustrates that work is not forced upon but rather it is done voluntarily in the CoP (Henry, Interview 6).

In summary, the CoP had formed the family-like atmosphere by developing traditional events, sharing personal lives and using the same teaching model. Although the atmosphere had a limitation of not being critical of each other, it was felt that it positively influenced teachers' professional learning.

5.8 Different roles of the professor

The CoP was created by a professor who majored in sport pedagogy and PE teachers. One interesting part is that the professor had two types of roles in the CoP: 1) an advisor and 2) the actual leader. In this section, both roles and its impacts on teachers' professional learning are reported.

1) An advisor

Like any other organizations or communities, necessary regulations to manage the CoP were made when it was created. In terms of members' positions and roles, teachers and the professor decided that the professor took a role of 'an advisor' and an elected teacher took 'a two-year term president'⁸. Therefore, the professor had been working as an advisor and Steve had been working as the sixth president since 2014.

As an advisor, the professor provided teachers with a range of support. Firstly, he had offered members teaching ideas or information.

Firstly, I offer a direction. I lead them as a mentor or a coach. I encourage them, I advise them. I develop and share teaching ideas such as, idea A, B and C for their professional development (the professor, Interview 4).

He is always making an effort to improve PE and he involves us in this process, which instigates our thoughts on improving PE too. With this, he creates an atmosphere to constantly strive for the better (Peter, Interview 6).

Secondly, similar to offering teaching ideas above, the professor helped teachers to have opportunities to introduce or present their pedagogies or to be involved with other types of professional development such as writing PE text books. As a result, some teachers could

⁸ Both Peter (2006-2007) and John (2010-2011) worked as the president of the CoP.

develop reputations in the field of PE and some of them could make appearances on TV.

Furthermore, I offer them opportunities outside within the wider community of PE. For example, I recommend them to events and organizations to give a presentation on the X teaching model, which provides them the opportunity to signify their roles within CoP. (the professor, Interview 4).

He gave us (including John) many opportunities to introduce our pedagogies in many workshops. We were lucky. Through engagement in the activities, I could get confidence, courage or responsibility during that time ... so we could make appearances on TV (Peter, Interview 1).

Lastly, the professor set a good example for teachers. Teachers thought that the professor's character and his ways of interacting with them influenced their willingness to engage in the CoP and professional learning.

John: He lives by his teachings. The philosophical theory that he pursues is demonstrated in his PE classes and furthermore in his daily life. Through this we naturally put our confidence and trust in him to learn from. The changes that occur within us through his teachings are a first-hand experience to "good" teaching that we as teachers all pursue. In other words it is the kind of "good" teaching that we hope to demonstrate to our own pupils.

Peter: He always has done and still sets a good example through his continued interest and efforts in developing PE and CoP. He is dedicated to the work but also to us. His interest and consideration to us shows through his praise and reprimands but also through his ability to assess what we need and provide accordingly. It almost feels that CoP exists for us because of such genuine support. He certainly is different from other Professors that I know (Teachers Focus Group).

2) The actual leader

However, the role of the professor was not restricted to being an advisor. There was a tendency for the case-study teachers to regard respectively the professor as 'the actual leader' and the

president (Steve) as ‘a staff’ who conducted faithfully the professor’s directions.

The professor despite his title as an advisor acts as the president of the CoP. There is a teacher assigned as the president. But perhaps the teacher president does not live up to his expectations because he is very involved just like as if he is the president (Henry, Interview 3).

His influence is immeasurable because he is the creator of the CoP. He has the supreme power (laugh). I think that having a creator as a leader is rather special. The respect the teachers have for him forges a relationship, where by the teachers respond to his every word even when they are really busy. So his role is very important (Steve, Interview 4).

Peter thought that the role as the actual leader had positive impacts on intimacy between members and continuance of the CoP.

Anyway our goal is the same thing. We have a climate that he is the developer of the X teaching model and we are teachers to practice the model in schools, so we think he is the person we need to respect something like that, it is natural. The reason for his position as an advisor is that because there was not appropriate position for him, he said like ‘I’ll take an advisor, it would be better to step back’. His intention was helping us from behind this CoP. But actually he gives us powerful advice whenever we need to decide something to do and we accept his advice without questions, so (his roles are) beyond just an advisor (laugh). But you know he is more enthusiastic to this CoP than us ... He is like a head of a control tower. Because he has worked as the pivot of this CoP, so we could have been more connected, more gluey. If he has not been doing like this this CoP would be collapsed, this is a big thing (Peter, Interview 3).

Along with the actual leader’s positive influence reported above, however, some of the teachers viewed it differently. For example, this relationship between teachers and the professor influenced on the ways of communications in the CoP. Judy thought that the ways in which the CoP selects the main themes and activities for professional development were mainly decided by the professor.

Unlike other teacher learning communities we have a professor leading us in the CoP. I think that this makes a big difference. For example, of course we bring our teaching strategies and some thoughts about teaching to the meetings, but main themes of the meetings are led by his directions and instructions. So I think his existence influences and determines the interactions in the CoP (Judy, Interview 4).

Under these circumstances, some teachers regarded his leadings or directions as burdens.

To me, the professor as an advisor is just a mere title because I don't think much has changed in terms of his participation. I mean, he still assigns a lot of work (laugh). I feel the pressure to complete all the assignments but it is not like I get kicked out of CoP by not doing the assignment (laugh). Nevertheless, I do feel obliged to do the assignment (Henry, Interview 3).

The professor always pushes us to be better. He guides us to reach our fullest potential. However, I know that he wants us to motivate ourselves and be proactive in reaching our fullest potential (Kimberly, Interview 2).

In line with this issue, Judy recognized the necessity of teachers' autonomy for more productive professional learning in the CoP meetings. Further, in order to do this, she made a suggestion that the professor needs to put his role as only an advisor.

Judy: Most works in this CoP have been done in a way like this. The professor brought a content or theme so that some kinds of works are needed to conduct the theme, the president then simply handles them in the meetings and teachers need to collect some data.

Researcher: It sounds the president (Steve) is a kind of a staff or a manager.

Judy: Yes, a staff (laugh) ... so many themes in the meetings were already decided by the professor. I think we need to focus more on sharing our teaching experiences. We need to bring our pedagogies and discuss them. Therefore, in order to make the meetings helpful (to developing our pedagogies), he (the professor) needs to get step back little bit (laugh). Because his influences are huge in this CoP. His role is a president or a CEO instead of an advisor at the moment (Interview 3).

In summary, the professor worked as not only an advisor who gave teachers advice but also the actual leader who actively managed activities in the CoP. Although his role as the actual leader could have positive impacts, it also might inhibit teachers' autonomous professional learning.

5.9 Using the online café: usefulness and limitation

An online café was created in February in 2004 after the creation of the CoP in December in 2003. At first, the roles of the online café were somewhat limited. Teachers simply uploaded minutes of the meetings and stored teaching materials that they had developed. Over time, as each teacher had a board for his/her school and each teacher's pupils had joined the online café, it had influenced teachers' professional learning. In this section, roles of the online café and its effectiveness and limitations are reported.

In terms of roles of the online café, firstly, sharing each teacher's pedagogies was the most important role. Teachers posted their pedagogies in the online café. Through reading other members' teaching plans or materials, teachers were able to indirectly experience other members' pedagogies.

For example, I could experience his pedagogies by seeing his teaching plans or videos that he uploaded. So, I could get some ideas like 'Wow! This way of assessment is possible' or 'He developed these kinds of activities'. So I could get lots of things through the café (Judy, Interview 6).

For example, John developed an activity about first aid which contained a drama performance assessment last year, and he posted some photos and teaching plans in the online café. I could get his ideas and very specific tips. Actually I am planning to offer first aid lessons next year (laugh). Experiencing members' pedagogies through the online café is a way to develop pedagogies (Michael, Interview 2).

Secondly, over more the ten years a lot of teaching materials had been accumulated in the online café, which allowed them to act as a resource.

Actually I searched the online café first whenever I planned new teaching activities. It would be difficult for me to observe others' teaching so searching the café is a kind of routes getting information and ideas. It is a starting point before asking other teachers or online surfing (George, Interview 7).

Thirdly, along with using online café as a tool for developing pedagogies, teachers also used it as a channel of their personal communications. As a community that is outside of a single school, it was difficult for teachers to meet often. Teachers shared their personal lives through posting in the online café.

If someone does not post his personal news in the online café and does not attend the meetings we couldn't know his/her recent conditions. It is exactly the case of David ... We used to share personal news in the online café. So the online café has been a way of the communications to know members' personal lives (Judy, Interview 6).

Fourthly, the café had also a function that gave teachers feeling of sense of belonging. As all notices of the CoP were announced through a board of the online café, having a right to access to it meant that he/she had become an official member of the CoP.

First of all, all notices are announced by a board in the online café, so accessing the board means becoming a member in this CoP. It made me feel like 'Now I could get more help from these great teachers' (George, Interview 7).

Lastly, one of the important characteristics of the online café was that pupils in each school engaged in the café for their learning. Teachers posted teaching/learning materials which related to their lessons.

And the most important thing is that we have boards for each school. It means pupils actively do something in each school's board, you know other online cafés of teacher learning communities just have boards for sharing information (Judy, Interview 6).

Furthermore, both teachers' and pupils' posting and commenting could be ways of interactions

between them.

In addition to the uses for my teaching and pedagogies, it could be a mean of communications with pupils, I mean I posted pictures of teaching then pupils commented something funny (on that) and I re-commented on the comments, in this sense it is a kind of place for communications (Henry, Interview 6).

Yet, despite the usefulness of using the online café, teachers thought that they had to have face-to-face meetings for their genuine professional learning. Teachers thought that there were big differences between learning generated in the online café and the CoP meetings.

Positive relationships between members is the most important factor of the CoP. Sharing pedagogies can never occur with people who are not familiar with. This is the reason why we all prefer the CoP meeting rather than online communications ... something genuine personal communications can be generated only in the CoP meetings (John, Questionnaire).

There is a synergy effect (in the CoP meetings). Definitely. I mean there are clear limitations in learning online. In addition, building positive relationships with members is another important reason which I engage in this CoP. So, to me, face-to-face meetings are much more important events than sharing information online (George, Questionnaire).

In summary, despite teachers recognising the usefulness of using the online café in their professional learning, they thought that they had to have face-to-face meetings for effective learning.

5.10 External factors influencing teachers' professional learning

From sections 5.5 to 5.9, some internal issues of the CoP and its influences on teachers' professional learning have been explored. In this section, external contextual factors of the CoP and its impacts on teachers' professional learning are reported. The external factors consist of: 1) school contexts; 2) perspective on the X teaching model; 3) curriculum and PE policies; and 4) educational culture in South Korea.

1) School contexts

First of all, each school context was one of most strong factors that teachers should take into account in the process of bringing their professional learning from the CoP. In other words, because the place where they actually practiced their pedagogies was each school, even if teachers were able to learn fresh teaching ideas from the CoP, they had to take into account general conditions that each school had.

For example, the 'A' project (displaying photos of lessons through LED screens), is a good idea. But, it is difficult to put it in to practice (in my school) where we do not have the means, the LED screens. In order it to fulfill it first, I need to talk with the head teacher about the project even then, if the head teacher accepts I still also need to take into account of the expenses and the school budget. So at times it is impossible to put 'A' project (from the CoP) in to practice (Judy, Interview 3).

In contrast to Judy's case, Kimberly was able to obtain positive support from her school. That is, as her school was selected as one of the creative management schools more budget was assigned to her department. The financial circumstance was helpful for her to practice some teaching ideas which she learned in the CoP.

As this school was designated as a 'creative management school', unlike previous schools where I worked, big budget is allocated for PE. I was able to do all that I wanted to do. For example, I made a booklet for pupils to do homework ... this environment is really helpful to practice some teaching ideas that transpired from the CoP (Kimberly, Interview 1).

Various kinds of tasks in school contexts also acted barriers to teachers' professional learning. For example, George had to have diverse roles at the same time as being a PE teacher, a homeroom teacher, a person in charge of administrative works, and even a school football team manager. These various roles inhibited to concentrate on his teaching.

George: I don't have much confidence in my teaching. My school workload between

teaching and administration work is in the ratio of 3:7

Researcher: Which is 7 (70%)?

George: Administration work. And because of it I am usually late to class, only arriving midway through the class.

Researcher: Because of the administration work?

George: Yes, because of my tardiness due to administration work I have always had feelings of guilt to pupils even though it wasn't essentially my fault.... The problem was that whenever I got to my class late, I couldn't focus on the class and it couldn't have ended any sooner. I lost interest in teaching (Interview 5).

Furthermore, lack of support from the principal was also important factor in applying some teaching ideas to his context.

I wanted to do the 'A' project (displaying photos of lessons through LED screens) in my school and so I introduced the project to pupils and actually prepared some materials such as easels. But, the principal did not want me to do the project. I don't know reasons why the principal denied the idea. Some pupils expected the project. I feel sorry for them (George, Interview 4).

All the case-study teachers reported that cooperation with co-workers was one of important factors they had to take into account. In particular, when teachers taught the same grade pupils with other general PE teachers in his/her schools, they needed to reach agreements on some issues (e.g. 'what kinds of physical activities or sports will be taught annually' or 'how do we assess or evaluate pupils' outcomes). In this process, co-workers' preference or their non-cooperative attitudes were obstacles.

Some teachers found difficulties in adopting new pedagogies in particular when they were teaching the same grade with older teachers, because normally they (older teachers) didn't want to adopt new practices or methods. They were not supportive. These similar cases is not uncommon (Henry, Interview 4).

Sometimes I actually fought with the older teachers who were not cooperative (laugh), I would tell them that ‘I really want to do this (the X teaching model) why don’t you also adopt it?’, or ‘as you see I am really hard working, don’t you think you need to help me instead of just giving pupils balls (roll out the ball style)?’ (Peter, Teachers Focus group).

The case-study teachers tried to overcome these limitations through several solutions. Firstly, in case of John, he persuaded his colleagues to understand the value of PE lessons and the X teaching model.

Many teachers in my school let pupils just play in PE. In the meantime, I am trying to improve PE. I am constantly badgering the PE Head teacher, telling him that PE classes need to change with the times such as the class activities, assessment methods. All I ask of him is his support for I tell him that I will do all the work ... Finally the head gave in and he is now very supportive (John, Interview 3).

Secondly, some teachers made changes to the ways of conducting the X teaching model that could fit with school PE curricula in their school contexts.

Hmm... I have tried it where I implemented only 50% of the X teaching model. You know each school has different contexts such as equipment and space. I also had to make some changes to the teaching ideas from CoP meetings in order to make it suitable to the school context (Henry, Interview 7).

2) Perspectives on the X teaching model

These co-workers’ non-cooperative attitudes were not completely due to their personal preferences or relationships between the case-study teachers and them. Instead, the co-workers’ attitudes partly resulted from general PE teachers’ negative perspectives on the X teaching model. As noted, the X teaching model was developed in 2002 by the professor. After the development, however, some activities of the X teaching model which were different from the traditional ways of teaching PE (e.g. reading books or watching sport movies in PE lessons) were not welcomed from general PE teachers. Whenever the professor introduced concepts of the X teaching model to general PE teachers in workshops he received strong negative

responses.

I went to many workshops to introduce basic concepts of the X teaching model. In early days, there was a lot of criticism (on the model), PE teachers would question, 'Is that PE?', or 'there is not enough time for physical activities, why do pupils need to read, draw??' ... Teachers' responses were really hostile, some teachers would even make personal attacks in the workshops (the professor, Interview 1).

These general PE teachers' negative perspectives on the X teaching model prevailed and this worked as another barrier for the case-study teachers to practice the model in their school contexts.

There is definitely a pressure to pursue it (using the X teaching model). Because clearly it was ill-received by other teachers. Lots of teachers didn't like it. The criticism has gradually subsided but there was lots of negativity toward it in the past. But the fact remains that all the members are under a lot of pressure to teach it (in using the X teaching model) a bit (Steve, Interview 4).

The head PE teacher in my department is very enthusiastic to develop her pedagogies. But she did not allow me to use the X teaching model because she could not understand the value of the model ... Since the last year, she changed her thoughts about the X teaching model and she evaluates my teaching positively (Henry, Interview 2).

3) Curriculum and policies

National PE curricula and PE policies also impacted on teachers' professional learning. Firstly, after the development of the 2011 national PE curriculum, educational ministries began to have interest in the X teaching model and the CoP.

Some educational ministries thought that the X teaching model could be an example of the creativity and character education through PE. So there have been a lot of requests for me to introduce the X teaching model in workshops which were ran by educational ministries (the professor, Interview 3).

In this process, some founding members (including John and Peter) could have had opportunities to present their pedagogies.

We went to a number of workshops to present our pedagogies. There were a lot of PE teachers who interested in the X teaching model because it focuses on character education. There were a lot of questions, for example, ‘how design stations?’ or ‘what kinds of roles did you gave pupils?’ ... Preparing the workshops were really helpful to develop my pedagogies (John, Interview 2).

Secondly, some PE policies also influenced teachers’ engagement in the CoP. For example, Kimberly had a difficulty to attending the CoP meeting because she had to teach pupils at weekends because of a PE policy of ‘School Sport Club [SSC]’⁹.

I have to do a lot of administration works in this school. Moreover, you know, most PE teachers have to do the SSC at weekends. I need to come my school to do the SSC. The CoP meeting in the last month was held 3 pm on Saturday. I couldn’t attend. I am always worn out after doing the SSC at the weekend, I couldn’t even think of going to the meetings at all (Kimberly, Interview 3).

4) Educational culture

The CoP used an online café for their professional learning and as a place for pupils to do homework. Some of teachers assigned tasks that pupils needed to upload their homework in the online café. However, contrary to pupils’ positive perspectives on using the online café, some parents did not want their kids to do the online-based homework.

You know, we use the online café, but some parents were concerned, they were worried about what their kids would be exposed to while accessing computers. There was no way (to assign online-based homework) for those pupils whose did not want their children to utilise computers. They want their children to study academic subjects when they get home.

⁹ This is a multi-sport events aiming providing pupils with opportunities to participate in various sports as extra school curriculum. The units of events are ranged from a school, a district, a city and national level. It is similar to the PE policy of ‘School Games’ in the UK.

If kids want to create an account to join the online café, parent's approval is required because they (children) are minors ... some parents were shocked 'What?! Does the teacher allow you to use computers?' (laugh), normally teachers in school don't give pupils computer-based homework, but we do, so some parents get crazy (laugh), actually there was this kind of difficulty to practice the X teaching model (Peter, Interview 6).

Teachers thought that these parents' responses were related to an educational culture in South Korea in which knowledge-based subjects (e.g. Korean, English and Maths) are regarded as much more important for entrance to higher educational institutions. Michael received some complaints from parents who did not want their kids losing time from the knowledge-based subjects.

Michael: A parent, anonymously, called me. She complained that too much time had been spent on preparing for performance assessment. This was not the first or the last call.

Researcher: What do you think the reasons for these kinds of complaint are?

Michael: Academic subjects, she thought that her child was losing study time for academic subjects. She stated that the preparation for performance assessment either made her child miss class at the private academy or was made to come back to school after class at private academy at 10pm. Thereafter, I checked and there were actually pupils practicing at that time (Interview 2).

The perspective was not limited to parents. Some pupils also put more importance on studying knowledge-based subjects rather than doing PE.

No I think it is different because when we choose our career it is only the five academic subjects; Korean, Mathematics, Social, Science that really matter. PE is not an assessment subject for entry in to higher education or our careers so if we are not planning to become an athlete studying (the five subjects) is much more of a necessity for our futures (B002, first grade of B middle school, 13 years old, Focus group 1).

In summary, there were a range of factors which were outside of the CoP: i) school contexts, ii)

perspectives on the X teaching model, iii) national PE curriculum and policy and iv) education culture in South Korea influenced teachers' professional learning.

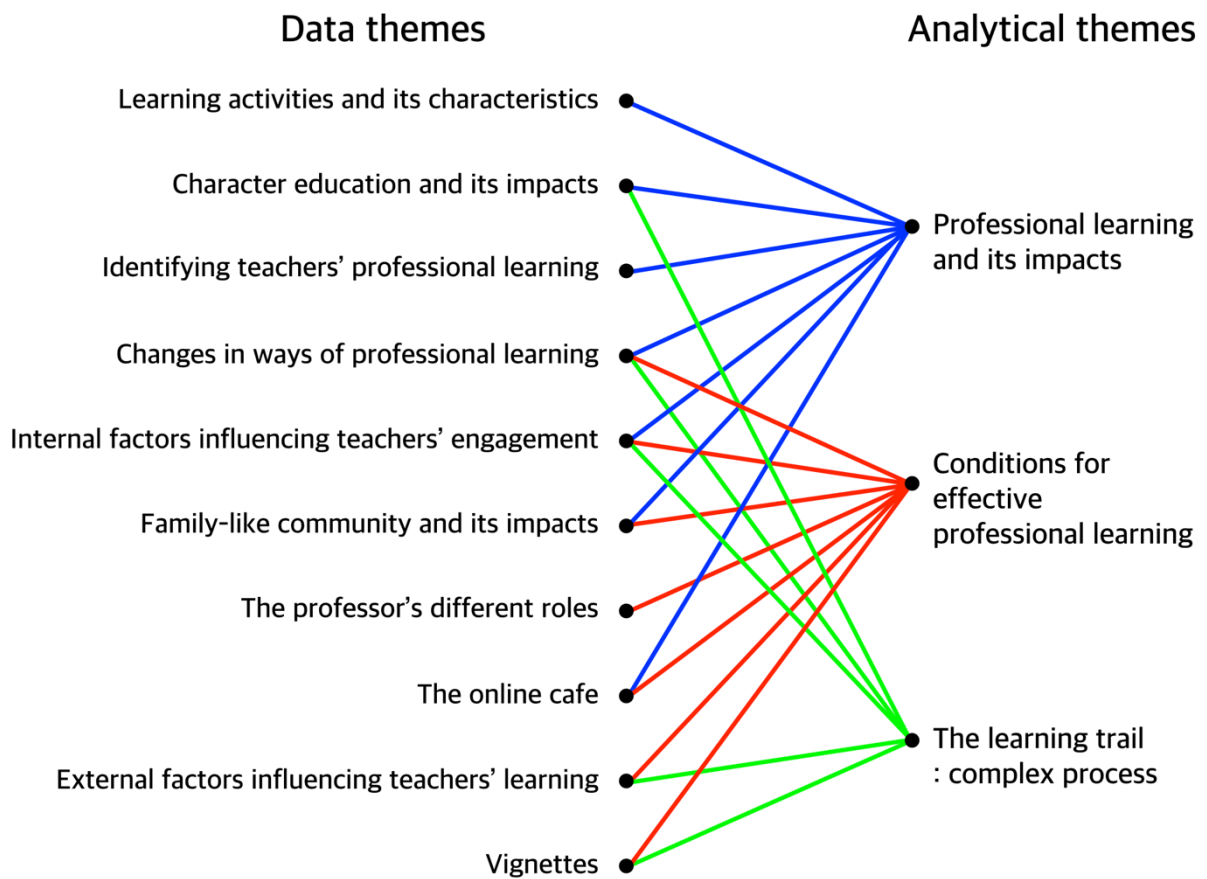
5.11 Chapter summary

This chapter has reported the 10 themes constructed. From the sections 5.1 to 5.4, issues about what kinds of professional learning were supported in the CoP and how does the learning influence teachers' teaching practices and pupils' learning outcomes were reported. The second part (5.5 – 5.9) reported several internal factors of the CoP influencing teachers' professional learning. The last theme (5.10) presented a range of external factors which had potential in teachers' and pupils' learning.

Chapter 6: Discussion

In the previous chapter, themes constructed from the data were reported. In this chapter, the findings reported in the themes are discussed in the context of the existing literature. Although the themes and the three sections of the discussion are broken down into discrete topics, it is also important to recognise that these aspects of the study are interconnected, as is illustrated in Figure 9 below.

