
Collaborative Professional Learning: from theory to practice

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ABSTRACT This article analyses continuing professional development (CPD) in the context of primary schools in England, and focuses particularly on the potential of collaborative professional learning (CPL) as a means of making CPD both relevant and specific. It draws upon a range of CPD and CPL literature to critically examine the key characteristics of 'effective' CPD and, within that framework, to analyse both the concept of CPL and its practical application. The area of practice used as an exemplar for this discussion is primary school physical education, an aspect of the curriculum that suffers from sparse initial teacher training and low levels of teacher confidence. Drawing on selected data from a 1-year research project in two case study schools, the evidence suggests that while it is clear that teachers would value further opportunities to engage in CPL, schools would need to radically alter their structures, processes and priorities to enable it to happen effectively.

Governments around the world are pursuing school improvement agendas (Reynolds et al, 2000). A key part of the process is raising the standards of pupils' learning, and the potential of continuing professional development (CPD) to help teachers raise standards is under scrutiny (Day, 1999; General Teaching Council for England [GTC], 2002). Research suggests that effective professional development is school-based, active, collaborative, progressive and focused closely on pupils' learning (National Partnership for Excellence and Accountability in Teaching [NPEAT], 1998). However, for many teachers, their professional development experiences are far removed from that ideal. This article analyses CPD in the context of primary schools in England, and focuses particularly on the potential of collaborative professional learning (CPL) as a means of making CPD both relevant and specific. It draws upon a range of CPD and CPL literature to critically