Figure 9. Data themes and analytical themes



This discussion is divided into three sections: 1) Professional learning and its impacts; 2) Conditions for effective professional learning; and 3) The learning trail is complex. The structure of this discussion is framed by the research questions and central findings of this project. Table 6 below provides a brief overview of the key items discussed in this chapter.

Table 6. Categories of discussion

categories	sub-categories	description
6.1 Professional learning and its impacts	How and what teachers learn in the KPE-CoP Teachers' professional development: a broad concept Pupils learning: outcomes of teachers' blended professional development	Teachers learn through three different ways and place a high value on practical knowledge and collaborative learning Teachers' professional development is a complex process which is influenced by both personal and professional changes Pupils' learning is affected by teachers' various changes
6.2 Conditions for effective professional learning in the KPE-CoP	Keeping focussed on developing pedagogies Roles of the X teaching model Fresh things needed The family-like atmosphere Balance between control and empowerment Time and space	The CoP should focus on activities to develop pedagogies in order to enhance teachers' learning The model is the most important factor in teachers' learning Fresh stimuli are need for experienced teachers' learning The atmosphere in the CoP has both strength and weakness The professor's different roles influence teachers' professional learning The CoP has temporal and spatial barrier to teachers' learning
6.3 The learning trail: complex process	Micro level Meso level Macro level Interconnectedness between each level	Teachers' and pupils' dispositions influence their learning School contexts influence teachers' and pupils' learning Curricula, policies and educational culture influence learning The three levels are influence each other

Firstly, as a PE-CPD study, understanding teachers' professional learning in the CoP and its effectiveness was the most important task. Secondly, the findings illustrated that some issues in the CoP dimension strongly influenced teachers' engagement in professional learning activities supported in the CoP and consequently impacted on their learning. Thus, understanding how internal factors of the CoP influenced teachers' learning is also an important aspect of this research. Lastly, the findings clearly show that the learning trail from teachers' learning in the CoP to pupils' learning outcomes is far from straightforward. Instead, the trail is a highly

complex process which is influenced by numerous dynamic factors. Capturing the factors, therefore, is helpful to understand teachers' professional learning and its impact.

6.1 Professional learning and its impacts

As noted in the introduction, this study focused on PE-CPD, so evaluating whether the Korean PE-CoP (KPE-CoP) supported teachers' professional learning and pupils' learning outcomes is a key task. In this section, therefore, the focus is on how activities supported in the KPE-CoP affected teachers' and pupils' learning. Specifically, as Desimone (2011) argued, three kinds of outcomes from KPE-CoP should be investigated: i) How and what do teachers learn in the KPE-CoP?; ii) How does professional learning influence teachers' pedagogies?; and iii) How do changes to teachers' pedagogies impact on pupils?

In order to examine the three kinds of learning aspects, both 'what is already known about this issue' (examined in sections 2.1.2 and 2.3.2) and 'what this project adds to the existing literature' which is the main focus of this chapter are examined. In this project, some phenomena which are similar to the findings of existing research on PE-CoP are also identified (e.g. developing pedagogies together). More importantly, however, some fresh perspectives were also discovered in terms of activities supported in the KPE-CoP, teachers' professional development, and pupils' learning outcomes. Both similarities and differences are examined in order to explain: i) how and what teachers learn in the KPE-CoP, ii) teachers' professional development: a broad concept, and iii) pupils' learning: outcomes of teachers' blended professional development.

6.1.1 How and what teachers learn in the KPE-CoP

As noted in the literature review chapter, despite claims about the effectiveness of CoPs, there has been little research that reveals the complex pathways of learning from a CoP to teachers' practice (O'Sullivan, 2007). In this sense, understanding how teachers learn in a CoP is one of

the key tasks. In this discussion, teachers' learning in the KPE-CoP is examined through specific learning theories: the (social) constructivist learning theory (Lave & Wenger, 1991), CoP theory (Wenger, 1998), and relationships between teacher knowledge and practice (Cochran-Smith & Lytle, 1999). It is fitting that teachers' learning is examined through the theories of situated learning and CoP in that the KPE-CoP under investigation had all key defining elements of a CoP as reported in the literature review chapter (sections 2.2.4 and 2.2.5). The framework proposed by Cochran-Smith and Lytle (1999) is also appropriate for understanding teachers' learning in a CoP given that it focuses on: different types of teacher knowledge; how the different knowledge is constructed in a CoP; the relationship between teacher knowledge and practice; and learning between experienced and novice teachers.

Not unlike other PE-CoPs investigated, the main aim of the KPE-CoP was developing teachers' pedagogies. Data collected from this study are consistent with previous findings about the effectiveness of a CoP approach in PE teachers' professional development (Keay, 2005; Armour & Yelling, 2007; Parker et al., 2012; Goodyear et al., 2014b) in that the case-study teachers were able to change their pedagogies through collaborative learning generated in the KPE-CoP. For professional learning, the case-study teachers were involved in different types of learning: i) 'developing pedagogies together', ii) 'learning from old-timers', and iii) 'reflection', as reported in the previous chapter (section 5.5).

The first type of learning revealed in this study is 'developing pedagogies together' and it is closely related to social and participation learning metaphors (Lave & Wenger, 1991; Greeno, 1997; Sfard, 1998; Wenger, 1998; Barab & Duffy, 2012; Hoadley, 2012). In this metaphor, learning is not just a process of acquiring concepts or external knowledge; rather it is a process of participating in learning contexts. In other words, from this perspective, teachers learn not by acquiring new knowledge which other members have; they learn through 'participating' in

the learning ‘situations’ such as the KPE-CoP meetings in which teachers interact with each other. Moreover, it seems reasonable to argue that this kind of learning activity is ‘social’ given that it inevitably involves interactions with others. As the data reveal, teachers placed the highest value on this type of learning since all the teachers regarded it as the most effective way to develop their pedagogies and they thought it should be the main activity of the KPE-CoP. This would appear to be because this type of professional learning offers ‘practical support’, given that it focused on developing and sharing knowledge that related directly to authentic teaching contexts. Through this process, these Korean teachers were able to obtain some new ideas and develop new activities such as ‘echoing the four values’ or using signboards indicating good character. In terms of the form of knowledge which teachers generated in the KPE-CoP meetings, the process of developing these new activities by teachers themselves in order to meet the aims of the national PE curriculum can be described as closely related to generating the ‘knowledge of practice’ as identified by Cochran-Smith and Lytle (1999). Knowledge of practice has been defined as generating knowledge which is ‘connected to larger political and social agendas’ and is generated by continuous inquiry in members’ collaboration in a community (p. 274). From this perspective, teachers generated knowledge of practice in the KPE-CoP in that they collaboratively developed new activities which were connected directly to the aims of the new national PE curriculum (i.e. generating character education through PE).

A second type of professional learning – ‘learning from old-timers’ – was also discovered in this project. It could be argued that the first type of professional learning described above is generated by ‘horizontal’ interactions in that teachers – regardless of teaching experiences – brought their perspectives together. The second type, however, is better described as learning generated through ‘vertical’ interactions between ‘old-timers’ and ‘newcomers’ (Wenger, 1998). For newcomers (new teachers) joining the KPE-CoP who were inexperienced in teaching PE

lessons or in using the X teaching model, it was necessary for old-timers (existing members) to help them. In other words, the old-timers who were regarded as both more experienced PE teachers and are more skilled in using the X teaching model, were able to help the newcomers to practise PE lessons more effectively. The theory of ZPD (Zone of Proximal Development) proposed by Vygotsky (1978) is one way to understand this kind of individual teacher's learning. Vygotsky developed the ZPD to examine the process of learning of individuals. He defined the ZPD as

the distance between the actual developmental levels determined by independent solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers (p. 86).

This theory could fit with understandings that new-comers' professional learning in this project. For example, six teachers (Michael, Kimberly, Steve, George, Judy, and Henry) joined the KPE-CoP with limited information about or understanding of the X teaching model, but they were able to receive support and tacit knowledge from old-timers (including John and Peter). As a result, the newcomers were able to apply the X teaching model to his/her school context thus becoming independent learners. Along with old-timers' support, the professor's lectures focusing on the fundamental frameworks and concepts of the X teaching model had similar impacts on the newcomers' professional learning. The newcomers were able to understand the X teaching model and also gain insights into recent trends in PE pedagogies. This finding reinforces the importance of ensuring there is support from experts (Parker et al., 2010; Casey, 2014; Goodyear & Casey, 2015) in teachers' professional learning in learning communities.

Through both support from the old-timers and from the professor, the newcomers in the KPE-CoP were able to develop their pedagogies, and, more importantly, they could become more involved in some issues in the KPE-CoP by taking part in the process of decision making. This

process of engagement by newcomers' and increased levels of involvement can be analysed in the framework of 'legitimate peripheral participation' (Lave & Wenger, 1991; Wenger, 1998). In this theory, learning is regarded as the process of moving from peripheral participation to full participation in a CoP. In this sense, learning is understood as a process of 'belonging' to the CoP and 'becoming' a more devoted member. This learning process was also discovered in this project. For example, both Michael and Steve felt that they moved to a central position in the KPE-CoP over time by taking more important roles of the KPE-CoP, and George also felt the same feeling through sharing personal lives with members. However, the data in this project illustrate that not all newcomers followed the same trajectory. As is reported in the theory (Fuller, Hodkinson, Hodkinson & Unwin, 2005), the process of shifting from peripheral to full participation was neither one-way direction nor simple. For example, Kimberly reported that she made great progress in her teaching using the X teaching model which she valued, but she also felt 'out of place' within the KPE-CoP because she felt that it had lost its focus on collaborative learning. That is, though Kimberly could receive support by involving in activities supported in the KPE-CoP which resulted partly in the enhancement of her pedagogies, her position in the KPE-CoP did not change.

In terms of the content of the support offered in the KPE-CoP (i.e. what kinds of knowledge are learned?), however, there are substantial differences between support gained from the old-timers and from the professor. According to Cochran-Smith and Lytle (1999, p. 262) knowledge *in practice* is 'uncertain and spontaneous craft situated and constructed in response to the particularities of everyday life in schools and classrooms', so it cannot be learned by acquiring general information about teaching. This is rooted in the understanding that the specific ways in which more effective teachers operate in practice cannot be 'transferred' easily or 'delivered' to less experienced colleagues. Instead, this knowledge is learned through active interactions

between experienced teachers and less-experienced teachers or transforming their experiences in a group or a community. These channels of learning were identified in this project. Data vividly illustrated that both Michael and George were able to get specific teaching experiences of John and Peter which were embedded in their teaching, and they reported that these kinds of knowledge were different from formal knowledge acquired from most CPD programmes. Meanwhile, learning knowledge *for* practice is the process of acquiring propositional knowledge. This knowledge is that created, for example, by/from university-based research. If these two kinds of knowledge are located in the KPE-CoP, it is clear that the newcomers were able to learn the philosophies or fundamental concepts of the X teaching model (propositional or formal knowledge) from the professor, while they gained pedagogical knowledge ‘embedded in’ practice (practical knowledge) from the old-timers.

In this project, ‘reflection’ operates as another important way for teachers to learn. It seems reasonable to argue that the first and second types of professional learning described earlier helped teachers to develop their pedagogies because they actually created new activities or made some changes to prior PE lesson planning and implementation. These findings about the benefits of the KPE-CoP support the findings of previous PE-CoP research. The KPE-CoP, however, also employed the activities of writing PE diaries and SRC (reading and discussing books in relation to education or PE). The purpose was to encourage teachers to engage in reflection on their teaching practices, and it led to additional dimensions in professional learning. For example, in the case of Henry, he believed that improvements in his teaching quality were mainly a result of sustained reflections on his teaching that were prompted by writing the PE diaries, rather than the first (developing pedagogies together) and second (learning from old-timers) types of learning. Similarly, Kimberly also developed her teaching practices by writing PE diaries and her own self-evaluations. Along with teachers’ reflections

on their pedagogies, more importantly, the activities of writing PE diaries and SRC worked as a channel for teachers to critically reflect on the ways in which speak and behave in lessons. In other words, whereas the KPE-CoP meetings generated the first and second types of learning, and focused on sharing and developing pedagogies, the aim of writing PE diaries or SRC was to ensure teachers were actively involved in the process of reflection on their teaching practice. These different kinds of activities influenced teacher professional development differently.

In summary, the case-study teachers in the KPE-CoP learned from the three different kinds of professional development activities, and whereas the first two types impacted on teachers' pedagogies the third type of learning influenced teachers' educational beliefs.

It is important to note that all the case-study teachers placed a high value on the KPE-CoP meetings where they actively shared and created teaching ideas and they were able to make substantial developments in their pedagogies through involvements in the activity, as reported in section 5.5. In this sense, exploring characteristics of the KPE-CoP meetings may offer clues about what helps to ensure teachers' professional learning is effective. Characteristics of effective professional learning, therefore, are examined by analysing of the key features of the KPE-CoP meetings.

Firstly, it is important to identify the key characteristics of the KPE-CoP meetings in terms of content (i.e. what kinds of ideas are dealt with?). All the teachers reported that the *practical* knowledge elements of the activity were of high value and helpful to the development of their pedagogies. The term of 'practical knowledge' in this example refers to teaching activities or skills which are embedded in these teachers' practices. Data illustrated that the teachers preferred to learn by focussing on the specific and detailed pedagogies of other members of the KPE-CoP. Examples included: how to design each station for a basketball lesson and its impacts

on pupils (i.e. pupils' specific responses to the activities). This characteristic of sharing practical and specific knowledge in the KPE-CoP was grounded in the overall shared framework of the X teaching model (examined in section 5.1.3). The case-study teachers thought that this type of knowledge was different from the propositional knowledge which most CPD programmes offer. For example, John described the knowledge which he experienced in most PE-CPD programmes as 'things which are not related to my actual teaching' which indicate a rather simplistic approach to the effectiveness of activities or concepts that do not take into account school contexts.

Others also reported that most forms of PE-CPD tend to be 'sport skills drill' or 'window dressing' and these, too, were regarded as unhelpful to develop their pedagogies. It was also reported that the knowledge developed in the KPE-CoP, that was closely linked to members' teaching practices, were very easily to applied to their own PE lessons. For example, in the case of George, he reported that he was able to learn much from the experiences of John or Michael, and apply the learning to his lessons. Importantly, he was able to learn from the trial and error process through which John and Michael had been. In this sense, the knowledge was also *applicable*.

In addition, the case-study teachers also placed a high value on knowledge that was *relevant* to their PE lessons. The concept of relevance here refers to the degree to which the knowledge was of direct relevance to the teachers' PE lessons. In other words, the case-study teachers wanted to share knowledge and teaching activities which could be used 'instantly'. Data illustrated that even if the teachers evaluated a specific teaching activity or skill positively, but it was not directly related to their lessons, it would not be used in their pedagogies. For example, at one point, the professor added new concepts or activities to the genesis of the X teaching model. The teachers, however, found it challenging to use the new concepts or activities because

they failed to see the direct relevance. From Judy's perspective, for example, the new concepts and activities were not obviously directly related to her teaching, so she lost enthusiasm for the activities supported in the KPE-CoP. In this sense, it could be argued that the data from these PE teachers point to the importance of locating knowledge for teachers' professional learning in actual teaching practices.

It could be argued, therefore, that these case-study teachers placed a very high value on knowledge which is *practical, applicable* and *relevant*. This phenomenon reinforces the findings of previous research on PE-CPD; i.e. teachers' professional learning is likely to be most effective when teachers are able to share practical teaching experiences with other teachers rather than simply attempting to acquire formal knowledge (Armour & Yelling, 2004b; Hodkinson & Hodkinson, 2004b; O'Sullivan & Deglau, 2006; Armour & Makopoulou, 2012; Meyer, 2002; Patton, Parker & Neutzling, 2012).

In addition to the content of activities in the KPE-CoP, issues arose about the approaches to learning (i.e. what kinds of learning approaches are effective?). From the data, it would appear that *collaborative* ways of learning had the greatest potential to positively impact on teachers' pedagogies. As discussed in the previous section (5.1.3), teachers in the KPE-CoP learned through three different types of learning. Interestingly, however, most teachers evaluated the effectiveness of the first (developing pedagogies together) and the second types (learning from old-timers) of learning higher than that of third type (reflection). That is, teachers placed a high value on activities of learning through experiencing other members' teaching experiences (Glazer & Hannafin, 2006; Bell et al., 2012; Cordingley, 2015) rather than learning by individual reflections. This finding reinforces arguments made about the effectiveness of a CoP approach on teachers' professional learning, as proposed by Little (2002, p. 917):

conditions for improving teaching and learning are strengthened when teachers *collectively* question ineffective teaching routines, examine new conceptions of teaching and learning, find generative means to acknowledge and respond to difference and conflict and engage in actively in supporting professional growth. (italics added)

The effectiveness of engagement in processes of collaborative learning have been identified in a number of previous research on PE-CoPs (Keay, 2005, 2006; Armour & Yelling, 2007; Parker et al., 2012; Goodyear & Casey, 2015; Jo, 2015). Thus, at one level, it could be argued that the characteristics of the KPE-CoP meetings mainly reinforce the findings of previous research in PE-CoPs.

6.1.2 Teachers' professional development: a broad concept

The literature review chapter identified key concepts in teachers' professional development including: the definition of teacher development or professionalism (Day, 1999; Hoyle, 2001; Evans, 2008), teacher change (Guskey, 2002; Clarke & Hollingsworth, 2002) and teacher quality (Goe, 2007; Rowe, 2003). In this discussion, processes of teachers' professional development through involvement in activities supported in the KPE-CoP are examined by using the frameworks of teacher change, teacher quality and teacher professional development.

The data suggest that teachers' change followed two pathways in this project: changes in teaching practices (pedagogy dimension) and in teachers' beliefs or attitudes (teacher characteristics dimension). For example, Steve enhanced his pedagogies by creating new activities and he also made substantial changes to his attitudes to pupils (see section 5.2). According to Goe (2007), teacher quality is a broad concept that embraces both the concepts of *teaching quality* and *teacher characteristics*. '*Teaching quality*' is linked directly to a teacher's pedagogies in and out of the classroom such as planning or classroom management. This concept is closely related to aspects of teaching 'technique' (Hargreaves, 1998; Day, 2004). It

is no surprise, perhaps, that a CoP approach has been found to be helpful in supporting teachers to develop teaching plans or strategies together (Lieberman & Miller, 2011). In this study of the KPE-CoP, several new pedagogical strategies, such as ‘echoing the four values’ or using signboards indicating examples of good character, were developed through teachers’ collaborative learning. This finding is similar to those of previous studies suggesting that teachers’ professional learning is supported and enhanced by receiving and giving feedback or developing and sharing teaching ideas together (Deglau & O’Sullivan, 2006; Goodyear et al., 2014b). In this project, however, unlike previous research, the development of the second pathway that directly impacts on a teacher’s educational beliefs was identified.

Although the concepts of teacher knowledge and belief are interconnected, some scholars have tried to conceptualize them differently; for example, Calderhead (1996) argued that:

Although beliefs generally refer to suppositions, commitments, and ideologies, knowledge is taken to refer factual propositions and the understandings that inform skilful action (p. 715).

In addition to this classification, it has been argued that the concept of belief is strongly associated with an emotional dimension (Nespor, 1987; McCaughtry, Martin, Kulinna & Cothran, 2006). Teachers’ beliefs, therefore, here refer to a concept embracing teachers’ attitudes, dispositions, and emotions that can influence directly or indirectly teaching practices. From this perspective, it is apparent that teachers’ work cannot be limited to simply delivering or transferring knowledge or skills. Instead, teachers’ work is strongly related to ‘affective’ dimensions. Teachers’ positive interactions with pupils, therefore, are essential factors in successful teaching, and there is evidence of this in the data from the KPE-CoP.

There are clear examples in the data of teachers changing their educational beliefs through involvement in activities supported in the KPE-CoP. For example, indirect teaching behaviours (ITBs), were an important focus of the X teaching model, and these were emphasized and supported by specific activities such as writing the PE dairies or the SRC. The findings illustrated that most teachers were able to develop their ITBs through involvement in both activities. These activities stimulated '*teacher characteristics*' which comprised of educational attitudes or beliefs, similar to the suggestion by Goe (2007). Although it is not argued that these changes impacted directly on teachers' pedagogies; they did give teachers opportunities to reflect on their teaching practices. It has widely been argued that the dimension of *teacher characteristics* is one of the key factors to be considered in understanding teaching practices. For example, Carr (2003) argued that teacher's personality or style is much more important than specific contents taught or pedagogies, and Jung and Choi (2016) have recently identified different types of PE teachers' ITBs and their impacts on pupils. Moreover, the concepts of 'passion' (Day, 2004) and 'emotion' (Hargreaves, 1998) identified in the literature also suggest the necessity of considering the development of teachers holistically as part of professional development. Yet, although the importance and influence of teachers' beliefs have been emphasized consistently in the CPD literature, there is less evidence of their inclusion in PE-CPD programmes (Bechtel & O'Sullivan, 2007). The data on the KPE-CoP, however, suggest that unlike other CPD programmes, developing *teacher characteristics* through professional learning was a key aim and that it has led to impacts on teachers' and pupils' learning.

At the same time, it is important to note that the process of teacher change was very complex. In particular, the findings of this study strongly illustrated that the *teacher characteristics* dimension changed through a number of channels; all of which were interconnected: personal lives; pupils' responses; reflections; or external stimuli. For example, Steve made dramatic

changes to his beliefs about effective pedagogies. Previously, Steve reported using forms of physical violence in his teaching and he had little motivation to develop his teaching in different ways. Following a key life event and his involvement in the KPE-CoP, however, he changed to become a teacher with higher levels of passion for teaching and with a new generosity towards pupils. In the early years of teaching, he reported that he had difficulties in interacting with pupils (pupils' responses). Yet, he found himself able to adopt a more generous attitude to pupils after his wife gave a birth to their first child (personal lives) and, in addition, he developed his ITBs through writing PE diaries over a period of 4 years (reflection). In another example, Michael tried to maintain his passion for teaching through writing and reading as part of the PE diaries process (external stimuli from other teachers), and George's educational philosophy was influenced by being exposed to the atmosphere of the KPE-CoP which focussed on and valued character education through PE (external stimuli from the KPE-CoP).

It is difficult to explain the changes to teachers' beliefs and practices that were seen in the KPE-CoP project using any single existing theory. For example, Guskey (2002) argued that teachers' educational beliefs or attitudes are changed *only* when teachers see positive impacts on pupils' learning outcomes. Furthermore, the Interconnected Model of Teacher Professional Growth (Clarke & Hollingsworth, 2002) goes some ways to explaining the cases of Michael and George, whose beliefs were identified by the external stimuli. Yet, the process that led to Steve's changes are less easily explained. What can be concluded is that changes in teachers' beliefs are influenced by their professional education at all levels through their career in conjunction with their interactions with pupils and also their personal lives (Pajares, 1992; Fang, 1996; Richardson & Placier, 2001). The case of Steve illustrates this point through changes in his educational beliefs that are related to pupils, reflections and also his family (see section 4.4). It can be argued, therefore, that a teacher's belief is (re)formed by constant dynamic

interconnections between the personal experience of a person and the educational reflections of a teacher. From this perspective, a teacher's professional development cannot be 'detached' from the rest of their lives and experiences. As Armour (2006) argued:

teachers as persons (rather than as robots) are very much present in the teaching process and no amount of pretending that they are not there will make them, or their influence as persons (with emotions and feelings) disappear (p. 482).

In order to understand how to support teachers' professional development, therefore, it is important to find ways to support the teacher as a person. This also reflects Hargreaves's (1998, p. 835) view that teachers cannot be regarded as 'well-oiled machines' that deliver well-organized pedagogies. The data from the KPE-CoP illustrate this point vividly.

6.1.3 Pupils' learning: outcomes of teachers' blended professional development

It has been argued extensively that the effectiveness of professional learning and development should be assessed by impact on pupils' learning outcomes, rather than simply acquiring or mastering of new teaching strategies (e.g. Timperley, 2008). In this section of discussion, some specific areas that are proposed by the national PE curriculum in South Korea are used as a medium for evaluating pupils' learning outcomes.

Changes in pupils, which might be regarded as an evidence of the effectiveness of teachers' professional learning on character development, were strongly related to the teachers' professional learning undertaken in the KPE-CoP. For example, as illustrated in the case of Michael (section 5.3), the enhancement in his pedagogies (e.g. using the four values of the X teaching model as a name of each group) and ITBs (e.g. hanging a name badge indicating 'no display of annoyance') were outcomes of his professional learning in the KPE-CoP. It then impacted on pupils' understanding of character development and, reportedly, on some of their behaviours, such as trying to avoid using slangs (the value 'pretty communication') or showing

good manners to friends and teachers (the value ‘kind behaviours’) which are similar to the inter-personal values proposed by the national PE curriculum in South Korea. It could be argued, therefore, that teachers’ professional learning undertaken in the KPE-CoP was helpful in supporting them to offer character education through PE which is one of important goals of the national PE curriculum.

It is important to note that pupils’ character development followed three stages: cognitive changes in PE, behavioural changes in PE and transfer beyond PE, although it was difficult to draw clear lines between them and to conceptualise specific aspects of the transitions. The developmental stages identified in this project are slightly different from the three stages of character development as proposed by Lumpkin (2008): moral ‘knowing’, ‘valuing’ and ‘acting’. Both the concepts of knowing and acting could match with cognitive and behavioural change identified in this study. It was difficult to distinguish, however, between pupils’ moral knowing and valuing. Rather, the last stage of character development – labelled as ‘transfer beyond PE’ – was identified and this referred to pupils being able to apply their learning through PE to daily life or other sport contexts. This ‘authentic’ stage of character development was identified as the idealized type in the new national PE curriculum and wider literature on moral education. For example, Jones (2005) emphasizes the importance of behavioural changes and the possibility of transferring by identifying character education as:

not just about teaching children to ‘know’, it is also about teaching them to ‘be’. In particular contexts and situations we are also trying to teach them when it is appropriate to act in certain ways and when it is not (p. 142).

In this sense, the process of pupils’ development in this project, which in some cases can be tracked from ‘knowing’ to ‘action’ and ‘diffusion’ might be regarded as an example of a successful process.

In terms of overall effectiveness, however, as was reported in the findings chapter, only four pupils reached the last stage of character development, whereas most pupils remained at the first or second stage, or did not change at all (see section 5.2). These results support the argument that teaching character through PE is a much more difficult task than teaching physical or cognitive domains (Bailey et al., 2009; Casey & Goodyear, 2015). In terms of work of exploring reasons for pupils' development, although it is difficult to argue that pupils' learning outcomes *is* the consequence of teachers' professional learning, it is also difficult to separate them. In this sense, these different levels of pupils' change are inevitably connected with, to some extent, the level of changes seen in teachers' pedagogies and teachers themselves. For example, the only four pupils that reached the third stage were found in 'N' high school where Steve works. These pupils' developments, as evidenced by pupils' comments in interviews, resulted from two aspects of Steve's professional development: i) developing a new pedagogy for character development (pedagogy dimension), and ii) his ITB development (teacher characteristics dimension). In other words, both the new activities (picking a value and announcing it and writing PE diaries) and Steve's changed personality (being kind to pupils or remembering pupils' names) 'together' impacted on pupils' authentic changes.

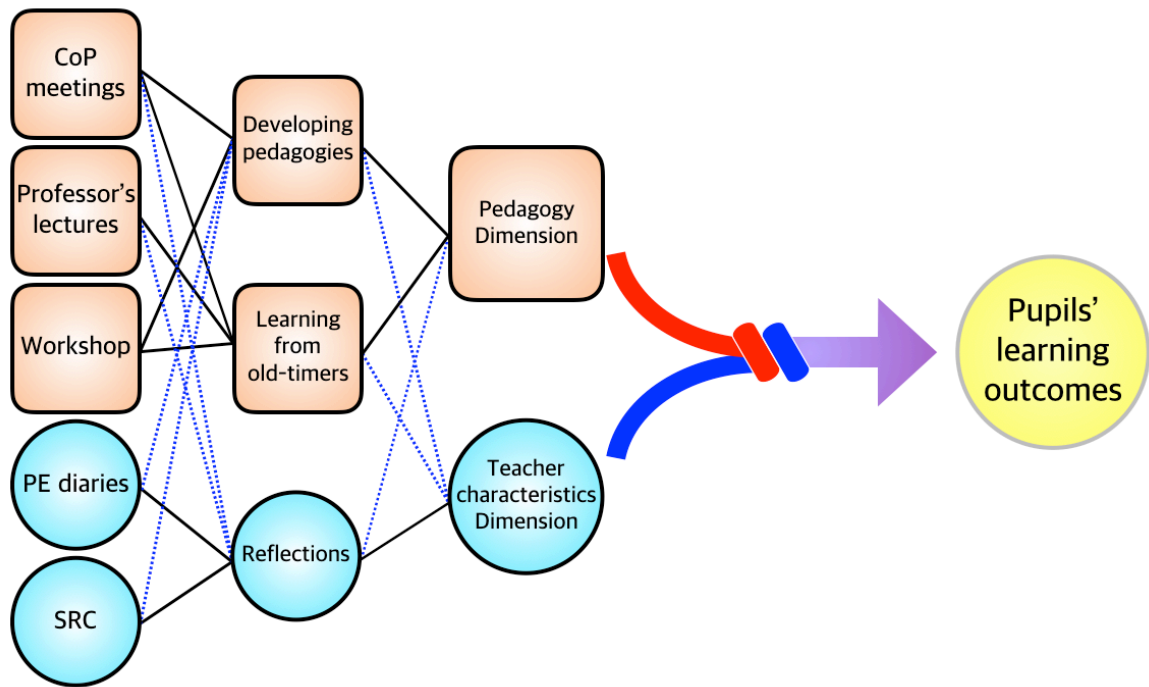
The example of Steve, and the impact on pupils, suggests that in order to teach character through PE, a 'blended approach' is required, embracing development of both pedagogies and teachers' characteristics. Data collected from other pupils also support this. For example, in terms of pedagogies, a pupil who had a negative view on character education through PE described Peter's lessons as 'cringeworthy' and, as a result, he made no change at all in his character. On the other hand, pupils who evaluated positively the new activities in John's lessons – for example, describing them as 'fresh' or 'necessary', reported making meaningful changes. This finding reinforces the importance of matching aims or activities of lessons with pupils'

specific needs (Sandford, Armour & Warmington, 2006) and developing a range of activities (Harvey et al., 2014). In addition, regarding teachers' characteristics, the data from this study suggest that pupils who made changes described their teachers' characteristics as 'caring', 'passionate' or 'kind'. This aspect also supported the importance of building positive relationships between teachers (or instructors) and pupils (Theodoulides, 2003; Jones, 2005; Lumpkin, 2008; Armour et al., 2013; Jung & Choi, 2016) in character education through PE. It can be argued, therefore, that both dimensions of pedagogy and teachers' characteristics should be considered together in understanding pupils' learning in the area of character education. This provides further support for the argument that teachers' professional development should be understood as a process of developing both dimensions of pedagogy and teachers' characteristics.

6.1.4 Summary of the section

The core theme, professional learning and its impact, has explained the ways in which teachers learn in the KPE-CoP and influences on teachers' professional development and pupils' learning. In short, as illustrated Figure 10 below, different activities supported in the KPE-CoP could be divided into three different forms of learning (Cochran-Smith & Lytle, 1999), and they helped teachers to develop new pedagogies and change their beliefs. As a result, these teachers were able to develop both pedagogies and teacher characteristic dimensions. It is argued that pupils' learning outcomes were influenced by what is described as teachers' 'blended' professional development.

Figure 10. The flow of professional learning in the KPE-CoP



6.2 Conditions for effective professional learning in the KPE-CoP

This chapter now turns to discussion about those features of the KPE-CoP, which resulted in the teachers' professional learning being regarded as more or less 'effective' from the teachers' perspectives. Data collected in this project clearly show that the nature and quality of teachers' professional learning were influenced by their levels of engagement in activities supported in the KPE-CoP. For this reason, analysing both enablers and barriers that influenced teachers' engagement in activities supported in the KPE-CoP is important. In this section, therefore, features of the KPE-CoP which influenced teachers' professional learning are analysed by three dimensions of CoP theory: mutual engagement, joint enterprise and shared repertoire (Wenger, 1998; Wenger-Trayner & Wenger-Trayner, 2015).

6.2.1 Keeping focussed on developing pedagogies

As was reported in the each teacher's vignette, most teachers joined the KPE-CoP 'voluntarily' in order to meet their prior expectation which was to develop their pedagogies by using the X

teaching model. In other words, they had positive views about the X teaching model and they were also keen to learn new ideas from existing members, and these were key factors in their decisions to join in the KPE-CoP. It is important to note that remarkably all the case-study teachers reported that they were able to meet their prior expectation through engagement in the KPE-CoP meetings and thought that thus it should be the main activity. Furthermore, in terms of its effectiveness, there is great deal of evidence supporting impacts of the meetings on the enhancement of teachers' pedagogies. For example, John and Peter reported that they were able to make substantial development in their pedagogies which described as 'making something out of nothing' (Peter, teacher focus group) through involvements in the KPE-CoP meetings. It was important, therefore, for the KPE-CoP to offer sustainably teachers the meetings (O'Sullivan, 2007).

As was reported in the section 5.5 and 5.6, however, members of the KPE-CoP had also been encouraged to become involved in additional and external activities, such as writing PE textbooks or holding workshops which were not directly related with the activities of sharing or developing pedagogies. In these circumstances, it was not possible for the KPE-CoP to provide sufficient amount of time for the meeting, and as a result, it influenced teachers' enthusiasm to engage other activities in the KPE-CoP. For example, Kimberly felt there was a mismatch between her prior expectation that the KPE-CoP would offer opportunities to get some practical feedback from more experienced colleagues (old-timers) and the condition of the KPE-CoP which focused more on external activities during this study was being undertaken. This resulted in her losing some enthusiasm for the meetings and also other activities supported by the KPE-CoP. Judy also reported that she used to actively engage in the meetings when the KPE-CoP offered sufficient opportunities to discuss and share pedagogies, but the loss of focus had reduced her enthusiasm for the same reason. In line with this, data from the interviews with

Henry illustrated that some newcomers finally quit the KPE-CoP because they felt their initial expectations had not been met.

These examples clearly indicated that for these teachers, their professional learning is less effective when the KPE-CoP loses its clear focus on developing pedagogies. This phenomenon can be analysed by the frameworks of 'joint enterprise' and 'shared repertoire' which are core elements of a CoP and directly influence practice of a CoP (Wenger, 1998). As discussed in the previous section, the activity of developing pedagogies using the X teaching model is closely related to both aims (joint enterprise) and mediums (shared repertoire) of the KPE-CoP. In this sense, if the two core elements of a CoP are applied to the KPE-CoP, losing focus on the KPE-CoP meetings (changes to both joint enterprise and shared repertoire) influenced teachers' professional learning (practice). Data clearly illustrated that this phenomenon led members to feel the KPE-CoP had been losing sight of the original aims and mediums which aligned with their motivation to engage in the KPE-CoP. Most teachers' expectations of having more time for the KPE-CoP meeting presented in the findings could also be analysed by these frameworks.

This finding supports the argument that changes in professional learning activities in a CoP influence teachers' levels of engagement (Deglau & O'Sullivan, 2006), and that CoPs tend to lose their core active and collaborative learning characteristics when they become bigger or seek to become more influential externally (Atencio, Jess & Dewar, 2012). It could be argued, therefore, that 'effectiveness' requires that members of a CoP agree, share and sustain the core purpose of CoP (Wenger et al., 2002; MacPhail et al., 2014).

6.2.2 Roles of the X teaching model

The X teaching model that was developed in 2002 by the professor who led the KPE-CoP is strongly associated with the 'joint enterprise' and 'shared repertoire' of a CoP as defined by Wenger (1998). According to this CoP theory, the concepts of 'joint enterprise' and 'shared

repertoires' refer to collective aim(s) of a CoP and medium(s) to achieve to the aim(s) respectively. In the KPE-CoP, the joint enterprise comprised of offering 'whole-person education' through PE which is aligned with the goal of the X teaching model, and the X teaching model was the most important means to achieve the goal. In this sense, the X teaching model was the 'raison d'être' of the KPE-CoP (Wenger et al., 2002, p. 31).

In the area of PE, developing instructional models and applying them to lessons in order to explore educational learning outcomes has been an important research focus (Siedentop, 1994; Dyson & Casey, 2012; Kirk, 2013). According to Metzler (2011), an instructional model is a comprehensive concept embracing from a fundamental educational philosophy through to specific teaching skills:

An effective instructional model will have a comprehensive and coherent plan for teaching that includes a theoretical foundation, statements of intended learning outcomes, teacher's needed content knowledge, expertise, developmentally appropriate and sequenced learning activities, expectations for teacher and student behaviors, unique task structures, measures of learning outcomes, and mechanisms for assessing the faithful implementation of the model itself (p. 9).

Despite some differences between the X teaching model and this comprehensive definition of an instructional model, there are clear areas of commonality given that the X teaching model had: i) a theoretical foundation (humanities-oriented physical education), ii) a clear expectation (whole-person education through PE), iii) intended learning outcomes (balanced development of skills, cognitions and attitudes) and iv) unique teaching and learning strategies¹⁰.

¹⁰ i) direct teaching behaviours (teachers' methods of instructing sport skills or strategies); ii) indirect teaching behaviours (teachers' styles of teaching; e.g. use of humour or facial expressions); iii) direct experience activities (e.g. activities that pupils actually do to acquire sport skills); and iv) indirect experience activities (e.g. reading books or watching movies).

In this sense, the KPE-CoP could be regarded as a PE teacher learning community sharing the same instructional model. It is worth noting that the data suggest that this organisation of the KPE-CoP supported teachers' professional learning. Firstly, as mentioned earlier, the KPE-CoP had a clear aim and activities. Expressions by teachers in the data such as: 'sense of belonging formed by the X teaching model', and 'the X teaching model family' indicated that this feature worked as a catalyst for teachers' sustained professional learning. Certainly, most activities of the CoP were consistently focussed on the same educational aim rooted in the model, thus encouraging teachers to engage actively in shared professional learning. Given that the X teaching model was developed by the lead professor and that the participating teachers developed new pedagogies through the KPE-CoP meetings, it could be said that aims and activities of the KPE-CoP were generated by members themselves. This aspect of the KPE-CoP is, therefore, different from which the aims or activities of most CPD programmes that are decided by outside experts or leaders (O'Sullivan, 2007). Furthermore, this benefit of the KPE-CoP supports the argument that teachers' professional learning is likely to be more effective when the aim of CoP is (re)negotiated by teachers themselves (Parker et al., 2010).

Secondly, it can be argued from the data that since teachers in the KPE-CoP shared the same practice through the X teaching model, their professional learning could be more specific and substantial. That is, since the content of what teachers shared in the KPE-CoP meetings was based on their teaching experience using the X teaching model, teachers were able to share much practical knowledge and experience. For example, Judy was able to obtain some teaching ideas which another member developed, and she then refined them through application in her school context, and was then able to share additional experiences and ideas with other teachers in the KPE-CoP meetings (see section 5.5). All the case-study teachers reported that this feature of the KPE-CoP – substantial sharing of practical experiences on a shared model – was a key

factor in its success for them. This finding has been reported elsewhere in the PE-CPD literature (Lee & Choi, 2015) and it indicates a potential way forward for PE-CPD programmes that attempt to use model-based practice as the focus.

It has been argued elsewhere that a model-based practice approach to PE-CPD has the potential to enhance teaching quality and pupils' learning (Casey, 2014; Casey & Goodyear, 2015). Yet, to date, it has been argued that there is a gap between teachers' learning about instructional models and their application in individual school contexts. For example, Ko et al. (2006) found that despite teachers attending a PE workshop delivering the Sport Education model, and even though teachers were able to see the value of the model, their understanding of it was 'superficial' (p. 411). This meant that teachers were unable to make meaningful changes to their pedagogies. Moreover, Sinelnikov (2009) reports that PE teachers had limited opportunities to observe live teaching using model(s) in CPD workshops, making it difficult for teachers to understand fully the model(s). These factors worked as barriers for teachers when they tried to use new pedagogies. As a result, when unable to develop authentic and detailed pedagogies or external support, they tend to apply very limited contents of models to their contexts (Curtner-Smith, Hastie & Kinchin, 2008) or indeed resist the new ideas and return to their previous skill learning-oriented pedagogies (McCaughtry, Sofu, Rovigno & Curtner-Smith, 2004; Ko et al., 2006). It could be argued, therefore, that the data from the KPE-CoP suggest a new approach that may be more successful; i.e. combining research on model-based practice and CoPs in ways that might overcome some of the challenges of both.

The KPE-CoP – as CPD – was created with a clear aim to help teachers to develop their teaching practices by using the X teaching model. It is important to note that, as has been discussed in this sub-section, the X teaching model of the KPE-CoP is closely related to the three core dimensions of a CoP: i) mutual engagement (described as 'the X teaching model family'); ii)

joint enterprise (offering whole-person education through PE which is the same aim of the X teaching model); and iii) shared repertoire (as the most important means to achieve the goal). It could be argued, therefore, that the X teaching model that was intentionally developed is the most important factor in examining teachers' professional learning in the KPE-CoP.

This is different from the anthropological perspectives of the original CoP theory (Lave & Wenger, 1991) in which CoPs are naturally occurring and are not intentionally created and fostered to support members' learning (Barab & Duffy, 2012). As Hoadley (2012) argues, there has been a shift from viewing CoPs as naturally occurring to accepting that they can be created with a particular aim or for specific tasks. This phenomenon was also discovered in this project. That is, both the X teaching model and the KPE-CoP were created with an important goal (offering whole-person education through PE), rather than being naturally occurring through personal relationships between the professor and the founding members. Furthermore, the X teaching model is the most important factor influencing both the creation of the KPE-CoP and in teachers' professional learning. Thus, based on this evidence, it could be argued that an intentional creation or development of a pedagogical tool or strategy can act as a pivotal factor in examining teachers' professional learning in a CoP as an effective form of CPD.

6.2.3 Fresh things needed

As discussed in section 6.1.1, the case-study teachers placed a high value on the KPE-CoP meetings where they actively shared and created pedagogies. In this study, however, an additional issue arose about effective professional learning for the old-timers in the KPE-CoP. John and Peter reported that they had lost their passion for learning through their involvements in the KPE-CoP meetings. In both cases, engagement in the meetings was no longer attractive for them even though they had a strong view that the meetings should be the main activity of the KPE-CoP. Of course, this phenomenon was partly due to changes to their personal lives; for

example, changes to family life or taking a more responsible position in their schools. Interestingly, however, both John and Peter pointed out that their loss of enthusiasm was also due to some internal features specific to the KPE-CoP. In particular, John used an expression ‘uninteresting meetings’ to describe the KPE-CoP meetings, and he argued that he was looking for ‘something fresh’. In other words, for John and Peter, fresh stimuli are needed in order to sustain professional learning. This phenomenon is consistent with the views of Wenger et al. (2002):

Successful communities offer the familiar comforts of a hometown, but they also have enough interesting and varied events to keep new ideas and new people cycling into the community (p. 61).

John and Peter felt they were unable to find new exciting ideas to develop their pedagogies; instead, they had spent most of the time supporting others. In this sense, they had almost become ‘teacher educators’ in both PE-CPD programmes and the KPE-CoP. That is, it had become natural for them – as teacher educators – to teach or help PE teachers, rather than being involved in their own personal process of ‘learning to teach’ (Feiman-Nemser, 2012). It is clear, therefore, that in order for these teachers to be life-long learners ‘a constant search for improvement’ (Hodkinson & Hodkinson, 2004b, p. 174) was required. From this perspective, it seems reasonable that the KPE-CoP needed to offer new types of learning and events – which could be regarded as new ‘shared repertoire’ (Wenger, 1998) – if it was to sustain professional learning and development for the old-timers (Pasch, Wolfe, Steffy & Enz, 2000; Fishman, Marx, Best & Tal, 2003).

6.2.4 The family-like atmosphere

Both the teachers and the professor regarded the KPE-CoP as a community, which is not only to develop PE pedagogies but also to share personal lives with each other, as was illustrated in

the section 5.7, Data illustrated that the professor and the teachers had developed close knit relationships in the KPE-CoP through engaging in social events. Generally, all the members reported positively on the KPE-CoP's 'family-like' climate and suggested that it impacted on positively on their professional learning. That is, this atmosphere prevailed in the meetings so the teachers felt they were able to discuss ideas in a supportive, happy climate and this helped to ensure the meetings were productive. For example, John used the word 'a good place to sow the seeds' to describe the supportive atmosphere of the meetings, which led to free and productive discussions. George also reported that unlike the feelings of isolation and lack of cooperation he experienced from co-workers in his school, the warm atmospheres of the KPE-CoP's meetings were inspirational and helped him to be very engaged in the discussions about developing pedagogies. In this sense, the family-like atmosphere of the KPE-CoP worked as a 'lubricating oil' for the teachers' professional learning. The effectiveness of these positive interactions between members in the KPE-CoP supports the findings of previous research on PE-CoP; for example, the importance of 'informal fabric' between teachers (Parker et al., 2010, p. 349) or the necessity of offering a supportive environment (Meyer, 2002; Duncombe & Armour, 2004; Keay, 2006; O'Sullivan & Deglau, 2006).

Linked to that finding is the importance that these teachers placed on having face-to-face meetings. That is, although they recognized the usefulness of using the online café or mobile chat rooms for their professional learning and communications, there was a powerful sense of seeing the face-to-face meetings as essential and 'things we *must* do', as most teachers stated. A teacher in another PE-CPD study expressed it as follows: 'we have to have food and wine' for learning (Patton et al., 2013, p. 447). All the case-study teachers reported that their 'genuine' professional learning was generated by having 'actual conversations' in the meetings rather than by sharing pedagogies online. This phenomenon reinforces that although teachers' learning

could be supported and fostered by using technologies (Hoadley, 2012; Goodyear et al., 2014b), it cannot guarantee authentic learning (Wenger, White & Smith, 2009). In this sense, the actual conversation in face-to-face meetings was the essential element to understanding effectiveness in teachers' professional learning. Some of the teachers' expressions such as '(using) online café alone by no means makes teachers grow, it is merely information delivery' (Steve, Questionnaire), 'sharing teaching ideas could not be generated with strangers, that is the reason we prefer face-to-face meetings' (John, Questionnaire), or 'the power of sticky or gluey communication' (Kimberly, Questionnaire) support the importance of face-to-face conversations in the supportive environment of the meetings. Furthermore, Judy also reported that she used to be actively engaged in the meetings and other activities supported in the KPE-CoP because of strong bonds between her and the old-timers, but the relatively low level of personal engagement with the newcomers led to her hesitation to attend in the meetings. This phenomenon supports an argument of Hoadley (2012, p. 292) which suggests that both higher levels of 'connectivity' and low levels of 'institutionalization' are important factors for effective members' professional learning.

These examples suggest positive relationships with other members was one of the important preconditions for the effectiveness of collaborative learning in the KPE-CoP. That is, even if the same teaching materials or themes for professional development are offered to teachers, the processes or outcomes of professional learning will depend on professional intimacy between the teachers. In this sense, learning is not simply a process of participating in particular situations; but it is a process which is highly linked to the dimension of human relationships (Hodkinson & Hodkinson, 2004b; Whitcomb et al., 2009; Wenger-Trayner & Wenger-Trayner, 2015). It could be possible to argue, therefore, that the teachers' professional learning in the KPE-CoP depends on, to some extent, the degree of professional intimacy between them. This

finding strongly supports the suggestion that developing positive relationships between members is a key factor in effective professional learning (Armour & Yelling, 2007; Whitcomb et al., 2009; Atencio et al., 2012; Hord & Tobia, 2012; Patton et al., 2013).

Yet, the family-like climate of the KPE-CoP did not always work positively. In this project, an important weak point was also identified in that members tended not to be critical of each other because the atmosphere was ‘too’ family-like. This climate made teachers reluctant to be critical even where their colleagues did not take full responsibility for their part of joint activities. This phenomenon supports the argument that intimacy communities may result in ‘a reluctance to critique each other’ (Wenger et al., 2002, p. 141).

These general findings regarding relationships between members and its impacts on teachers’ professional learning can be analysed the framework of ‘mutual engagement’ of CoP theory (Wenger, 1998). Wenger examined the concept of mutual engagement as which is closely related to ‘relationship’, ‘doing thing together’ or ‘social complexity’ (p. 73). From this perspective, along with both joint enterprise and shared repertoire, the relationship between members is one of the core elements to understand teachers’ professional learning in the KPE-CoP.

6.2.5 Balance between control and empowerment

As reported in section 5.8, the professor in the KPE-CoP acted not only as ‘an advisor’ who offered advice and support for teachers’ learning, but also as ‘the actual leader’ managing the CoP, and these two roles impacted on teachers’ professional learning differently. In this discussion, the impact of each role on ways in which teachers learned in the KPE-CoP, and a necessity of balance between them are examined.

In the advisor role, data clearly illustrated the effectiveness of the professor's supports for teachers' professional learning and the development of the KPE-CoP itself. For example, the professor provided the teachers with formal and propositional knowledge (the fundamental thoughts and concepts of the X teaching model) and opportunities to share their pedagogies. Moreover, in terms of the effectiveness of these kinds of support for teachers' professional learning, the teachers reported that both kinds of professor's support were helpful to their understanding of the X teaching model in depth and their passion and willingness to engage in professional development (see section 5.8). These findings reinforce the argument that support from educational experts can help teachers to understand new strategies and apply them to their teaching contexts (Curtner-Smith et al., 2008; Casey, 2014). In addition, as an advisor, the professor offered intangible stimuli (e.g. being an exemplar who gives full commitment to the CoP and the area of sport pedagogy) and this also helped teachers to be involved in the process of continuous professional learning. In short, the advisor role of the professor supported teachers' professional learning in several different ways which is similar to the research on the effectiveness of 'facilitators' on teachers' professional learning (Parker et al., 2010; Patton et al., 2013; Goodyear & Casey, 2015).

At the same time, however, a different role of the professor, beyond that of facilitator, was discovered in this project. Teachers did not regard the professor as simply the advisor; rather, some regarded him as an actual leader of the KPE-CoP, even though Steve acted as the president while this study was being undertaken. There were two different factors which resulted in this phenomenon. Firstly, both the process of creation of the KPE-CoP and the importance of the X teaching model made the professor's higher influences in teachers' professional learning. That is, since many of the activities of the KPE-CoP were directly connected with the X teaching model, the professor, as the model developer, inevitably had a strong influence over teachers'

learning. Secondly, unlike the horizontal relationships among teachers, it could be argued that relationships between the professor and the teachers were 'vertical'. For the teachers, therefore, the professor was regarded as 'a senior whom we need to respect and serve' as Peter stated. This perspective resulted from the vertical relationships between lecturers and students which is based on the hierarchical culture in South Korea. As some teachers were taught by the professor in the same university, relationships between them had hierarchical roots. Consequently, both factors made the teachers regard the professor as the actual leader, and these vertical relationships influenced the teachers' autonomous professional learning.

This phenomenon is closely related to the concept of teacher empowerment. For example, data illustrated that there was a tendency for the KPE-CoP contents and activities to be decided by the professor rather than after discussions with the teachers. This could be regarded as a 'one-way communication' form of decision-making and it resulted in the teachers feeling that the new activities of the KPE-CoP were a 'burden', as Judy mentioned. Henry also reported that although he recognized the potential effectiveness of new activities influencing his pedagogies, he experienced the professor's ideas as 'compulsory but not unreasonable'. This finding resonates with the concept of teacher empowerment in professional learning in CoPs (O'Sullivan & Deglau, 2006; Parker et al., 2010; MacPhail et al., 2014). That is, professional learning is likely to be more effective when teachers are able to focus on what they want to learn (Meyer, 2002; Patton et al., 2013). Furthermore, this hierarchical issue of the KPE-CoP reinforces that when there is lack of consensus on how to decide what they would like to learn it can undermine teachers' effective professional learning (MacPhail et al., 2014). If this phenomenon is to be analysed by the theory of CoP, it can be argued, therefore, that teacher learning would be more effective if selecting activities (shared repertoire) and the decision-making process itself involved all members in the process (mutual engagement). Wenger et al.

(2002, p. 36) described this phenomenon as follows: ‘all communities of practice depend on internal leadership, but healthy communities do not depend on entirely on the leadership of one person’.

In addition, the concept of teacher empowerment is related to the concept of teacher agency. That is, the main agents of learning in teacher learning communities are primarily teachers (Hall & Hord, 2001). In other words, teachers might be regarded as merely information consumers or recipients of knowledge, rather than active learners, where their learning is wholly dependent on the direction of an external facilitators. Patton and Parker (2014) argued that authentic teachers learning in CoPs is about ensuring teachers view themselves as learners; not to ensure they simply acquire information or teaching strategies, and the concept of teacher empowerment is essential in order to meet this criterion. In other words, PE teachers’ professional learning is likely to be more effective when both the contents and directions of the learning are ‘more teacher-centered’ (Lee & Choi, 2015, p. 619).

6.2.6 Time and space

As discussed above, the case-study teachers’ involvements in the KPE-CoP meetings had the potential for positive impacts on their pedagogies. Yet, despite the teachers recognising the effectiveness of the KPE-CoP meetings, attendance at the meetings proved to be difficult for a number of practical reasons. This issue was closely related to the innate characteristics of the KPE-CoP.

That is, unlike school-based teacher learning communities, the KPE-CoP was not able to have a fixed place for the meetings. Thus, the teachers had to decide specific places for meeting every month. In this process, the distance from each school to potential meeting venue was an important issue for the teachers; in particular, a long distance was felt to be a barrier. For example, Steve commented that ‘the meetings used to seem pretty distant both mentally and

physically' and Michael who was very passionate about engaging in the meetings, reported the same problem.

Furthermore, the fact that the meetings were held at weekends was also a formidable barrier to the case-study teachers' engagement. Most teachers reported this as a problem. For example, John and Peter had parenting responsibilities at weekends, so this timing was regarded as a major barrier. Also, during the period when data were collected, Kimberly had to attend post-graduate courses at the weekends. In addition, a new national PE policy named 'School Sport Club [SSC]' had been implemented in 2008 and as part of this teachers are required to assign more time and commitment to extra-curricular activities at weekends. Under these circumstances, additional attendance at the KPE-CoP meetings was 'an enormous burden' (O'Sullivan & Deglau, 2006, p. 443), and it certainly impacted on the capacity for engagement and learning.

These characteristics of the KPE-CoP do not align with the literature on the characteristics of effective CPD. Existing research has suggested that PE-CPD is more likely to be effective when it is conducted in school time or is school-based (Armour & Yelling, 2004b; Armour & Duncombe, 2004; O'Sullivan & Deglau, 2006). That is, CPD which is held out of school time/location requires significant commitment on the part of the teachers, including in time and money, and it acts as an important barriers to teachers' professional learning. In this project, this finding was again supported, adding further evidence to claims that temporal and spatial issues are key matters to be addressed in planning professional learning activities for teachers.

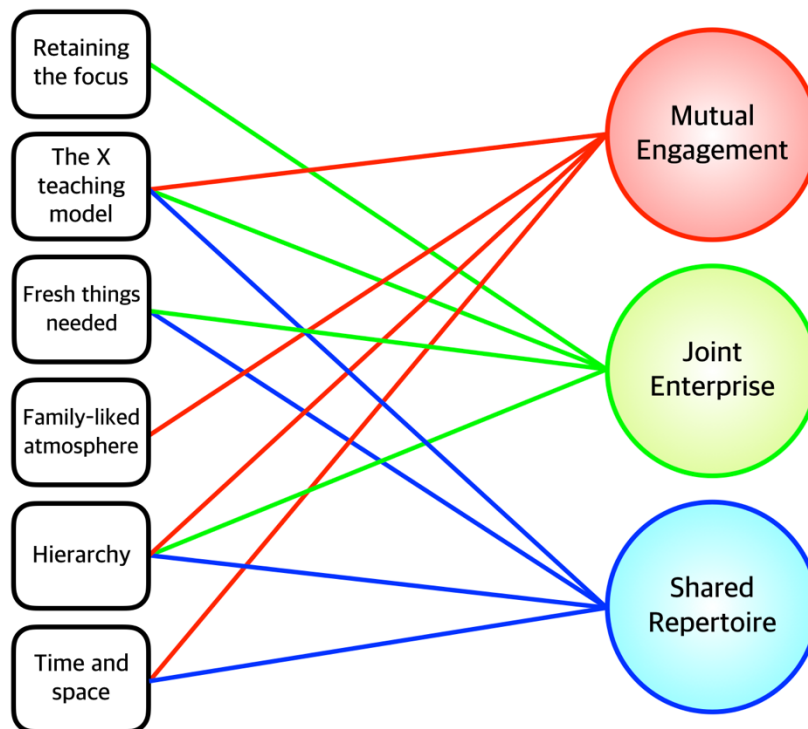
This temporal and spatial issue is related to the dimensions of mutual engagement and shared repertoire (Wenger, 1998). That is, as discussed in section named 'family-liked atmosphere', most case-study teachers regarded the KPE-CoP meetings as 'things we *must* do' and thought

that the practical problems (e.g. long distance to the KPE-CoP meetings) undermine the level of intimacy. In addition, the issue also influences changes in types of professional learning (shared repertoire). As reported in section 5.5, long distance to the KPE-CoP meetings led teachers to interact in the online café rather than in face-to-face conversations.

6.2.7 Summary of the section

This section has examined internal factors of the KPE-CoP which influenced teachers' professional learning making it more or less effective. The six factors were closely related to the core elements of a CoP (mutual engagement, shared repertoire and joint enterprise), as Figure 11 below illustrates.

Figure 11. Internal factors of the KPE-CoP influencing teachers' learning



Learning was more likely to be effective when the KPE-CoP focussed on the activity of developing pedagogies together. In addition, the X teaching model was the most important factor influencing teachers' professional learning in the KPE-CoP. In terms of professional

intimacy, the family-like atmosphere of the KPE-CoP was both positive and negative in terms of supporting professional learning. Similarly, the professor was an important positive factor in facilitating teachers' learning but there were also problems with low levels of teacher empowerment. Lastly, temporal and spatial issues acted as formidable barriers to teachers' learning.

6.3 The learning trail: a complex process

In the last section, different factors influencing what I have termed the 'learning trail' – from the teachers' professional learning in the KPE-CoP to pupils' learning outcomes in specific areas – are examined. It is no surprise that exploring the learning trail is a difficult task because, first of all, as discussed in section 6.1.2, understanding individual teacher's professional development is a complex process which is influenced by numerous factors. Moreover, as was reported in section 6.1.3, pupils' learning outcomes – especially the area of character education through PE – are also interconnected with various factors. It could be argued, therefore, that exploring the learning trail is a work of linking two different complex learning aspects. What makes this work more difficult is that there are other levels of factors influencing the learning trail, as reported in section 5.10.

Woods (2002) argued that teachers' professional learning is influenced by three different levels of factor: micro (personal); organizational (meso); and structural (macro). This categorisation has been used in a range of research on CPD (e.g. Caena & Margiotta, 2010; OECD, 2010). In this discussion, therefore, the different factors are divided into three levels: 1) micro, 2) meso, and 3) macro level. The micro level refers to individual factors relating to teachers and pupils. The meso level indicates a bigger dimension such as issues or factors in schools or the KPE-CoP. Lastly, the macro level denotes the biggest dimension including, for example, educational culture or national PE policies in South Korea. In the following sub-sections, the ways in which

factors influenced teachers' professional learning and pupils' learning outcomes are discussed, and the ways in which the three levels are interconnected and work together to shape the 'learning trail' are examined.

6.3.1 Micro level

It is no surprise that teachers are a key agent in the process of professional learning (e.g. Hall & Hord, 2001; Hodkinson & Hodkinson, 2003). In other words, even if effective (i.e. highly regarded) CPD is offered, teachers may not be prepared to accept the activities, it would be difficult to expect the teachers' effective professional development (Armour & Yelling, 2007; Patton & Griffin, 2008; Patton et al., 2012). In this sense, teacher learning has to be understood as a process which goes beyond the provision of CPD, but also takes account of factors that are internal and unique to the teacher (Day, 2004). The teacher vignettes presented in the chapter 4 illustrate this argument clearly. For example, in the case of Steve, he did not accept the activities supported in the KPE-CoP because he was unconvinced by the X teaching model and the benefits of being involved in the KPE-CoP. In the end, he quit the KPE-CoP and he felt that he had little enthusiasm for developing his pedagogies. After his wife gave a birth to their first child, however, his educational belief and attitudes changed. He then re-joined the KPE-CoP, starting with 'legitimate peripheral participation', and has actively engaged with many of its activities to move towards 'full participation' (Wenger, 1998). In this process, Steve experienced some eye-opening changes to his understanding of his pedagogies and their impact on children, and this was an ongoing process at the time of data collection. It could be seen, therefore, that changes to his personal and educational life led to his re-engagement in the KPE-CoP and professional growth. This explains the earlier comment that a teacher's professional development is a process influenced not only by 'what kinds of professional activities are offered', but also 'how an individual teacher receives and engages in the activities'.

The concept of ‘learning careers’ as proposed by Bloomer and Hodkinson (2000) is a useful way to conceptualise the ways in which these teachers engaged in professional learning. The concept of learning careers refers to ‘the development of dispositions to learning over time’ (p. 590) which is influenced by various factors. If this concept is applied to the case of Steve, his educational beliefs and attitudes (i.e. could be regarded as disposition) to pedagogies and pupils (essential factors of learning) have changed (over time) by a number of channels which are internal and external to teaching practices. Through this development of his learning careers, as discussed in the section 6.1.2, Steve had developed his pedagogies and ITBs. It is important to note that there was no change in activities supported in the KPE-CoP during the development of Steve’s pedagogies and ITBs. It could be argued, therefore, that Steve’s professional learning was attributed to the changes in his own learning career. His comment ‘attitude to receive any types of learning is much more important than CPD provisions’ also supports this phenomenon. The other teachers also, remarkably, said the worthy of internal status of preparation for professional development. It could be argued, therefore, that teachers’ dispositions to learning have enormous impacts on their professional development.

The concept of learning careers was also relevant for understanding the process of pupils’ learning (Dismore, Bailey & Izaki, 2006; Dyson, 2006). Data illustrated that pupils’ attitudes to character education through PE impacted on their learning outcomes. In other words, each pupil’s preferences for different types of PE provision were different and this influenced his/her level of engagement in the activities designed to support character education through PE. For example, even where Peter designed and prepared a series of activities to underpin character education, some of his pupils were much more interested in learning sports skills in PE and were not prepared to accept the new teaching activities. Under these circumstances, it was difficult to see how Peter’s new pedagogies could lead to character education; rather, according

to both Peter and the pupils, it resulted in conflicts between them. Indeed, the outcomes were almost wholly negative and this acted to decrease pupils' engagement in the lessons. In this sense, it is clear that pupils' learning careers prior to a pedagogical initiative are likely to be a powerful factor in determining the effectiveness of teachers' professional learning (Goodyear, Casey & Kirk, 2014a).

6.3.2 Meso level

The KPE-CoP is a good example of a meso level structure. Since several issues in the KPE-CoP influencing teachers' professional learning already examined in the previous section, other meso level of factors outside of the KPE-CoP are examined here.

The case-study teachers reported that there were substantial difficulties in the process of bringing their learning generated in the KPE-CoP to their school contexts. Unlike school-based CoPs, the teachers in the KPE-CoP worked at different schools so that the professional learning supported in the KPE-CoP could not fully take into account each school's context. Thus, bringing teaching ideas learned in the KPE-CoP was not a seamless journey from 'learning' in the KPE-CoP to 'implementation in schools'. This is a common finding that PE-CPD programmes inherently have (Armour & Yelling, 2004b; Ko et al., 2006; Armour & Makopoulou, 2012). In other words, even if teachers developed and shared some teaching ideas from the KPE-CoP, applying it his/her school context was challenging because of a number of variables (e.g. co-workers, head teacher or budget). Each factor and its influences in the learning trail are examined.

First of all, collaboration with co-workers was an influential factor in learning. The case-study teachers reported that they needed to find a middle ground in the process of developing a school PE curriculum with co-workers. In every school contexts in this project, two or three PE teachers taught the same grade together. Thus, the teachers needed to secure agreements

between themselves on aims (i.e. what kinds of educational benefits we will pursue this year?), topics (i.e. what kinds of physical activities or sports will we teach this year?) and assessments (i.e. how well we evaluate pupils' learning outcomes?) for their schools' PE curriculum before starting a school year. This process of finding agreements sometimes resulted in conflict between teachers and co-workers, as reported in the case of Peter. Also, the case of Henry illustrated that the difficulties he faced in seeking to apply new pedagogies using the X teaching model because the head of PE department rejected his ideas. Although both Peter and Henry coped with this issue by making some changes to the pedagogies learned in the CoP (Curtner-Smith et al., 2008), securing agreements on pedagogies with co-workers was a challenging task that needs to be considered in the learning process (Hastie, MacPhail, Calderón & Sinelnikov, 2015; Soebari & Aldridge, 2015).

Securing agreements with co-workers was related to not only to the contents of the school PE curriculum but also to the personal characteristics of co-workers or relationships between them. For example, in the cases of John and George, they were not able to even try new pedagogies developed in the KPE-CoP. Instead, they had to teach traditional activities such as football or basketball which was favoured by more experienced teachers who have lost their passion for PE. This lack of agreement was attributed to the experienced teacher who was described as being very resistant to change. A finding was that there was evidence of clear resistance to the X teaching model (discussed further in the section 6.3.3). This resulted in John and George being unwilling to try new activities or persuade co-workers to adopt the model. This finding reinforces the argument that co-workers' unwillingness to make changes works as a barrier to teachers' professional learning in school contexts (Bechtel & O'Sullivan, 2007; Patton & Griffin, 2008).

Other factors in the teachers' school contexts also influenced the process of teachers' cascading their professional learning. As reported in the cases of Kimberly and Judy, the financial supports from their schools or departments acted as both enablers and barriers. Furthermore, as the school context in where George works illustrated, the concept of teachers overload was also an important factor interrupting the learning trail. For George, though he had a high-level of willingness to develop pedagogies, contextual factors in his school were experienced as insurmountable barriers. That is, the other aspects of George's role, such as being a homeroom teacher, the head of PE department and the football team coach actually detracted from his focus on his teaching, and this also impacted negatively on his ability to apply the pedagogies learned in the KPE-CoP. Furthermore, the lack of co-operation from the principal also acted as strong barrier to his professional development. This finding supports the argument that school contexts and the roles of the principal/head teacher have a strong influence on teachers' professional learning (Curtner-Smith et al., 2008; Jung, 2012).

The findings of this project reinforce those of previous research on school-based PE-CoPs. There have been some – although not many – studies exploring the effectiveness of school-based PE-CoPs on teachers' professional learning (Duncombe & Armour, 2004; Keay, 2005, 2006; Goodyear & Casey, 2015). These studies report that a school-based CoP approach could be helpful in supporting teachers' learning despite some contextual barriers, for example, lack of support from a school-head teacher or a negative department culture. These contextual factors in the school dimension were also found in this study. In this sense, it could be argued that a CoP based outside of a single school may have even more challenges because it has to overcome not only the school contextual barriers but also the gap between the activities in the KPE-CoP and the needs of practice in each teacher's school context.

This section has, so far, explored the influences of micro and meso level factors in the learning trail. It is clear that both teachers' and pupils' learning careers and school contextual factors make understanding the learning trail difficult. Moreover, unavoidable contextual factors in schools might undermine teachers' professional learning in the KPE-CoP. In this sense, it is certainly difficult to argue that teachers' professional learning generated in the KPE-CoP is well-connected with their teaching practices – and, finally, pupils' learning outcomes – because too many variables intervene in the process. What makes this process even more complicated is the existence of macro factors.

6.3.3 Macro level

As was reported in the previous chapter, the case-study teachers' professional learning was influenced by bigger issues, including political and cultural dimensions. In this discussion, the ways in which PE policies, teachers' and pupils' perspectives on PE, and status of PE in South Korea influenced teachers' and pupils' learning are examined.

Data illustrated that PE policies or national PE curricula had a considerable impact on teachers' professional learning. For example, in terms of PE policy, the PE policy 'School Sports Club [SSC]' was a barrier to the teachers' professional learning in the KPE-CoP. The fact that events and competitions for the SSC were all held at the weekend constituted a strong barrier for the teachers. All the teachers reported that they needed to instruct sports skills or to be with pupils at the weekend in order to implement the SSC and this strongly inhibited their availability for attendance at the KPE-CoP meetings and other activities related to professional development. For example, Kimberly stated: 'I am always worn out after doing the SSC at the weekend, I couldn't even think of going to the meetings at all'. In this sense, the SSC policy restricted Kimberly's professional learning in the KPE-CoP. This finding is consistent with earlier findings (Bechtel & O'Sullivan, 2007).

At the same time, and contrary to the point made above, the new national PE curriculum helped the CoP to be influential and was central to teachers' decisions to enhance their teaching. The 'creativity and character national PE curriculum' was developed in 2009, so the X teaching model that focuses on character education was of immediate interest to PE teachers and researchers in the area of sport pedagogy. Unlike in the UK (Department for Education, 2013) and Australia (ACARA, 2012), where national curricula are not wholly specified the national PE curriculum in South Korea is very detailed in terms of its design, methods and forms of assessments (Ministry of Education, Science and Technology, 2011). In this context, the focus of the teaching activities for character education through PE which had been developed in the KPE-CoP were particularly timely, and this also influenced the learning undertaken in the KPE-CoP. For example, the professor was asked to deliver more lectures on the X teaching model in workshops hosted by local educational ministries during this period. Also, some of the old-timers (including John and Peter) in the KPE-CoP had opportunities to demonstrate their teaching experiences using the X teaching model and its effectiveness in PE-CPD programmes. Both John and Peter reported that they were able to develop their pedagogies through engagement in these activities. It could be argued, therefore, that the development of the new national PE curriculum influenced positively professional learning in the KPE-CoP.

Yet, even though the national PE curriculum had a positive influence on the activities of the KPE-CoP and the teachers' professional learning, there were also barriers. Along with both policies and national curricula, educational culture also influenced teachers' learning (Biesta, 2011; Quennerstedt & Larsson, 2015). That is, although there have been a number of studies identifying the wide range of benefits to be gained from PE or sport engagement (e.g. Bailey et al., 2009), the narrow view of PE learning about and participating in sport-oriented activities has been dominant (Kirk, 2010), and this is also the case in South Korea (Choi, 2014b). This

tendency impacted on teaching practices in this study because it was held not only by many pupils and parents, but also large numbers of general PE teachers. For some PE teachers who had narrow perspectives about PE, the fact that the X teaching model included encouraging pupils to read books and write PE diaries was not welcomed, as illustrated in when the professor received a number of personal attacks from PE teachers when he introduced the X teaching model. As a result, this was a barrier even though the new national curriculum identified ‘creativity and character education’ as important. In the case of Henry, an experienced head teacher who was very passionate about developing new pedagogies but was not supportive of Henry’s pedagogies at first. The head teacher’s previous negative attitude is illustrative of her prior perspective on PE which is found widely in South Korea (Kim, Sin, Choi, Yang, Choi, Kim & Kwon, 2000). Over time, however, she changed her attitudes about the X teaching model as she was able to see the values of Henry’s lessons. This helped Henry to use the model and made it much easier to develop it in his context. Similar cases were also identified in other case-study teachers. In this sense, it could be argued that the perspective which Korean PE teachers had influenced teachers’ professional learning.

The low status of PE was also a formidable barrier to both the teachers’ professional learning and pupils’ learning outcomes. For example, the views of parents presented in the findings illustrated that their priority was that their pupils achieved higher grades in core subjects (Math, English, and Science) in order to enter a better school, rather than investing more time in PE. These parents’ attitudes to PE are not uncommon in South Korea (Abelmann & Park, 2004). For pupils, going to ‘crammer’ schools¹¹ after regular school in order to receive supplementary

¹¹ Most elementary/secondary school pupils go to private educational institutes (especially for English and Maths) or get relatively expensive private lessons which are offered from university students or educational experts. According to the 2015 Juvenile Statistics (Statistics Korea, 2015), 81.1% of elementary school pupils go to one or more private educational institutes.

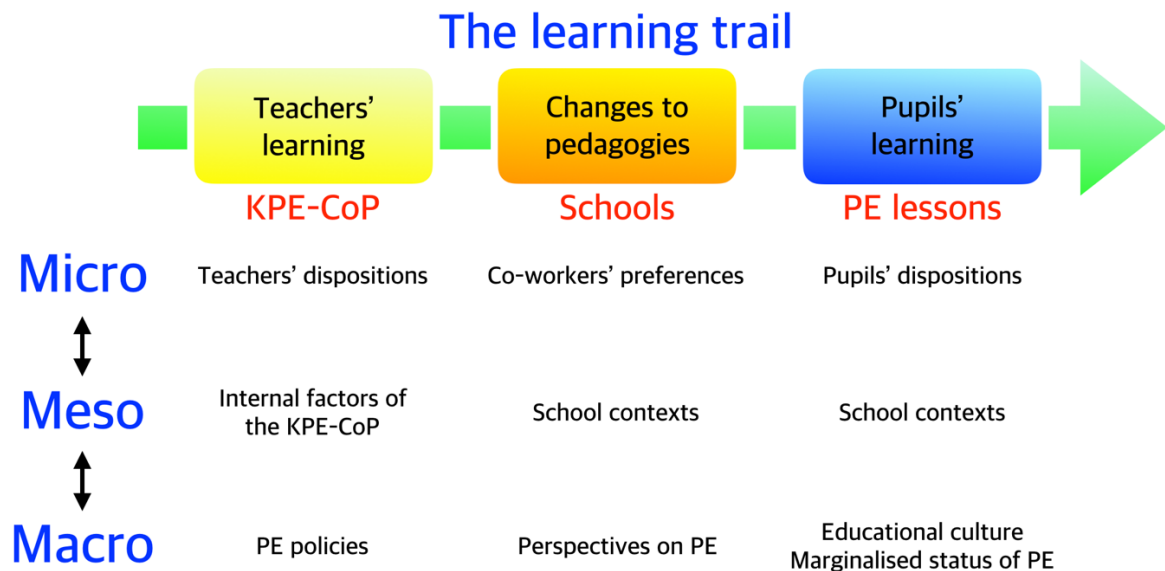
lessons is a normal process (Kim & Park, 2010). Involvement in PE is merely viewed as ‘time for stress a solution’ or ‘the minimum for maintaining physical fitness’, as stated by pupils. Both parents and pupils place a strong emphasis on ‘academic’ subjects and very narrow views on the role of PE are ingrained in the educational culture in South Korea (Lee, 2005). A culture of what has been described as ‘education fever’ in South Korea (Seth, 2002) means that parents are most interested in ensuring their children enter the best universities. Unfortunately, PE is not one of the essential subjects that counts for entry to universities. It is unsurprising, therefore, to find that PE is of marginal interest to both to parents and pupils. These contextual factors are clearly important in the findings because the marginalization of PE meant that expectations for pupils’ learning in this subject area are low, and this also undermines the importance of teachers’ professional development (Deglau et al., 2006). South Korea is not alone in this finding as it has been reported in the UK (Armour & Jones, 1998; Green, 2008), the US (Bechtel & O’Sullivan, 2007; Dyson, 2006), and the Irish context (Parker et al., 2012).

The general findings on the influence of macro level factors on learning are consistent with the argument that ‘neither the learning career of individual workers nor the communities of practice that they inhabit can be separated out from wider contextual issues’ (Hodkinson & Hodkinson, 2003, p. 17). Regarding the degree of influence found in this study, however, it is interesting to look at the whole learning trail to illustrate the power of macro factors. For example, even if John had developed his personal educational beliefs and pedagogies in the KPE-CoP (micro level) *and* he had persuaded his co-workers to be cooperative with him in implementing new types of PE lessons (meso level), still he had to overcome the powerful barriers that are based on the deep-rooted views of teachers, parents and pupils about the role of PE in education and its marginalized status (macro level).

6.3.4 Interconnectedness between each level

This section has examined the influences of each level of factors that are influential in the learning trail through teacher, CoP and lesson, as illustrated Figure 12 below.

Figure 12. The learning trail



The findings have shown that learning in the KPE-CoP was closely connected to the concept of individual teacher's learning careers (micro level) and PE policies or educational culture in South Korea (macro level). In this sense, this project strongly supports the argument that using the theory of situated learning (Lave & Wenger, 1991) and communities of practice (Wenger, 1998) cannot alone account for teachers' professional learning; instead, individual learners (micro), the KPE-CoP and school contexts (meso), and PE politics or educational culture in South Korea (macro) must be taken into account if learning is to be understood fully (Bloomer & Hodkinson, 2000; Hodkinson & Hodkinson, 2003; Fuller et al., 2005; Hodkinson et al., 2007; Biesta, 2011). If this theory is applied to the findings in this project, it can be argued that Steve's changes in his personal learning approach (micro level), contextual barriers in George's school (meso level) and the negative perceptions towards PE of the pupils and parents in Peter's school, which are rooted in the wider educational culture in South Korea (macro level), all worked

together to frame teachers' and pupils' learning. Hodkinson et al. (2007) used a map metaphor to examine the necessity of accounting for different dimensions in order to understand learning:

Different maps are drawn for different purposes and and show different things. But whatever the subject of a map is, it will appear different, sometimes dramatically different, at different scales. Imagine a map to show the position of an FE classroom. A large-scale map might show the layout of the college and the position of this room within it. A smaller scale might show the position the position of the college in the region, with roads and towns shown in relation to it. A smaller scale again might show the position of the hometown in the UK or even, if the scale was small enough, in Europe. Each time the subject is the same, but what we can see on the map, and indeed what aspects the map can illustrate about items and the relationships between items, is very different (p. 418).

This is similar to the suggestion made by Borko (2004) that comprehensive understanding of the characteristics of CPD, facilitators and contexts is required to evaluate the impact of CPD impact on teachers' learning.

Another important concept in this theory is that the three levels are *interconnected* (Hodkinson et al., 2007, 2008; OECD, 2010; Biesta, 2011). As has been illustrated the cases of the teachers and pupils, the micro, meso and macro level factors influence each other. For example, it has been illustrated that the deep-rooted perspectives about PE in South Korea (macro level) have influenced the educational philosophy of individual teachers (micro level) that has resulted in a lack of cooperation and willingness to learn within a PE department (meso level). Though the influence of micro and meso level factors on the macro level has not been discovered in this project, it seems reasonable to assume that it is feasible for micro and meso level activities taken collectively to have an impact on some aspects of the macro level. One example might be the public hearings that always take place as part of the process of developing new PE policies or national curricula. In this sense, the findings of this study reinforce the argument which 'cultures are produced, changed and reproduced by individuals, just as much as

individuals are produced, changed and reproduced by cultures' (Hodkinson et al., 2007, p. 419).

6.3.5 Summary of the section

Following the learning trail from the teachers' learning in the KPE-CoP to pupils' learning outcomes in lessons have revealed a complex process which is influenced by micro (teachers' and pupils' learning careers), meso (the KPE-CoP and school dimension) and macro (policies and cultures in South Korea) level factors, and all the levels are highly interconnected. These findings add further support to the concept of learning culture as proposed by Hodkinson et al. (2007).

6.4 Chapter summary

This chapter has discussed the findings reported in the themes in the context of the existing literature, and is comprised of three parts. Firstly, in terms of teachers' professional learning and its impacts, different activities supported in the KPE-CoP were helpful for teachers to develop both pedagogies and teacher characteristic dimensions. As a result, the teachers' blended professional development impacts on pupils' learning outcome. Secondly, there were some internal factors of the KPE-CoP which make teachers' professional learning more or less effective. Teachers' professional learning in the KPE-CoP was more effective when it focused on the activity of developing pedagogies which generate practical knowledge by collaborative ways. The KPE-CoP's supportive climate and the professor's different roles had both strengths and weakness. There were temporal and spatial problems for teachers to engage in the KPE-CoP. In the last section, different levels of factors (micro, meso and macro) influencing the learning trail and their interconnectedness were discussed.

Chapter 7: Conclusion

This chapter consists of five sections. In the first section, a summary of this project is provided. Secondly, the conclusion of this project is examined by considering the extent to which the research questions are addressed. Thirdly, some recommendations for the KPE-CoP which are based on the findings of this study and the existing literature on CoPs are provided. Fourthly, information on ‘what this project adds to the existing literature on PE-CoP’ is proposed including theoretical, empirical and practical implications. Lastly, ‘what I have learnt through this project’ and suggestions for further research are presented.

7.1 An overview of this study

This study was undertaken in order to fill a gap in the existing literature on PE-CoPs. There have been rather few studies on teacher learning in PE-CoPs even though it has been widely argued that CoPs are an effective alternative to the reported ineffectiveness of traditional forms of PE-CPD (Deglau et al., 2006; Armour & Yelling, 2007; Parker et al., 2012; Goodyear & Casey, 2015). Moreover, the existing research on PE-CoPs have not been provided robust evidence of their impact on teachers’ and pupils’ learning (Parker & Patton, 2016). This study was also prompted by a dramatic change of a national PE curriculum. In South Korea, secondary school PE teachers were suddenly required to teach ‘creativity’ and ‘character’ as part of the delivery of their PE lessons. As a result, teachers were required to change their existing teaching practices. As Kim and Kim (2013) report, however, PE teachers faced a number of difficulties in teaching creativity and character because of poor (or absent) helpful professional development programmes. One PE teacher learning community (as a CoP) in Korea had, however, been created in 2003 by a professor and secondary school PE teachers, and this was able to offer professional development activities that were aligned to the aim of the new PE national curriculum. The purpose of this study was, therefore, to explore the

‘learning trail’ from teachers’ professional learning in the KPE-CoP to pupils’ learning outcomes in the specific areas that the new national PE curriculum in South Korea proposed.

The main research question for this study was;

Is a community of practice approach to professional development an effective way to enhance teacher and pupil learning in physical education in South Korea?

In order to meet this aim, the following sub-questions were identified:

- How is an existing community of practice for PE teachers in South Korea structured and organised and what are its aims?
- What kinds of professional learning are supported in the CoP and how is ‘impact’ measured’?
- How does the learning undertaken in the CoP influence teachers’ pedagogies and practices?
- Is it possible to trace the trail from teachers’ learning in the CoP to changes in practice and impact on specific pupil learning outcomes?
- Is the CoP an effective – and cost effective – form of professional development in this case study?
- What can be learnt from this case study about the role of CoP in helping teachers in South Korea to deliver high quality PE as outlined in the government curriculum documents?

In order to address these research questions, this project employed a case study approach which is rooted in a constructivist paradigm (Thomas, 2011). The field work was undertaken from September 2014 to June 2015 with the professor who created the KPE-CoP, 8 PE teachers, and 41 pupils from different secondary schools. Data were collected through: i) semi-structured individual interviews with the professor and the case-study teachers; ii) observations of the case-study teachers’ PE lessons and the KPE-CoP meetings; iii) focus groups with teachers and

pupils; iv) open-ended questionnaires for teachers and pupils; and v) document analysis. The data collected were analysed using a constructivist revision of Grounded Theory (Charmaz, 2014) and the computer assisted software NVivo 11. As a result, 8 vignettes of individual teachers and a total of 10 themes were presented. In the discussion chapter, the findings of this study were examined in the context of the existing literature under three main headings: 1) Professional learning and its impact; 2) Conditions for effective professional learning; and 3) The learning trail is a complex process.

7.2 Conclusion

In this section, the research question and sub-questions are answered.

1) How is an existing community of practice for PE teachers in South Korea structured and organised and what are its aims?

The KPE-CoP was created in 2003 with a professor and secondary school PE teachers. Over the ten years since its creation, the KPE-CoP has grown in size and influence in the field of PE.

In terms of the process by which the KPE-CoP was structured and organized, there were several key characteristics. Firstly, regarding its form, the KPE-CoP is not based in a single school, nor is it associated with an educational ministry or an official research institute. Instead, a total of 35 teachers joined the KPE-CoP ‘voluntarily’. They work at different schools and meet together regularly to develop and share teaching strategies. Secondly, as reported earlier, unlike the roles of facilitators reported in previous research on PE-CoPs (Parker et al., 2010; Patton et al., 2013), the professor facilitator in the KPE-CoP was actively involved in most activities of the KPE-CoP because he created the KPE-CoP and developed the X teaching model. As a result, the professor acted not only an advisor but also as the leader of the KPE-CoP and this had an influence on teachers’ professional learning. Lastly, and most importantly, members of the

KPE-CoP shared the same teaching strategy (the X teaching model). Although there has been very little research in PE-CoP in which members have shared the same instructional model (e.g. Cooperative model; Goodyear & Casey, 2015), the KPE-CoP had a unique feature in that all members shared the X teaching model that has been created within the KPE-CoP rather than adopting an existing model.

In terms of the aims of the KPE-CoP, it has the clear aim of supporting teachers to offer ‘whole-person education’ through PE using the X teaching model. In order to meet this aim, the KPE-CoP includes a wide range of activities to support teachers’ professional development in this area.

2) What kinds of professional learning are supported in the CoP and how is ‘impact’ measured?

The KPE-CoP offered five different professional learning activities: i) monthly meetings which were the main activity of the KPE-CoP and in which teachers developed pedagogies together through sharing their teaching experiences; ii) writing PE diaries in which teachers were encouraged to write PE diaries regularly to reflect on their teaching practices; iii) sports reading clubs (SRC) where teachers read books related to educational philosophy then discussed them in the KPE-CoP meetings; iv) holding workshops to introduce members’ pedagogies using the X teaching model to other PE teachers; and v) the professor’s lectures in which he presented information about the X teaching model and provided additional information for the teachers on recent trends.

In this CPD study, investigating the impacts of the activities supported in the KPE-CoP on teachers’ teaching practices and pupils’ learning outcomes is the key task (e.g. Desimone, 2011). Thus, results of the case-study teachers’ engagement in the five KPE-CoP activities must be

evaluated for their impacts on changes in teachers' pedagogies *and* pupils' learning outcomes. In order to achieve this, the study investigated both teachers' perspectives on outcomes of their engagement in the five activities and pupils' perspectives on their teachers' teaching practices. Findings of this study illustrated that the case-study teachers evaluated the impact of professional learning generated in the KPE-CoP through three channels. Firstly, teachers identified their professional development by capturing changes to both their pedagogies and indirect teaching behaviours (ITBs) which is similar to the suggestion that teachers' professional development consists of *pedagogy* and *teacher characteristics* dimensions (Clarke & Hollingsworth, 2002; Goe, 2007). In terms of the *pedagogy* dimension, teachers were able to make some changes to their pedagogies in several ways including creating new activities or changing methods of assessments. Furthermore, teachers were able to identify the development of their *teacher characteristics* through the recognition that they were developing and using more 'appropriate' attitudes and behaviours in their practice. Secondly, the findings clearly show that teachers viewed pupils' responses to their lessons as the most decisive factor in their evaluation of their professional development. Specifically, in order to evaluate their professional development, the case-study teachers used professional judgement information about pupils' level of engagement and positive comments in their PE lessons, rather than using more formal quantitative measures such as measuring changes between pre- and post- testing scores (Hunuk et al., 2013). This phenomenon reinforces the argument that teachers judge professional development based on evidence of positive impact on pupils (Guskey, 2002). Lastly, along with these changes to teachers' teaching practices and pupils' learning outcomes, receiving feedback or comments from co-workers or parents was also a means by which teachers evaluated their professional learning.

Pupils' perspectives on the changes to the case-study teachers' practices were also investigated. In other words, in this study, 'how pupils evaluated the impact of PE lessons on their learning' is investigated. The findings show that pupils thought that their learning was influenced, to some extent, by teachers' professional development using the X teaching model.

3) How does the learning undertaken in the CoP influence teachers' pedagogies and practices?

As noted above, the case-study teachers' professional development followed two pathways: changes to pedagogy and in teachers' beliefs or attitudes. The findings suggested that these two types of development could – to some extent – be attributed to the five activities supported in the KPE-CoP.

Firstly, in terms of the development in the pedagogy dimension, the findings clearly show that three activities: i) the KPE-CoP meetings, ii) the professor's lectures and iii) holding workshops directly influenced the changes in teachers' pedagogies. Specifically, teachers were able to develop their pedagogies together through sharing each member's practical teaching ideas in the activities of KPE-CoP meetings and holding workshops. As a result, they were able to generate knowledge *of* practice (i.e. creating new teaching activities which fit with the aim of the new national PE curriculum in South Korea) and knowledge *in* practice (sharing practical ideas which embedded in members' actual teaching practices) (Cochran-Smith & Lytle, 1999). In addition, the professor's lectures were helpful as teachers were able to learn knowledge *for* practice (the fundamental focus of the X teaching model). The effectiveness of this KPE-CoP approach reported here was similar to the findings of previous research on PE-CoP (Keay, 2006; Parker et al., 2010; Goodyear & Casey, 2015).

In this project, a different approach to developing the teacher characteristics dimension was discovered. The KPE-CoP offered two unique activities for the developments of teachers' educational beliefs and attitudes: writing PE diaries and the SRC. Through engagement in both activities, teachers were able to reflect on their teaching practice regarding appropriate behaviours or ways of talking to pupils during their lessons. In terms of effectiveness, there was evidence that teachers recognized their improved attitudes and behaviours. Pupils also positively evaluated their teachers' personal approaches/characteristics in this regard. It is important to note that, as illustrated in the Figure 10, pupils' learning outcomes were influenced by both dimensions. That is, pupils' learning outcomes were influenced by teachers' 'blended' professional development. The findings clearly show, however, that teachers' professional developments could not directly influence pupils' learning outcomes. This phenomenon is linked to the next research question.

4) Is it possible to trace the learning trail from teachers' learning in the CoP to changes in practice and impact on specific pupil learning outcomes?

This question was posed because although linking teachers' professional learning in CPD and pupils' learning outcomes is an important consideration for CPD research, most existing research has found the task challenging (Yoon et al., 2007; Parker & Patton, 2016).

The findings of this project certainly reinforce the finding that tracing a learning trail, in this case from teachers' learning in the KPE-CoP to pupils' learning outcomes, is a very complex task which is influenced by numerous dynamic factors. Furthermore, because of the complexity, it is also very difficult to argue that there was a causal relationship between teachers' learning in the KPE-CoP and pupils' learning outcomes. This suggests there is a flaw in understanding

of the learning trail as a sequential process, and the research illustrated this point in several ways.

Firstly, in terms of teachers' professional learning in the KPE-CoP, the findings suggested that teachers' professional development occurred not only as a result of engagement in the KPE-CoP. Instead, teachers' professional development was influenced by numerous factors including changes in their personal lives (Fang, 1996; Richardson & Placier, 2001). Secondly, the findings demonstrated the importance of context as reported in previous studies (Armour & Yelling, 2004b; Ko et al., 2006). That is, even when it was clear that teachers had learnt new teaching ideas, this could never guarantee seamless application. Lastly, the findings suggested that pupils' dispositions towards a specific pedagogical initiative also strongly influenced the progress of the learning trail (Bloomer & Hodkinson, 2000). That is, pupils' preferences for different types of PE provision varied and this influenced his/her levels of engagement in PE. In addition, the existence of macro factors such as PE policies or educational culture in the context of South Korea added complexity. Similar to previous research (Hodkinson & Hodkinson, 2004a; Hodkinson et al., 2007; Quennerstedt & Larsson, 2015), it was found that macro level factors strongly influenced both teachers' and pupils' learning which again raises questions about the claim that teachers' engagement in the five activities in the KPE-CoP led directly to teacher or pupil learning.

On the other hand, this is not to argue that it is *impossible* to identify a link between teachers' professional learning and pupils' learning outcomes. Indeed, the findings of this project identified clearly that pupils' learning outcomes were, to some extent, influenced by teachers' professional development through engagement in the activities supported in the KPE-CoP, as the case of Steve vividly illustrated.

5) Is the CoP an effective – and cost effective – form of professional development in this case study?

At a general level, it is possible to argue that the KPE-CoP approach was helpful for the case-study teachers' professional development because most teachers reported that they were able to develop their pedagogies through engagement in the five activities. The findings clearly show that improvement to these teachers' improved teaching practices were influenced by several specific features of the KPE-CoP. Firstly, as discussed in section 6.2.2, the fact that members of the KPE-CoP shared the same teaching strategy (the X teaching model) positively influenced teachers' professional learning because the content of the activities were practical and specific. Secondly, positive relationships between members also acted as a 'lubricating oil' in the process of teachers' professional learning. In addition, the professor's role as a facilitator was regarded as helpful.

It cannot be argued, however, that these characteristics can guarantee that the KPE-CoP will be an effective form of PE-CPD. For example, the findings clearly suggest that the KPE-CoP was more likely to be effective when: i) the KPE-CoP focused on the activity of developing pedagogies together; ii) the family-liked atmosphere was maintained; and iii) teachers' empowerment was secured. Along with these conditions, however, the findings show that there were insurmountable barriers that were closely related to the inherent characteristics of KPE-CoP. As mentioned earlier (section 5.6), as a CoP located outside of a single school, it was very difficult for teachers to meet together. More importantly, teachers' learning generated in the KPE-CoP could not take into account each school's context. As a result, the case-study teachers' learning from the KPE-CoP was not easily transferred into their everyday practice. These practical issues acted as formidable barriers to teachers' professional learning.

Thus, it is difficult to come to a firm conclusion about whether or not the KPE-CoP was an optimally effective – or cost effective – form of CPD for these South Korean teachers.

6) What can be learnt from this case study about the role of CoP in helping teachers in South Korea to deliver high quality PE as outlined in the government curriculum documents?

As noted earlier, since the development of the 2011 national PE curriculum, PE teachers in South Korea have been challenged to teach the value of ‘character’ through PE. As Kim and Kim (2013) argued, however, teachers have not been appropriately supported to deliver this aspect in PE-CPD programmes. Furthermore, data illustrated that some teachers were not able to expect develop their pedagogies in their school contexts because of contextual factors, such as lack of support from co-workers. In these circumstances, it could be said that PE teachers in South Korea were unable to find appropriate places in which to further develop their teaching practices. These findings have implications for the development of existing or future PE-CoPs as detailed below.

Firstly, it is clear that a PE-CoP needs to act as a ‘venue’ that offers appropriate and relevant professional learning. The fact that most newcomers joined the KPE-CoP to learn pedagogies which fit with the new aims of PE as expressed by the Government supports the importance of this aspect. In the case of KPE-CoP, sharing the same teaching model or unique activities of writing PE diaries and the SRC made teachers’ professional learning more relevant to the national PE curriculum. In this sense, it could be argued that CoPs should try to offer relevant and specific activities.

Secondly, in terms of methods of professional learning, this study strongly reinforced the effectiveness of collaborative learning. The case-study teachers placed the highest value on the

activity of developing pedagogies *together*. As has widely been reported (e.g. Parker et al., 2012), PE-CoPs should attempt to offer teachers many opportunities to interact with other teachers.

Lastly, it is also important that PE-CoPs take into account the accessibility issue. This study found that practical issues, such as long distance travel to the KPE-CoP meetings and time of the meetings, acted as strong barriers. Thus, there is a need to consider temporal and spatial issues when creating PE-CoPs.

7.3 Recommendations for the KPE-CoP

This chapter has summarised the overall design and conduct of this study and has aligned the findings from the fieldwork with the original research questions. As has been noted, despite the clear finding that the KPE-CoP was very helpful in supporting teachers' learning and having some impact on pupils' learning, there were also some obvious weaknesses as identified. Based on the existing literature and the findings from this study, the following specific recommendations can be made to help the KPE-CoP to be more effective. This recommendation consists of three parts which are aligned to the core elements of a CoP reported in earlier chapter; i.e. 'joint enterprise', 'shared repertoire' and 'mutual engagement' (Wenger, 1998).

Firstly, it is essential for the KPE-CoP to focus sharply on the activity of developing pedagogies using the X teaching model because this was the organising activity of the KPE-CoP and the key factor influencing teachers' decision to join it. In this sense, the activity is the main justification for the existence of the KPE-CoP. As was discussed (section 6.1), however, when the KPE-CoP loses this focus and becomes involved in other activities which are not directly related to the 'joint enterprise', it was difficult for teachers to learn effectively. So, even though the KPE-CoP had become bigger and more influential, retaining the original focus is essential (O'Sullivan, 2007).

Secondly, in terms of ‘shared repertoire’, the KPE-CoP should consider offering fresh developmental activities around this joint enterprise to retain the interest of all members, especially ‘old-timers’. Some members reported that being exposed to the same activity repeatedly had reduced their enthusiasm for learning. So, offering not only the KPE-CoP meetings but also ‘interesting and varied events to keep new ideas’ (Wenger et al., 2002, p. 61) is also an important task which the KPE-CoP needs to take into account.

Thirdly, many members were keen to maintain the original family-like atmosphere of the KPE-CoP. Findings clearly pointed to the importance and effectiveness of encouraging positive relationships between members in their professional learning, which is similar to the findings of previous research on PE-CoPs (Duncombe & Armour, 2004; Keay, 2006; Patton et al., 2013). Despite weaknesses in the family-like approach being found (e.g. some teachers found it difficult to be critical of other members), the advantages of the positive climate outweighed the weaknesses. In terms of relationships between teachers and the professor, however, it could be argued that there is a need to re-balance the activities of the KPE-CoP between the professor’s role as a facilitator and teachers’ empowerment in learning. As discussed earlier, teachers’ professional learning was likely to be ineffective when the KPE-CoP had a tendency for content and activities to be decided by the professor rather than after discussions with the teachers. For sustained professional development, it could be possible to argue that the KPE-CoP needs to be more teacher-centred (Patton & Parker, 2014; Lee & Choi, 2015).

7.4 What this project adds to the existing literature on PE-CoP

This project reinforces some findings of previous studies on teachers’ professional learning and its impacts. For example, teachers’ professional learning is a broad concept (Calderhead, 1996; Goe, 2007) and the development of teachers’ educational beliefs and attitudes can impact on pupils’ character development (Carr, 2003; Jung & Choi, 2016). In addition, in terms of

theoretical aspects about the CoP theory, this project supports the findings of previous research on CoP that in order for professional learning to be effective, CoPs should: i) retain a focus on developing pedagogies (O'Sullivan, 2007; Atencio et al., 2012); ii) offer collaborative learning opportunities as much as possible (Little, 2002); and iii) consider professional intimacy between members (Patton et al., 2013). Lastly, some practical implications (e.g. access issue) which aligned with previous research on CPD have also been discovered.

At the same time, however, this project has added new theoretical aspects. As was illustrated in Figure 11, there is evidence that the six conditions have influence over the three core dimensions (mutual engagement, joint enterprise, and shared repertoire) of the KPE-CoP, and that this extends to teachers' professional learning. It is also important to note that two new areas of discovery from this projects are: i) roles of the X teaching model and ii) hierarchical relationships between the professor and teachers.

Firstly, as was discussed in section 6.2.2, there has been a shift in viewing CoPs as naturally occurred without a clear aim, to those that are intentionally created and fostered to support learning (Barab & Duffy, 2012; Hoadley, 2012). The KPE-CoP is a good example in that it was created with a clear aim which offers whole-person education through PE by using the X teaching model. It is important to note that the X teaching model acts as the most important mechanism that influences the three core elements of the KPE-CoP: i) joint enterprise (the same aim of the X teaching model); ii) mutual engagement (teachers described their relationships as 'the X teaching model family'); and iii) shared repertoire (the most important one of shared repertoire of the KPE-CoP), and finally teachers' professional learning. In this sense, in a CoP as CPD, a pedagogical tool or strategy which was developed intentionally played a pivotal role creation of the CoP and teachers' professional learning.

Secondly, this project has also discovered that hierarchical issues between members largely influence both the development of the KPE-CoP and teachers' professional learning. As was discussed in section 6.2.5, two different roles of the professor impact on teachers' professional learning. That is, although the role of 'advisor' – as a facilitator – was helpful for teachers' professional learning in that the professor provided teachers with propositional knowledge, his role of 'actual leader' undermines teachers' autonomous professional learning because of a tendency towards one-way communication which is based on the hierarchical culture in South Korea. It could be possible to argue, therefore, that in order support teachers' autonomous professional learning, the hierarchical issue between teachers and facilitator(s) should be taken into account in the CoP.

7.5 What have I learnt through this project?

In terms of technical skills in conducting qualitative research, using the software of NVivo 11 was helpful for me to manage and analyse the large amount of data collected. It allowed me to follow effectively the process of constructivist grounded theory (initial, focussed, and theoretical coding) proposed by Charmaz (2014). It is important to note, however, that I also needed to be familiar with the data collected first. That is, in order to overcome the weakness of using NVivo; for example, resulting in a distance between me and data, there was a need for me to read the printed transcripts repeatedly before all the transcriptions were imported into the NVivo. As a result, the combination of reading transcripts repeatedly and using NVivo led to more 'dense' and 'systematic' data analysis.

Developing an understanding of the importance of 'methodological coherence' is another learning outcome from engagement in this project. As Tracy (2010) and Sparkes and Smith (2014) argue, I was able to understand that traditional concepts of triangulation or member checking should be understood differently, especially in research undertaken in the social

constructivism paradigm. That is, the social constructivist paradigm assumes that there are no 'better' understandings of phenomena; rather, it is a process of 'constant crystallising' of understandings as they arose between the researcher and research participants. Thus, this project did not engage in traditional ways of triangulation; i.e. checking whether the researcher's analysis *is right* by asking research participants (Creswell & Miller, 2000). This can be described by using the term 'member reflection' (Tracy, 2010, p. 844) instead of 'member check'.

In addition, based on my learning throughout conducting this project, I can to understand what further research needed. This project explored the learning trail from teachers' learning from the KPE-CoP to pupils' learning outcomes, and it identified a range of strengths and weaknesses of the KPE-CoP approach. Some original contribution to the existing literature on PE-CPD is offered, although the limitations of the study are also acknowledged. As was noted in the methodology chapter, while depth of analysis is a strength of the research, the small scale of the research is a corresponding limitation. Accepting this limitation, however, other points can be made.

Firstly, in order to advance knowledge about effectiveness in teachers' professional learning, it is important to study learning processes and trails in-depth. This study reinforced the argument that teachers' professional development is a broad concept embracing both pedagogy and teachers' personal characteristics dimensions (Goe, 2007; Jung & Choi, 2016). Furthermore, in terms of developing the dimension of teacher characteristics, there was clear evidence that changes to these characteristics could influence pupils' learning experiences. In this sense, exploring the dimension of teacher characteristics should be taken into account in future research. Yet despite the evidence from this study on the the development of teacher characteristics, including experiencing major changes in their personal lives, the detailed

processes through which teachers develop and sustain their personal educational beliefs or attitudes requires further research.

In line with this, it would be helpful to shift the focus of CPD research in the future. In other words, previous research had tended to focus on investigating ‘how CPD provisions (or any types of professional learning) influenced teachers’ learning’. As shown in the data on the case-study teachers, however, teachers’ personal beliefs and their willingness to learn in CPD are at least as important as the design and conduct of CPD provision. This means that questions about ‘why’ teachers engage in professional learning are as important as questions about what is learnt and how. As was illustrated in this study, teachers’ professional learning was strongly influenced by their different levels of drive and passion for learning. Thus, questions such as ‘what makes teachers have more passion to develop their pedagogies’ or ‘how do these factors influence teachers’ pedagogies’ should be asked and addressed in future research.

Thirdly, it has been argued that the most important impact of teachers’ professional development is impact on pupils’ learning outcomes (e.g. Patton & Parker, 2014). From this perspective, similar to the first implication above, investigating pupils’ learning outcomes in depth is a key task for future PE-CPD research. This research will, however, continue to be difficult because, as identified in this research, changing pupils’ beliefs and actions in some areas is likely to be a long-term challenge (as one pupil in the research put it: ‘a kind of brainwashing is needed’). Moreover, numerous factors (e.g. micro, meso and macro) have to be taken into account. This finding points to a key limitation in this study. Data were collected over a relatively short period (3 months per each data collection phase) and detailed research on how different aspects of teachers’ learning impacted on pupils’ learning was not undertaken. Future research, therefore, should focus in-depth on the ways in which numerous factors impact on pupils’ learning outcomes over a longer period.

Lastly, similar to previous research (Hodkinson et al., 2008; Quennerstedt & Larsson, 2015), this study also found that the work of mapping teachers' professional learning and pupils' learning outcomes is influenced by school contexts and educational cultures. Given that teachers' professional learning cannot be detached from these contextual factors, however, investigating relationships between teachers' learning and contextual factors in depth is an ongoing task for future research.

References

- Abelmann, N. & Park, S. J. (2004). Class and Cosmopolitan Striving: Mothers' Management of English Education in South Korea. *Anthropological Quarterly*, 77(4), 645-672.
- ACARA (2012). *The Shape of the Australian Curriculum*. Sydney: Australian Curriculum, Assessment and Reporting Authority.
- Adler, P. A. & Adler, P. (1994). Observational techniques. In: DENZIN, N. K. & LINCOLN, Y. S. (eds.) *Handbook of Qualitative Research* (pp. 377-392). Thousand Oak, CA: SAGE Publications.
- Adoniou, M. (2015). Teacher knowledge: a complex tapestry. *Asia-Pacific Journal of Teacher Education*, 43(2), 99-116.
- Ahmed, D., Abdulla, A., Hundt, G. L. & Blackburn, C. (2011). Issues of Gender, Reflexivity and Positionality in the Field of Disability: Researching Visual Impairment in an Arab Society. *Qualitative Social Work*, 10(4), 467-484.
- Allan, G. (2003). A critique of using grounded theory as a research method. *Electronic Journal of Business Research Methods*, 2(1), 1-10.
- Allmendinger, P. (2002). Towards a Post-Positivist Typology of Planning Theory. *Planning Theory*, 1(1), 77-99.
- Andrews, D. & Lewis, M. (2007). Transforming practice from within: the power of the professional learning community. In: GOODSON, I. & HARGREAVES, A. (eds.) *Professional Learning Communities: Divergence, Depth and Dilemmas* (pp. 132-147). Berkshire: Open University Press.
- Angrosino, M. & Rosenberg, J. (2011). Observations on observation. In: DENZIN, N. K. & LINCOLN, Y. S. (eds.) *The Sage Handbook of Qualitative Research* (pp. 467-478). Thousand Oaks, CA: SAGE Publications.

- Angrosino, M. V. (2007). *Naturalistic Observation*. Walnut Creek, CA: Left Coast Press.
- Armour, K. & Sandford, R. (2013). Positive youth development through an outdoor physical activity programme: evidence from a four-year evaluation. *Educational Review*, 65(1), 85-108.
- Armour, K. M. (2006). The way to a teacher's heart: Narrative research in physical education. In: KIRK, D., MACDONALD, D. & O'SULLIVAN, M. (eds.) *The Handbook of Physical Education* (pp. 467-485). London: SAGE Publications.
- Armour, K. M. (2010). The physical education profession and its professional responsibility... or... why '12 weeks paid holiday' will never be enough. *Physical Education and Sport Pedagogy*, 15(1), 1-13.
- Armour, K. M. & Duncombe, R. (2004). Teachers' continuing professional development in primary physical education: Lessons from present and past to inform the future. *Physical Education and Sport Pedagogy*, 9(1), 3-21.
- Armour, K. M. & Griffiths, M. (2012). Case study research. In: ARMOUR, K. M. & MACDONALD, D. (eds.) *Research Methods in Physical Education and Youth Sport* (pp.). London: Routledge.
- Armour, K. M. & Jones, R. L. (1998). *Physical Education Teachers' Lives and Careers: PE, Sport, and Educational Status*. London: Falmer Press.
- Armour, K. M. & Makopoulou, K. (2012). Great expectations: Teacher learning in a national professional development programme. *Teaching and Teacher Education*, 28(3), 336-346.
- Armour, K. M., Quennerstedt, M., Chambers, F. & Makopoulou, K. (2015). What is 'effective' CPD for contemporary physical education teachers? A Deweyan framework. *Sport, Education and Society*, doi: 10.1080/13573322.2015.1083000.

- Armour, K. M., Sandford, R. A. & Duncombe, R. (2013). Positive youth development and physical activity/sport interventions: mechanisms leading to sustained impact. *Physical Education and Sport Pedagogy*, 18(3), 256-281.
- Armour, K. M. & Yelling, M. R. (2004a). Continuing professional development for experienced physical education teachers: Towards effective provision. *Sport, Education and Society*, 9(1), 95-114.
- Armour, K. M. & Yelling, M. R. (2004b). Professional 'development' and professional 'learning': bridging the gap for experienced physical education teachers. *European Physical Education Review*, 10(1), 71-93.
- Armour, K. M. & Yelling, M. R. (2007). Effective Professional Development for Physical Education Teachers: The Role of Informal, Collaborative Learning. *Journal of Teaching in Physical Education*, 26(2), 177-200.
- Atencio, M., Jess, M. & Dewar, K. (2012). 'It is a case of changing your thought processes, the way you actually teach': implementing a complex professional learning agenda in Scottish physical education. *Physical Education and Sport Pedagogy*, 17(2), 127-144.
- Atkinson, P. & Coffey, A. (2011). Analysing Documentary Realities. In: SILVERMAN, D. (ed.) *Qualitative Research* (pp. 77-92). London: SAGE Publications.
- Atkinson, P. & Silverman, D. (1997). Kundera's Immortality: The interview society and the invention of the self. *Qualitative Inquiry*, 3(3), 304-325.
- Bailey, K. D. (2008). *Methods of Social Research*. New York, NY: The Free Press.
- Bailey, R., Armour, K. M., Kirk, D., Jess, M., Pickup, I. & Sandford, R. A. (2009). The educational benefits claimed for physical education and school sport: an academic review. *Research Papers in Education*, 24(1), 1-27.
- Barab, S. A. & Duffy, T. (2012). From practice fields to communities of practice. In:

- JONASSEN, D. & LAND, S. (eds.) *Theoretical Foundations of Learning Environments* (pp. 29-55). New York, NY: Routledge.
- Barbour, R. (2007). *Doing Focus Groups*. London: Sage Publications.
- Bassey, M. (1999). *Case Study Research in Educational Settings*. Buckingham: Open University Press.
- Bazeley, P. & Jackson, K. (2013). *Qualitative Data Analysis with NVivo*. London: SAGE Publications.
- Bechtel, P. A. & O'Sullivan, M. (2007). Enhancers and Inhibitors of Teacher Change Among Secondary Physical Educators. *Journal of Teaching in Physical Education*, 26(3), 221-235.
- Beckett, D. & Hager, P. (2002). *Life, Work and Learning: Practice in Postmodernity*. London: Routledge.
- Bell, M., Cordingley, P., Crisp, P. & Hawkins, M. (2012). *Understanding What Enables High Quality Professional Learning: A report on the research evidence*. London: Pearson Education.
- Benedict, R. (2005). *The Chrysanthemum and the Sword: Patterns of Japanese culture*. New York, NY: Houghton Mifflin.
- Berger, R. (2015). Now I see it, now I don't: Researcher's position and reflexivity in qualitative research. *Qualitative Research*, 15(2), 219-234.
- Biesta, G. (2011). From learning cultures to educational cultures: Values and judgements in educational research and educational improvement. *International Journal of Early Childhood*, 43(3), 199-210.
- Billett, S. (2000). Guided learning at work. *Journal of Workplace Learning*, 12(7), 272-285.

- Blanton, L. P., Sindelar, P. T. & Correa, V. I. (2006). Models and measures of beginning teacher quality. *The Journal of Special Education, 40*(2), 115-127.
- Bloomer, M. & Hodkinson, P. (2000). Learning Careers: continuity and change in young people's dispositions to learning. *British Educational Research Journal, 26*(5), 583-597.
- Boghossian, P. (2006). Behaviorism, Constructivism, and Socratic Pedagogy. *Educational Philosophy and Theory, 38*(6), 713-722.
- Bolam, R. (2000). Emerging Policy Trends: some implications for continuing professional development. *Journal of In-Service Education, 26*(2), 267-280.
- Bolam, R. & McMahon, A. (2004). Literature, Definitions and Models: Towards a Conceptual Map. In: DAY, C. & SACHS, J. (eds.) *International Handbook on the Continuing Professional Development of Teachers* (pp. 33-64). Berkshire: Open University Press.
- Borko, H. (2004). Professional Development and Teacher Learning: Mapping the Terrain. *Educational Researcher, 33*(8), 3-15.
- Bourdieu, P. (1985). The social space and the genesis of groups. *Theory and Society, 14*(6), 723-744.
- Bowen, G. A. (2009). Document Analysis as a Qualitative Research Method. *Qualitative Research Journal, 9*(2), 27-40.
- Bransford, J., Darling-Hammond, L. & Lepage, P. (2005). Introduction. In: DARLING-HAMMOND, L. & BRANSFORD, J. (eds.) *Preparing teachers for a changing world: What teachers should learn and be able to do* (pp.). San Francisco, CA: Jossey-Bass.
- Brinkmann, S. & Kvale, S. (2015). *InterViews: Learning the Craft of Qualitative Research Interviewing*. Thousand Oaks, CA: Sage Publications.
- Brownell, M. T., Lauterbach, A. A., Dingle, M. P., Boardman, A. G., Urbach, J. E., Leko, M. M., Benedict, A. E. & Park, Y. (2014). Individual and Contextual Factors Influencing

- Special Education Teacher Learning in Literacy Learning Cohorts. *Learning Disability Quarterly*, 37(1), 31-44.
- Bruner, J. (1983). Play, thought, and language. *Peabody Journal of Education*, 60(3), 60-69.
- Caena, F. & Margiotta, U. (2010). European Teacher Education: a fractal perspective tackling complexity. *European Educational Research Journal*, 9(3), 317-331.
- Calderhead, J. (1996). Teachers: Beliefs and knowledge. In: BERLINER, D. & CALFEE, R. (eds.) *Handbook of Educational Psychology* (pp. 709-725). New York, NY: Macmillan.
- Camiré, M. (2012). *Facilitating Positive Youth Development through High School Sport*. Unpublished PhD Dissertation. University of Ottawa: Ottawa.
- Carr, D. (2003). Character and moral choice in the cultivation of virtue. *Philosophy*, 78(2), 219-232.
- Casey, A. (2014). Models-based practice: great white hope or white elephant? *Physical Education and Sport Pedagogy*, 19(1), 18-34.
- Casey, A. & Goodyear, V. A. (2015). Can Cooperative Learning Achieve the Four Learning Outcomes of Physical Education? A Review of Literature. *Quest*, 67(1), 56-72.
- Chambers, F. C., Armour, K. M., Luttrell, S., Bleakley, W., Brennan, D. & Herold, F. (2012). Mentoring as a profession-building process in physical education teacher education. *Irish Educational Studies*, 31(3), 345-362.
- Charmaz, K. (2000). Grounded theory: Objectivist and constructivist methods. In: DENZIN, N. K. & LINCOLN, Y. S. (eds.) *Handbook of Qualitative Research* (pp. 509-535). Thousand Oaks, CA: SAGE Publications.
- Charmaz, K. (2008a). Constructionism and the Grounded Theory Method. In: HOLSTEIN, J. A. & GUBRIUM, J. F. (eds.) *Handbook of Constructionist Research* (pp. 397-412). New York, NY: The Guilford Press.

- Charmaz, K. (2008b). Grounded Theory as an Emergent Method. *In: HESSE-BIBER, S. N. & LEAVY, P. (eds.) Handbook of Emergent Methods* (pp. 155-170). New York, NY: The Guilford Press.
- Charmaz, K. (2014). *Constructing Grounded Theory*. London: Sage Publications.
- Cho, J. & Trent, A. (2006). Validity in qualitative research revisited. *Qualitative Research, 6*(3), 319-340.
- Choi, D. & Ko, M. (2011). A Study on Building Process of Community of Practice in Middle School Female Physical Education Teachers. *Journal of Korean Society for the Study of Physical Education, 16*(1), 133-144.
- Choi, E. (2004). A Critical Examination on the Inservice Physical Education Teacher Education Programs and the Development of a Reflective Model. *Korean Journal of Sport Science, 15*(3), 81-101.
- Choi, E. (2011). Reexamining professionalism of sport professionals: The role and education of the spiritual dimension. *Korean Journal of Sport Pedagogy, 18*(2), 1-25.
- Choi, E. (2014a). The Technical and the Spiritual: Looking for the Lost Dimension of Teaching. *The Korean Journal of Philosophy of Education, 36*(3), 127-156.
- Choi, K. Y. (2006). Feature Articles: Current Status and Future Direction for Continuing Education Programs of Secondary Physical Education Teachers. *Korean Journal of Sport Pedagogy, 13*(4), 105-124.
- Choi, N. (2014b). *Middle school students' perception toward physical education and sport club program*. Unpublished Master Dissertation. Sookmyung Women's University: Seoul.
- Clark, A. M. (1998). The qualitative-quantitative debate: moving from positivism and confrontation to post-positivism and reconciliation. *Journal of advanced nursing, 27*(6), 1242-1249.

- Clarke, D. & Hollingsworth, H. (2002). Elaborating a model of teacher professional growth. *Teaching and Teacher Education, 18*(8), 947-967.
- Cobb, P. (1994). Where is the mind? Constructivist and Sociocultural Perspectives on Mathematical Development. *Educational Researcher, 23*(7), 13-20.
- Cobb, P. & Bowers, J. (1999). Cognitive and Situated Learning Perspectives in Theory and Practice. *Educational Researcher, 28*(2), 4-15.
- Cochran-Smith, M. (2015). Teacher Communities for Equity. *Kappa Delta Pi Record, 51*(3), 109-113.
- Cochran-Smith, M. & Lytle, S. L. (1999). Relationships of Knowledge and Practice: Teacher Learning in Communities. *Review of Research in Education, 24*, 249-305.
- Cohen, L., Manion, L. & Morrison, K. (2011). *Research Methods in Education*. Abingdon, Oxon: Routledge.
- Cooper, J. N. (2015). The value of qualitative approaches in the examination of Black male student athletes. *Qualitative Research in Sport, Exercise and Health, 7*(3), 361-376.
- Corbin, J. & Strauss, A. (2008). *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory*. Thousand Oaks, CA: Sage publications.
- Cordingley, P. (2015). The contribution of research to teachers' professional learning and development. *Oxford Review of Education, 41*(2), 234-252.
- Craft, A. (1996). *Continuing Professional Development*. London: Routledge.
- Craft, A. (2000). *Continuing professional development: A practical guide for teachers and schools*. London: Routledge Falmer.
- Creswell, J. W. (2012). *Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research*. London: Pearson.

- Creswell, J. W. (2013). *Qualitative Inquiry and Research Design: Choosing Among Five Approaches*. Thousand Oaks, CA: Sage Publications.
- Creswell, J. W. & Miller, D. L. (2000). Determining Validity in Qualitative Inquiry. *Theory Into Practice*, 39(3), 124-130.
- Crotty, M. (1998). *The foundations of Social Research: Meaning and Perspective in the Research Process*. London: Sage Publications.
- Curtner-Smith, M. D., Hastie, P. A. & Kinchin, G. D. (2008). Influence of occupational socialization on beginning teachers' interpretation and delivery of sport education. *Sport, Education and Society*, 13(1), 97-117.
- Dadds, M. (2014). Continuing Professional Development: nurturing the expert within. *Professional Development in Education*, 40(1), 9-16.
- Dai, D. Y. & Sternberg, R. J. (2004). Beyond Cognitivism: Toward an Integrated Understanding of Intellectual Functioning and Development. In: DAI, D. Y. & STERNBERG, R. J. (eds.) *Motivation, Emotion, and Cognition: Integrative Perspectives on Intellectual Functioning and Development* (pp. 3-38). Mahwah, NJ: Lawrence Erlbaum.
- Darling-Hammond, L. (2000). Teacher Quality and Student Achievement: A Review of State Policy Evidence. *Education Policy Analysis Archives*, 8(1), 1-44.
- Davies, D. & Dodd, J. (2002). Qualitative Research and the Question of Rigor. *Qualitative Health Research*, 12(2), 279-289.
- Day, C. (1999). *Developing Teachers: The Challenge of Lifelong Learning*. London: Falmer Press.
- Day, C. (2004). *A Passion for Teaching*. London: Routledge Falmer.
- Day, C. & Sachs, J. (2004). Professionalism, performativity and empowerment: discourses in the politics, policies and purposes of continuing professional development. In: DAY, C.

- & SACHS, J. (eds.) *International Handbook on the Continuing Professional Development of Teachers* (pp. 3-32). Berkshire: Open University Press.
- De Naeghel, J., Van Keer, H., Vansteenkiste, M., Haerens, L. & Aelterman, N. (2016). Promoting elementary school students' autonomous reading motivation: Effects of a teacher professional development workshop. *The Journal of Educational Research*, doi: 10.1080/00220671.2014.942032.
- Deglau, D. & O'Sullivan, M. (2006). The Effects of a Long-Term Professional Development Program on the Beliefs and Practices of Experienced Teachers. *Journal of Teaching in Physical Education*, 25(4), 379-396.
- Deglau, D., Ward, P., O'Sullivan, M. & Bush, K. (2006). Professional Dialogue as Professional Development. *Journal of Teaching in Physical Education*, 25(4), 413-427.
- Demirkasımoğlu, N. (2010). Defining “Teacher Professionalism” from different perspectives. *Procedia Social and Behavioral Sciences*, 9, 2047-2051.
- Denzin, N. K. & Lincoln, Y. S. (2011). Introduction: The Discipline and Practice of Qualitative Research. In: DENZIN, N. K. & LINCOLN, Y. S. (eds.) *The SAGE handbook of Qualitative Research* (pp. 1-20). Thousand Oaks, CA: SAGE Publications.
- Department for Education (2013). *Physical education programmes of study: key stage 3 and 4*. London: Department for Education.
- Desimone, L. M. (2009). Improving Impact Studies of Teachers' Professional Development: Toward Better Conceptualizations and Measures. *Educational Researcher*, 38(3), 181-199.
- Desimone, L. M. (2011). A Primer on Effective Professional Development. *Phi Delta Kappan*, 92(6), 68-71.
- DiPaola, M. & Hoy, W. K. (2014). *Improving Instruction Through Supervision, Evaluation, and*

Professional Development. Charlotte, NC: Information Age Publishing.

- Dismore, H., Bailey, R. & Izaki, T. (2006). Japanese and English School Students' Views of Physical Education: A comparative study. *International Journal of Sport and Health Science*, 4, 74-85.
- Doppenberg, J. J., Bakx, A. W. E. A. & Brok, P. J. d. (2012). Collaborative teacher learning in different primary school settings. *Teachers and Teaching*, 18(5), 547-566.
- Duffy, T. & Cunningham, D. J. (1996). Constructivism: Implications for the design and delivery of instruction. *Handbook of research for educational communications and technology*, doi: 170-198.
- Duncombe, R. & Armour, K. M. (2004). Collaborative Professional Learning: from theory to practice. *Journal of In-Service Education*, 30(1), 141-166.
- Dyson, B. (2006). Students' Perspectives of Physical Education. In: KIRK, D., MACDONALD, D. & O'SULLIVAN, M. (eds.) *Handbook of Physical Education* (pp. 326). London: SAGE Publications.
- Dyson, B. & Casey, A. (2012). *Cooperative Learning in Physical Education: A research-based approach*. Abingdon, Oxon: Routledge.
- Eime, R. M., Young, J. A., Harvey, J. T., Charity, M. J. & Payne, W. R. (2013). A systematic review of the psychological and social benefits of participation in sport for children and adolescents: informing development of a conceptual model of health through sport. *International Journal of Behavioral Nutrition and Physical Activity*, 10(1), 1.
- Ellinger, M. (2008). Increasing Elementary Teachers' Fundamental Math Content Knowledge and Developing a Collaborative Faculty. In: LIEBERMAN, A. & MILLER, L. (eds.) *Teachers in Professional Communities* (pp.). New York: Teacher College Press.
- Ennis, C. D. & Chen, S. (2012). Interviews and focus groups. In: ARMOUR, K. M. &

- MACDONALD, D. (eds.) *Research Methods in Physical Education and Youth Sport* (pp. 217-236). London: Routledge.
- Ertmer, P. A. & Newby, T. J. (2013). Behaviorism, Cognitivism, Constructivism: Comparing Critical Features From an Instructional Design Perspective. *Performance Improvement Quarterly*, 26(2), 43-71.
- Evans, L. (2002). What is Teacher Development? *Oxford Review of Education*, 28(1), 123-137.
- Evans, L. (2008). Professionalism, Professionalism and the Development of Education Professionals. *British Journal of Educational Studies*, 56(1), 20-38.
- Evans, L. (2011). The 'shape' of teacher professionalism in England: Professional standards, performance management, professional development and the changes proposed in the 2010 White Paper. *British educational research journal*, 37(5), 851-870.
- Fang, Z. (1996). A review of research on teacher beliefs and practices. *Educational Research*, 38(1), 47-65.
- Feiman-Nemser, S. (2012). *Teachers as Learners*. Cambridge: Harvard Education Press.
- Fishman, B. J., Marx, R. W., Best, S. & Tal, R. T. (2003). Linking teacher and student learning to improve professional development in systemic reform. *Teaching and Teacher Education*, 19(6), 643-658.
- Flick, U. (2007). *Designing Qualitative Research*. London: Sage Publications.
- Flyvbjerg, B. (2006). Five Misunderstandings About Case-Study Research. *Qualitative Inquiry*, 12(2), 219-245.
- Flyvbjerg, B. (2011). Case Study. In: DENZIN, N. K. & LINCOLN, Y. S. (eds.) *The Sage Handbook of Qualitative Research* (pp.). Thousand Oaks, CA: SAGE Publications.
- Fontana, A. & Frey, J. H. (2000). The Interview: From Structured Questions to Negotiated Text.

- In: DENZIN, N. K. & LINCOLN, Y. S. (eds.) *Handbook of Qualitative Research* (pp. 645-672). Thousand Oaks, CA: Sage Publications.
- Ford, M. J. & Forman, E. A. (2006). Redefining disciplinary learning in classroom contexts. *Review of research in education*, 30, 1-32.
- Fox, R. (2001). Constructivism Examined. *Oxford Review of Education*, 27(1), 23-35.
- Fraser, C., Kennedy, A., Reid, L. & McKinney, S. (2007). Teachers' continuing professional development: contested concepts, understandings and models. *Journal of In-Service Education*, 33(2), 153-169.
- Fullan, M. G. (1993). Why Teachers Must Become Change Agents. *Educational Leadership*, 50(6), 1-13.
- Fuller, A., Hodkinson, H., Hodkinson, P. & Unwin, L. (2005). Learning as peripheral participation in communities of practice: A reassessment of key concepts in workplace learning. *British Educational Research Journal*, 31(1), 49-68.
- Ganser, T. (2000). An Ambitious Vision of Professional Development for Teachers. *NASSP bulletin*, 84(618), 6-12.
- Garet, M. S., Porter, A. C., Desimone, L., Birman, B. F. & Yoon, K. S. (2001). What Makes Professional Development Effective? Results From a National Sample of Teachers. *American Educational Research Journal*, 38(4), 915-945.
- Gentles, S. J., Jack, S. M., Nicholas, D. B. & McKibbin, K. (2014). Critical Approach to Reflexivity in Grounded Theory. *The Qualitative Report*, 19(44), 1-14.
- Glaser, B. & Strauss, A. (1967). *The Discovery of Grounded Theory*. London: Weidenfeld and Nicholson.
- Glaser, B. G. (1998). *Doing Grounded Theory: Issues and Discussions*. Mill Valley, CA: Sociology Press.

- Glazer, E. M. & Hannafin, M. J. (2006). The collaborative apprenticeship model: Situated professional development within school settings. *Teaching and Teacher Education*, 22(2), 179-193.
- Goe, L. (2007). *The Link between Teacher Quality and Student Outcomes: A Research Synthesis*. Washington, DC: National Comprehensive Center for Teacher Quality.
- Golafshani, N. (2003). Understanding Reliability and Validity in Qualitative Research. *The Qualitative Report*, 8(4), 597-606.
- Gold, R. L. (1958). Roles in Sociological Field Observations. *Social Forces*, 36(3), 217-223.
- Goodall, J., Day, C., Lindsay, G., Muijs, D. & Harris, A. (2005). *Evaluating the impact of continuing professional development (CPD)*. London: Department for Education and Skills.
- Goodnough, K. (2010). Teacher Learning and Collaborative Action Research: Generating a “Knowledge-of-Practice” in the Context of Science Education. *Journal of Science Teacher Education*, 21(8), 917-935.
- Goodyear, V. A. & Casey, A. (2015). Innovation with change: developing a community of practice to help teachers move beyond the ‘honeymoon’ of pedagogical renovation. *Physical Education and Sport Pedagogy*, 20(2), 186-203.
- Goodyear, V. A., Casey, A. & Kirk, D. (2014a). Hiding behind the camera: Social learning within the Cooperative Learning Model to engage girls in physical education. *Sport, Education and Society*, 19(6), 712-734.
- Goodyear, V. A., Casey, A. & Kirk, D. (2014b). Tweet me, message me, like me: using social media to facilitate pedagogical change within an emerging community of practice. *Sport, Education and Society*, 19(7), 927-943.
- Gorden, R. L. (1980). *Interviewing: Strategy, techniques, and tactics*. Homewood, IL: Dorsey

press.

Green, J. & Thorogood, N. (2014). *Qualitative Methods for Health Research*. London: SAGE Publications.

Green, K. (2008). *Understanding Physical Education*. London: Sage Publications

Greeno, J. G. (1997). On Claims That Answer the Wrong Questions. *Educational Researcher*, 26(1), 5-17.

Guba, E. G. (1990). *The paradigm dialog*. Newbury Park, CA: Sage Publications.

Guba, E. G. & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. In: DENZIN, N. K. & LINCOLN, Y. S. (eds.) *Handbook of Qualitative Research* (pp. 105-117). Thousand Oak, CA: SAGE Publications.

Guskey, T. R. (1986). Staff Development and the Process of Teacher Change. *Educational Researcher*, 15(5), 5-12.

Guskey, T. R. (2002). Professional Development and Teacher Change. *Teachers and Teaching*, 8(3), 381-391.

Guskey, T. R. & Yoon, K. S. (2009). What Works in Professional Development. *Phi Delta Kappan*, 90(7), 495-500.

Hager, P. (2005). Philosophical Accounts of Learning. *Educational Philosophy and Theory*, 37(5), 649-666.

Hager, P. & Hodkinson, P. (2009). Moving beyond the metaphor of transfer of learning. *British Educational Research Journal*, 35(4), 619-638.

Hall, G. E. & Hord, S. M. (2001). *Implementing Change: Patterns, Principles, and Potholes*. Massachusetts: A Pearson Education Company.

- Hall, W. A. & Callery, P. (2001). Enhancing the Rigor of Grounded Theory: Incorporating Reflexivity and Relationality. *Qualitative Health Research*, 11(2), 257-272.
- Hammersley, M. (2013). *What is Qualitative Research?* London: Bloomsbury Academic.
- Hargreaves, A. (1998). The Emotional Practice of Teaching. *Teaching and Teacher Education*, 14(8), 835-854.
- Hargreaves, A. (2006). Four Ages of Professionalism and Professional Learning. In: LAUDER, H., BROWN, P., DILLABOUGH, J.-A. & HALSEY, A. H. (eds.) *Education, Globalization & Social Change* (pp. 673-691). Oxford: Oxford University Press.
- Harry, B., Sturges, K. M. & Klingner, J. K. (2005). Mapping the Process: An Exemplar of Process and Challenge in Grounded Theory Analysis. *Educational Researcher*, 34(2), 3-13.
- Harvey, S., Kirk, D. & O'Donovan, T. M. (2014). Sport Education as a pedagogical application for ethical development in physical education and youth sport. *Sport, Education and Society*, 19(1), 41-62.
- Haskins, D. (2010). *Coaching the Whole Child: Positive Development through Sport*. Leeds: The National Coaching Foundation
- Hastie, P. A., MacPhail, A., Calderón, A. & Sinelnikov, O. A. (2015). Promoting professional learning through ongoing and interactive support: three cases within physical education. *Professional Development in Education*, 41(3), 452-466.
- Healy, M. & Perry, C. (2000). Comprehensive criteria to judge validity and reliability of qualitative research within the realism paradigm. *Qualitative Market Research: An International Journal*, 3(3), 118-126.
- Hill, J. R. (2012). Learning Communities: Theoretical Foundations for Making Connections. In: JONASSEN, D. & LAND, S. (eds.) *Theoretical Foundations of Learning*

- Environments* (pp. 268-285). New York, NY: Routledge.
- Hoadley, C. (2012). What is a Community of Practice and How Can We Support It? *In*: JONASSEN, D. & LAND, S. (eds.) *Theoretical Foundations of Learning Environments* (pp. 286-300). New York, NY: Routledge.
- Hodkinson, H. & Hodkinson, P. (2004a). Rethinking the concept of community of practice in relation to schoolteachers' workplace learning. *International Journal of Training and Development*, 8(1), 21-31.
- Hodkinson, P., Biesta, G. & James, D. (2007). Understanding learning cultures. *Educational Review*, 59(4), 415-427.
- Hodkinson, P., Biesta, G. & James, D. (2008). Understanding Learning Culturally: Overcoming the Dualism Between Social and Individual Views of Learning. *Vocations and Learning*, 1(1), 27-47.
- Hodkinson, P. & Hodkinson, H. (2003). Individuals, Communities of Practice and the Policy Context: School teachers' learning in their workplace. *Studies in Continuing Education*, 25(1), 3-21.
- Hodkinson, P. & Hodkinson, H. (2004b). The Significance of Individuals' Dispositions in Workplace Learning: a case study of two teachers. *Journal of Education and Work*, 17(2), 167-182.
- Holt, N. L. (2007). *Positive youth development through sport*. Routledge.
- Hoover, R. S. & Koerber, A. L. (2011). Using NVivo to Answer the Challenges of Qualitative Research in Professional Communication: Benefits and Best Practices. *IEEE Transactions on Professional Communication*, 54(1), 68-82.
- Hord, S. M. & Tobia, E. F. (2012). *Reclaiming our Teaching Profession: The Power of Educators Learning in Community*. New York, NA: Teachers College Press.

- Hoyle, E. (2001). Teaching: Prestige, Status and Esteem. *Educational Management and Administration*, 29(2), 139-152.
- Hunuk, D., Ince, M. L. & Tannehill, D. (2013). Developing teachers health-related fitness knowledge through a community of practice: Impact on student learning. *European Physical Education Review*, 19(1), 3-20.
- Hunzicker, J. (2011). Effective professional development for teachers: a checklist. *Professional Development in Education*, 37(2), 177-179.
- IfL (2009). *Guidelines for your continuing professional development(CPD)*. London: Institute for Learning.
- James, M. & Pollard, A. (2011). TLRP's ten principles for effective pedagogy: rationale, development, evidence, argument and impact. *Research Papers in Education*, 26(3), 275-328.
- Jarvis, P. (2006). *Towards a Comprehensive Theory of Human Learning*. Abindon, Oxon: Routledge.
- Jeon, J., Yang, J. & Cho, S. (2013). Alternative Approach to P.E. Curriculum Intergration from a Perspective of Consilience. *The Korean Journal of Elementary Physical Education*, 18(4), 167-186.
- Jo, K. (2015). *An Investigation of the Implementation Process and Effects of a Teacher Learning Community of Professional Development*. Unpublished PhD Dissertation. Seoul National University: Seoul.
- Jo, K. (2016). The Development and Application of University-Based Teacher Learning Community Program. *Korean Journal of Sport Pedagogy*, 23(2), 25-44.
- Johnson, P. (2015). Evaluating qualitative research: past, present and future. *Qualitative Research in Organizations and Management: An International Journal*, 10(4), 320-324.

- Jones, C. (2005). Character, virtue and physical education. *European Physical Education Review, 11*(2), 139-151.
- Jung, H. (2010). *Beginning Physical Education Teachers Adapting to Secondary School Life: a Case Study*. Unpublished Master Dissertation. Seoul National University: Seoul.
- Jung, H. & Choi, E. (2016). The importance of indirect teaching behaviour and its educational effects in physical education. *Physical Education and Sport Pedagogy, 21*(2), 121-136.
- Jung, J. (2012). The focus, role, and meaning of experienced teachers' reflection in physical education. *Physical Education and Sport Pedagogy, 17*(2), 157-175.
- Kang, S. (2003). The Trends and Tasks of Sport Pedagogy in Korea. *Korean Journal of Sport Pedagogy, 10*(3), 1-28.
- Kaplan, L. S. & Owings, W. A. (2001). Teacher quality and student achievement: Recommendations for principals. *NASSP bulletin, 85*(628), 64-73.
- Key, J. (2005). Developing the physical education profession: new teachers learning within a subject-based community. *Physical Education and Sport Pedagogy, 10*(2), 139-157.
- Key, J. (2006). Collaborative learning in physical education teachers' early-career professional development. *Physical Education and Sport Pedagogy, 11*(3), 285-305.
- Key, J. & Lloyd, C. (2009). High-quality professional development in physical education: the role of a subject association. *Professional Development in Education, 35*(4), 655-676.
- Kelly, P. (2006). What is teacher learning? A socio-cultural perspective. *Oxford Review of Education, 32*(4), 505-519.
- Kennedy, A. (2005). Models of Continuing Professional Development: a framework for analysis. *Journal of In-Service Education, 31*(2), 235-250.
- Kennedy, M. M. (2008). Sorting Out Teacher Quality. *Phi Delta Kappan, 90*(1), 59-63.

- Kim, H. (2007). The Quality of a Good Teacher. *The Korean Journal of Philosophy of Education*, 38, 27-46.
- Kim, J. & Kim, S. (2013). Physical Education Teachers' Concerns and Performance on 2009 Revised Curriculum Creativity and Personality Education. *Journal of Learner-Centered Curriculum and Instruction*, 13(6), 171-194.
- Kim, J. & Park, D. (2010). The determinants of demand for private tutoring in South Korea. *Asia Pacific Education Review*, 11(3), 411-421.
- Kim, J., Sin, B., Choi, K., Yang, G., Choi, J., Kim, H. & Kwon, M. (2000). An Analysis of the Teaching Perspectives of Elementary and Secondary School in Physical Education Teacher. *The Korean Journal of Physical Education*, 39(2), 595-607.
- Kim, M. (2013). Discussion on the P.E Teacher's Professionalism through the Practice of Social Constructionism Perspective. *Korean Journal of Sport Pedagogy*, 20(3), 1-27.
- Kim, Y. & Kim, S. (2003). Effective Management Methods of In-service Education and Training of Teachers in Physical Education. *Journal of Korean Society for the Study of Physical Education*, 8(2), 57-67.
- Kirk, D. (2010). *Physical Education Futures*. Abingdon, Oxon: Routledge.
- Kirk, D. (2013). Educational Value and Models-Based Practice in Physical Education. *Educational Philosophy and Theory*, 45(9), 973-986.
- Kivinen, O. & Ristela, P. (2003). From Constructivism to a Pragmatist Conception of Learning. *Oxford Review of Education*, 29(3), 363-375.
- Ko, B., Wallhead, T. & Ward, P. (2006). Professional Development Workshops: What Do Teachers Learn and Use. *Journal of Teaching in Physical Education*, 25(4), 397-412.
- Koedel, C., Parsons, E., Podgursky, M. & Ehlert, M. (2015). Teacher Preparation Programs and Teacher Quality: Are There Real Differences Across Programs? *Education Finance and*

Policy, 10(4), 508-534.

Korthagen, F. A. (2004). In search of the essence of a good teacher: towards a more holistic approach in teacher education. *Teaching and Teacher Education*, 20(1), 77-97.

Korthagen, F. A. (2010). Situated learning theory and the pedagogy of teacher education: Towards an integrative view of teacher behavior and teacher learning. *Teaching and Teacher Education*, 26(1), 98-106.

Krueger, R. A. & Casey, M. A. (2009). *Focus Groups: A Practical Guide for Applied Research*. Thousand Oaks, CA: Sage Publications.

Kuhn, T. S. (1970). *The Structure of Scientific Revolution*. Chicago, IL: University of Chicago Press.

Kuklick, C. R., Gearity, B. T., Thompson, M. & Neelis, L. (2016). A case study of one high performance baseball coach's experiences within a learning community. *Qualitative Research in Sport, Exercise and Health*, 8(1), 61-78.

Lave, J. & Wenger, E. (1991). *Situated Learning: Legitimate Peripheral Participation*. New York: Cambridge University Press.

Lee, C. J. (2005). Korean Education Fever and Private Tutoring. *KEDI Journal of Educational Policy*, 2(1), 99-107.

Lee, D. (2007). Assignments for Improving and Problems of In-service Teacher Training in the Elementary Physical Education. *Journal of Korea Sport Research*, 18(4), 719-732.

Lee, K. & Cho, S. (2014). The Korean national curriculum for physical education: a shift from edge to central subject. *Physical Education and Sport Pedagogy*, 19(5), 522-532.

Lee, O. & Choi, E. (2015). The Influence of Professional Development on Teachers' Implementation of the Teaching Personal and Social Responsibility Model. *Journal of Teaching in Physical Education*, 34(4), 603-625.

- Lee, S., Kim, T. & Park, Y. (2010). A study on building teachers' learning community in elementary school physical education. *Korean Journal of Sport Pedagogy*, 17(2), 101-125.
- Levine, T. H. & Marcus, A. S. (2010). How the structure and focus of teachers' collaborative activities facilitate and constrain teacher learning. *Teaching and Teacher Education*, 26(3), 389-398.
- Lewin, K. (1935). *A Dynamic Theory of Personality*. New York, NY: MCGraw Hill.
- Li, J. (2005). Mind or Virtue: Western and Chinese Beliefs About Learning. *Current Directions in Psychological Science*, 14(4), 190-194.
- Liakopoulou, M. (2011). Teachers' Pedagogical Competence as a Prerequisite for Entering the Profession. *European Journal of Education*, 46(4), 474-488.
- Lieberman, A. & Miller, L. (2008). *Teachers in Professional Communities: Improving teaching and learning*. New York, NY: Teachers College Press.
- Lieberman, A. & Miller, L. (2011). Learning Communitie: The starting point for professional learning is in schools and classrooms. *Journal of Staff Development*, 32(4), 16-20.
- Lieberman, A. & Pointer Mace, D. H. (2008). Teacher Learning: the Key to Educational Reform. *Journal of Teacher Education*, 59(3), 226-234.
- Lieberman, A. & Wood, D. R. (2002). The National Writing Project. *Educational Leadership*, 59(6), 40-44.
- Lincoln, Y. S. & Guba, E. G. (1985). *Naturalistic Inquiry*. Newbury Park, CA: Sage Publications.
- Lincoln, Y. S., Lynham, S. A. & Guba, E. G. (2011). Paradigmatic Controversies, Contradictions, and Emerging Confluences, Revisited. In: DENZIN, N. K. & LINCOLN, Y. S. (eds.) *The Sage Handbook of Qualitative Research* (pp. 97-128).

Thousand Oaks, CA: SAGE Publications.

- Little, J. W. (2002). Locating learning in teachers' communities of practice: opening up problems of analysis in records of everyday work. *Teaching and Teacher Education*, 18(8), 917-946.
- Liu, S. (2013). Teacher professional development for technology integration in a primary school learning community. *Technology, Pedagogy and Education*, 22(1), 37-54.
- Lofland, J., Snow, D., Anderson, L. & Lofland, L. H. (2006). *Analyzing Social Settings: A Guide to Qualitative Observation and Analysis*. Belmont, CA: Wadsworth Publishing Company.
- Lumpe, A. (2007). Research-Based Professional Development: Teachers Engaged in Professional Learning Communities. *Journal of Science Teacher Education*, 18(1), 125-128.
- Lumpkin, A. (2008). Teachers as role models teaching character and moral virtues. *Journal of Physical Education, Recreation & Dance*, 79(2), 45-50.
- MacPhail, A., Patton, K., Parker, M. & Tannehill, D. (2014). Leading by Example: Teacher Educators' Professional Learning Through Communities of Practice. *Quest*, 66(1), 39-56.
- Makopoulou, K. & Armour, K. M. (2011a). Physical education teachers' career-long professional learning: getting personal. *Sport, Education and Society*, 16(5), 571-591.
- Makopoulou, K. & Armour, K. M. (2011b). Teachers' professional learning in a European learning society: the case of physical education. *Physical Education and Sport Pedagogy*, 16(4), 417-433.
- Mauthner, M. (1997). Methodological Aspects of Collecting Data from Children: Lessons from Three Research Projects. *Children and society*, 11(1), 16-28.

- Maxwell, J. A. (2013). *Qualitative Research Design: An Interactive Approach*. Thousand Oaks, CA: SAGE Publications.
- McCaughtry, N., Martin, J. J., Kulinna, P. H. & Cothran, D. (2006). The emotional dimensions of urban teacher change. *Journal of Teaching in Physical Education*, 25(1), 99-119.
- McCaughtry, N., Sofo, S., Rovegno, I. & Curtner-Smith, M. (2004). Learning to teach sport education: misunderstandings, pedagogical difficulties, and resistance. *European Physical Education Review*, 10(2), 135-155.
- McLaughlin, M. W. & Talbert, J. E. (2006). *Building School-Based Teacher Learning Communities: Professional Strategies to Improve Student Achievement*. New York, NY: Teachers College Press.
- Meirink, J. A., Imants, J., Meijer, P. C. & Verloop, N. (2010). Teacher learning and collaboration in innovative teams. *Cambridge Journal of Education*, 40(2), 161-181.
- Metzler, M. W. (2011). *Instructional Models for Physical Education*. Scottsdale, AZ: Holcomb Hathaway.
- Meyer, T. (2002). Novice Teacher Learning Communities: An Alternative to One-on-One Mentoring. *American Secondary Education*, 31(1), 27-42.
- Miles, M. B., Huberman, A. M. & Saldaña, J. (2014). *Qualitative Data Analysis: A Methods Sourcebook*. Thousand Oaks, CA: Sage Publications.
- Miller, T., Birch, M., Mauthner, M. & Jessop, J. (2012). *Ethics in Qualitative Research*. London: SAGE Publications.
- Mills, J., Bonner, A. & Francis, K. (2006). The Development of Constructivist Grounded Theory. *International Journal of Qualitative Methods*, 5(1), 1-10.
- Ministry of Education, Science and Technology (2009). *Development of Human Resources through the Combination of Creativity and Care*. Seoul: Ministry of Education, Science

and Technology.

Ministry of Education, Science and Technology (2011). *National School Physical Education Curriculum*. Seoul: Ministry of Education, Science and Technology.

Morse, J. M., Barrett, M., Mayan, M., Olson, K. & Spiers, J. (2002). Verification Strategies for Establishing Reliability and Validity in Qualitative Research. *International Journal of Qualitative Methods*, 1(2), 13-22.

Mruck, K. & Mey, G. (2007). Grounded Theory and Reflexivity. In: BRYANT, A. & CHARMAZ, K. (eds.) *The SAGE handbook of Grounded Theory* (pp. 515-538). London: Sage Publications.

Nespor, J. (1987). The role of beliefs in the practice of teaching. *Journal of Curriculum Studies*, 19(4), 317-328.

Neuman, S. B. & Cunningham, L. (2009). The Impact of Professional Development and Coaching on Early Language and Literacy Instructional Practices. *American Educational Research Journal*, 46(2), 532-566.

Ngwenyama, O. K. (2002). The Critical Social Theory Approach to Information Systems: Problems and Challenges. In: MYERS, M. D. & AVISON, D. (eds.) *Qualitative Research in Information Systems: A Reader* (pp. 115-128). London: SAGE Publications.

Nieto, S. (2009). From Surviving to Thriving. *Educational Leadership*, 66(5), 8-13.

O'Sullivan, M. (2007). Creating and Sustaining Communities of Practice Among Physical Education Professionals. *New Zealand Physical Educator*, 40(1), 10-13.

O'Sullivan, M. & Deglau, D. (2006). Principles of Professional Development. *Journal of Teaching in Physical Education*, 25(4), 441-449.

Oakeshott, M. (1989). *The Voice of Liberal Learning*. New Haven: Yale University Press.

- OECD (2005). *Teachers Matter: Attracting, Developing and Retaining Effective Teachers*. Paris: OECD.
- OECD (2010). *Teachers' Professional Development: Europe in international comparison*. Luxembourg: Office for Official Publications of the European Union.
- Oh, S. (2014). Exploring of Physical Education Teacher's Change Experience and its Factors through Learning Community Participation. *Korean Journal of Sport Pedagogy*, 21(3), 67-88.
- Öhman, M. & Quennerstedt, M. (2012). Observational studies. In: ARMOUR, K. M. & MACDONALD, D. (eds.) *Research Methods in Physical Education and Youth Sport* (pp. 189-203). London: Routledge.
- Onwuegbuzie, A. J. & Leech, N. L. (2007). Validity and Qualitative Research: An oxymoron? *Quality and Quantity*, 41(2), 233-249.
- Pajares, M. F. (1992). Teachers' Beliefs and Educational Research: Cleaning Up a Messy Construct. *Review of Educational Research*, 62(3), 307-332.
- Park, J. (2006). A Study in Improvement and Analysis of the Present State for the Secondary 1st Grade Physical Education Teachers Qualification Training. *Korean Journal of Sport Pedagogy*, 13(4), 81-104.
- Park, M. & So, K. (2014). Opportunities and Challenges for Teacher Professional Development: A Case of Collaborative Learning Community in South Korea. *International Education Studies*, 7(7), 96.
- Parker, M. & Patton, K. (2016). What research tell us about effective continuing professional development for physical education teachers. In: ENNIS, C. D. (ed.) *Routledge Handbook of Physical Education Pedagogies* (pp. 447-460). Abingdon, Oxon: Routledge.

- Parker, M., Patton, K., Madden, M. & Sinclair, C. (2010). From Committee to Community: The Development and Maintenance of a Community of Practice. *Journal of Teaching in Physical Education*, 29(4), 337-357.
- Parker, M., Patton, K. & Tannehill, D. (2012). Mapping the landscape of communities of practice as professional development in Irish physical education. *Irish Educational Studies*, 31(3), 311-327.
- Pasch, S. H., Wolfe, M. P., Steffy, B. & Enz, B. (2000). Applying the Life Cycle of the Career Teacher Model. In: WOLFE, M. P. (ed.) *Life Cycle of the Career Teacher* (pp. 104-118). Thousand Oaks, CA: Corwin Press.
- Patton, K. & Griffin, L. L. (2008). Experiences and patterns of change in a physical education teacher development project. *Journal of teaching in physical education*, 27(3), 272-291.
- Patton, K. & Parker, M. (2014). Moving from 'things to do on Monday' to student learning: physical education professional development facilitators' views of success. *Physical Education and Sport Pedagogy*, 19(1), 60-75.
- Patton, K., Parker, M. & Neutzling, M. M. (2012). Tennis Shoes Required: The Role of the Facilitator in Professional Development. *Research Quarterly for Exercise and Sport*, 83(4), 522-532.
- Patton, K., Parker, M. & Pratt, E. (2013). Meaningful Learning in Professional Development: Teaching Without Telling. *Journal of Teaching in Physical Education*, 32(4), 441-459.
- Patton, M. Q. (2015). *Qualitative Research & Evaluation Methods*. Thousand Oak, CA: SAGE Publications.
- Payne, G. & Payne, J. (2004). *Key Concepts in Social Research*. London: SAGE Publications.
- Peshkin, A. (1988). In Search of Subjectivity. One's Own. *Educational Researcher*, 17(7), 17-21.

- Peshkin, A. (2000). The Nature of Interpretation in Qualitative Research. *Educational Researcher*, 29(9), 5-9.
- Petrie, K. (2010). Creating confident, motivated teachers of physical education in primary schools. *European Physical Education Review*, 16(1), 47-64.
- Popkewitz, T. S. (1998). Dewey, Vygotsky, and the Social Administration of the Individual: Constructivist Pedagogy as Systems of Ideas in Historical Spaces. *American Educational Research Journal*, 35(4), 535-570.
- Preissle, J. (2006). Envisioning qualitative inquiry: A view across four decades. *International Journal of Qualitative Studies in Education*, 19(6), 685-695.
- Priestley, M., Miller, K., Barrett, L. & Wallace, C. (2011). Teacher learning communities and educational change in Scotland: the Highland experience. *British Educational Research Journal*, 37(2), 265-284.
- Prior, L. (2011). Using Documents in Social Research. In: SILVERMAN, D. (ed.) *Qualitative Research* (pp. 93-110). London: SAGE Publications.
- Pritchard, R. J. & Marshall, J. C. (2002). Professional Development in 'Healthy' vs. 'Unhealthy' Districts: top 10 characteristics based on research. *School Leadership and Management*, 22(2), 113-141.
- Putnam, R. T. & Borko, H. (2000). What Do New Views of Knowledge and Thinking Have to Say About Research on Teacher Learning. *Educational Researcher*, 29(1), 4-15.
- Quennerstedt, M. & Larsson, H. (2015). Learning movement cultures in physical education practice. *Sport, Education and Society*, 20(5), 565-572.
- Rapley, T. (2007). *Doing Conversation, Discourse and Document Analysis*. London: Sage Publications.
- Rathwell, S. & Young, B. W. (2015). Modelling commitment and compensation: a case study

of a 52-year-old masters athlete. *Qualitative Research in Sport, Exercise and Health*, 7(5), 718-738.

Richardson, V. & Placier, P. (2001). Teacher change. In: RICHARDSON, V. (ed.) *Handbook of Research on Teaching* (pp. 877-904). Washington, DC: American Educational Research Association.

Rolfe, G. (2006). Validity, trustworthiness and rigour: quality and the idea of qualitative research. *Methodological Issues in Nursing Research*, 53(3), 304-310.

Rowe, K. (2003). The importance of Teacher Quality as a key determinant of students' experiences and outcomes of schooling. *2003 ACER Research Conference*. Carlton Crest Hotel, Melbourne.

Saldaña, J. (2012). *The Coding Manual for Qualitative Researchers*. London: Sage Publications.

Sandford, R. A., Armour, K. M. & Warmington, P. C. (2006). Re-engaging disaffected youth through physical activity programmes. *British Educational Research Journal*, 32(2), 251-271.

Sandford, R. A., Duncombe, R. & Armour, K. M. (2008). The role of physical activity/sport in tackling youth disaffection and anti-social behaviour. *Educational Review*, 60(4), 419-435.

Sanger, J. (1996). *The Compleat Observer?: A field research guide to observation*. London: Routledge Falmer.

Santoro, N., Reid, J.-A., Mayer, D. & Singh, M. (2013). Teacher knowledge: continuing professional learning. *Asia-Pacific journal of teacher education*, 41(2), 123-125.

Schwandt, T. A. (2000). Three Epistemological Stances for Qualitative Inquiry: Interpretivism, Hermeneutics, and Social Constructionism. In: DENZIN, N. K. & LINCOLN, Y. S. (eds.) *Handbook of Qualitative Research* (pp. 189-214). Thousand Oaks, California:

Sage Publications.

- Schwartzman, N. (2012). Another Student Commits Suicide in Deagu. *Asian correspondent*, May 01. Retrieved from: <http://asiancorrespondent.com/tag/south-korea-school-vioance/>.
- Seale, C. (1999). Quality in Qualitative Research. *Qualitative Inquiry*, 5(4), 465-478.
- Seo, J., Yu, C. & Yoon, K. (2015). Exploring the Directions to Develop the School Physical Education Policy in South Korea: through Analyzing the Development of the Physical Education Policy in England. *Korean Journal of Sport Pedagogy*, 22(3), 119-134.
- Seth, M. J. (2002). *Education Fever: Society, Politics, and the Pursuit of Schooling in South Korea*. Honolulu, HI: University of Hawaii Press.
- Sfard, A. (1998). On Two Metaphors for Learning and the Dangers of Choosing Just One. *Educational Researcher*, 27(2), 4-13.
- Shenton, A. K. (2004). Strategies for ensuring trustworthiness in qualitative research projects. *Education for Information*, 22(2), 63-75.
- Shulman, L. S. (1986). Those Who Understand: Knowledge Growth in Teaching. *Educational Researcher*, 15(2), 4-14.
- Shulman, L. S. (1987). Knowledge and Teaching: Foundations of the New Reform. *Harvard Educational Review*, 57(1), 1-23.
- Siedentop, D. (1994). *Sport Education: Quality PE through Positive Sport Experiences*. Champaign, IL: Human Kinetics Publishers.
- Silverman, D. (2013). *Doing Qualitative Research*. London: SAGE Publications.
- Sinelnikov, O. A. (2009). Sport Education for Teachers: Professional Development When Introducing a Novel Curriculum Model. *European Physical Education Review*, 15(1),

91-114.

- Snow, C. E. (2015). 2014 Wallace Foundation Distinguished Lecture Rigor and Realism: Doing Educational Science in the Real World. *Educational Researcher*, 44(9), 460-466.
- So, K. (2009). Teacher learning: How and what teachers learn. *The Journal of Curriculum Studies*, 27(3), 107-126.
- Sockett, H. T. (1996). Teachers for the 21st Century: Redefining Professionalism. *NASSP bulletin*, 80(580), 22-29.
- Soebari, T. S. & Aldridge, J. M. (2015). Using student perceptions of the learning environment to evaluate the effectiveness of a teacher professional development programme. *Learning Environments Research*, 18(2), 163-178.
- Sparkes, A. C. & Smith, B. (2009). Judging the quality of qualitative inquiry: Criteriology and relativism in action. *Psychology of sport and exercise*, 10(5), 491-497.
- Sparkes, A. C. & Smith, B. (2014). *Qualitative Research Methods in Sport, Exercise and Health: From process to product*. Abingdon, Oxon: Routledge.
- Spradley, J. P. (1980). *Participant Observation*. Belmont, CA: Wadsworth.
- Stake, R. E. (2005). Qualitative Case Studies. In: DENZIN, N. K. & LINCOLN, Y. S. (eds.) *The Sage Handbook of Qualitative Research. Third Edition* (pp. 443-466). Thousand Oaks, CA: Sage Publications.
- Statistics Korea (2015). *2015 Juvenile Statistics*. Seoul: Statistics Korea.
- Stenbacka, C. (2001). Qualitative research requires quality concepts of its own. *Management Decision*, 39(7), 551-556.
- Stoll, L., Bolam, R., McMahon, A., Wallace, M. & Thomas, S. (2006). Professional Learning Communities: A Review of The Literature. *Journal of Educational Change*, 7(4), 221-

- Strauss, A. & Corbin, J. (1998). *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory*. Thousand Oaks: SAGE Publications.
- Strauss, A. L. & Corbin, J. (1990). *Basics of Qualitative Research*. Newbury Park, CA: SAGE Publications.
- Stronge, J. H., Ward, T. J. & Grant, L. W. (2011). What Makes Good Teachers Good? A Cross-Case Analysis of the Connection Between Teacher Effectiveness and Student Achievement. *Journal of Teacher Education*, 62(4), 339-355.
- Tam, A. C. F. (2015). The role of a professional learning community in teacher change: a perspective from beliefs and practices. *Teachers and Teaching: theory and practice*, 21(1), 22-43.
- Teaching Council of Ireland (2011). *Policy on the Continuum of Teacher Education*. Maynooth: Teaching Council of Ireland.
- Theodoulides, A. (2003). 'I Would Never Personally Tell Anyone to Break the Rules, But You Can Bend Them': Teaching Moral Values Through Team Games. *European Journal of Physical Education*, 8(2), 141-159.
- Thomas, G. (2011). *How to do your Case Study: A Guide for Students and Researchers*. London: Sage Publication.
- Timperley, H. (2008). *Teacher Professional Learning and Development. Educational Practices Series-18*. Paris: UNESCO.
- Toole, J. C. & Louis, K. S. (2002). The Role of Professional Learning Communities In International Education. In: LEITHWOOD, K. & HALLINGER, P. (eds.) *Second International Handbook of Educational Leadership and Administration* (pp. 245-279). London: Kluwer Academic Publishers.

- Tracy, S. J. (2010). Qualitative quality: Eight “big-tent” criteria for excellent qualitative research. *Qualitative inquiry*, 16(10), 837-851.
- Troman, G. (1996). Models of the ‘good’ teacher: defining and redefining teacher quality. In: PETER, W. (ed.) *Contemporary issues in teaching and learning* (pp. 20-37). Abingdon, Oxon: Routledge.
- Trust, T. (2012). Professional Learning Networks Designed for Teacher Learning. *Journal of Digital Learning in Teacher Education*, 28(4), 133-138.
- UNESCO (2014). *World-wide Survey of School Physical Education*. Paris: UNESCO.
- van Egmond, M. C., Kühnen, U. & Li, J. (2013). Mind and virtue: The meaning of learning, a matter of culture? *Learning, Culture and Social Interaction*, 2(3), 208-216.
- Vescio, V., Ross, D. & Adams, A. (2008). A review of research on the impact of professional learning communities on teaching practice and student learning. *Teaching and Teacher Education*, 24(1), 80-91.
- Villegas-Reimers, E. (2003). *Teacher professional development: an international review of the literature*. Paris: International Institute for Educational Planning.
- Vygotsky, L. S. (1978). *Mind in Society: The Development of Higher Psychological Processes*. Cambridge, MA: Harvard University Press.
- Walford, G. (2001). *Doing Qualitative Educational Research: A personal guide to the research process*. London: Continuum.
- Walqui, A. (2006). Scaffolding Instruction for English Language Learners: A Conceptual Framework. *International Journal of Bilingual Education and Bilingualism*, 9(2), 159-180.
- Wayne, A. J., Yoon, K. S., Zhu, P., Cronen, S. & Garet, M. S. (2008). Experimenting with Teacher Professional Development: Motives and Methods. *Educational Researcher*,

37(8), 469-479.

- Webster-Wright, A. (2009). Reframing Professional Development Through Understanding Authentic Professional Learning. *Review of Educational Research*, 79(2), 702-739.
- Wei, R. C., Darling-Hammond, L., Andree, A., Richardson, N. & Orphanos, S. (2009). *Professional Learning in the Learning Profession: A Status Report on Teacher Development in the US and Abroad*. Dallas, TX: National Staff Development Council.
- Weiss, M. R. (2011). Teach the children well: A holistic approach to developing psychosocial and behavioral competencies through physical education. *Quest*, 63(1), 55-65.
- Wenger, E. (1998). *Communities of Practice: Learning, Meaning, and Identity*. Cambridge: Cambridge University Press.
- Wenger, E., McDermott, R. A. & Snyder, W. (2002). *Cultivating Communities of Practice: A Guide to Managing Knowledge*. Boston, MA: Harvard Business School Publishing.
- Wenger, E., White, N. & Smith, J. D. (2009). *Digital Habitats: stewarding technology for communities*. Portland, OR: CPsquare.
- Wenger-Trayner, E. & Wenger-Trayner, B. (2015). *Communities of practice: a brief introduction*. Retrieved from <http://wenger-trayner.com/wp-content/uploads/2015/04/07-Brief-introduction-to-communities-of-practice.pdf>
- Wenglinsky, H. (2000). *How Teaching Matters: Bringing the Classroom Back into Discussions of Teacher Quality*. Princeton, NJ: The Milken Family Foundation and Educational Testing Service.
- Whitcomb, J., Borko, H. & Liston, D. (2009). Growing Talent: Promising Professional Development Methods and Practices. *Journal of Teacher Education*, 60(3), 207-212.
- Wilson, E. & Demetriou, H. (2007). New teacher learning: substantive knowledge and contextual factors. *The Curriculum Journal*, 18(3), 213-229.

- Winch, C. (1998). *The Philosophy of Human Learning*. London: Routledge.
- Winter, G. (2000). A Comparative Discussion of the Notion of 'Validity' in Qualitative and Quantitative Research. *The Qualitative Report*, 4(3), 1-14.
- Wiswall, M. (2013). The dynamics of teacher quality. *Journal of Public Economics*, 100, 61-78.
- Wolgemuth, J. R., Erdil-Moody, Z., Opsal, T., Cross, J. E., Kaanta, T., Dickmann, E. M. & Colomer, S. (2015). Participants' experiences of the qualitative interview: considering the importance of research paradigms. *Qualitative Research*, 15(3), 351-372.
- Wood, D. R. (2007). Professional Learning Communities: Teachers, Knowledge, and Knowing. *Theory Into Practice*, 46(4), 281-290.
- Woods, P. (2002). Teaching and learning in the new millennium. In: SUGRUE, C. & DAY, C. (eds.) *Developing Teachers and Teaching Practice : International research perspectives* (pp. 73-92). London: Routledge Falmer.
- Yang, J., Park, J. & Park, K. (2013). Teacher's Reflection on Improvement of Physical Education In-service Training Program through Elementary Teacher's Perceptions. *The Korean Journal of Elementary Physical Education*, 19(3), 31-44.
- Yang, J. M. (2015). Activity Experience and Educational Meanings Exploring about the Learning Community Activities in Physical Education of the Elementary Teachers *Journal of Learner-Centered Curriculum and Instruction*, 15(5), 29-50.
- Yin, R. K. (1994). *Case Study Research: Design and methods*. Thousand Oaks, CA: Sage Publications.
- Yin, R. K. (2009). *Case Study Research: Design and Methods (Fourth Edition)*. Thousand Oaks, CA: Sage Publications.
- Yoon, K. & Park, J. (2014). A case study of developing and application of sportsmanship

program in physical education class in secondary school. *The Korean Journal of Physical Education* 53(5), 231-247.

Yoon, K. S., Duncan, T., Lee, S. W., Scarloss, B. & Shapley, K. L. (2007). *Reviewing the Evidence on How Teacher Professional Development Affects Student Achievement (Issues and Answers Report, REL 2007 No. 033)*. Washington, DC: U.S. Department of Education, Regional Educational Laboratory Southwest.

You, J. (2000). Research on Expertise in Teaching. *Korean Journal of Sport Pedagogy*, 7(2), 41-59.

Young, R. A. & Collin, A. (2004). Introduction: Constructivism and social constructionism in the career field. *Journal of Vocational Behavior*, 64(3), 373-388.

Yu, T. (2000). Factors Affecting Career Identity Development in a Physical Education Teacher. *The Korean Journal of Physical Education*, 39(3), 725-739.

Zarrett, N., Fay, K., Li, Y., Carrano, J., Phelps, E. & Lerner, R. M. (2009). More Than Child's Play: Variable-and Pattern-Centered Approaches for Examining Effects of Sports Participation on Youth Development. *Developmental Psychology*, 45(2), 368.

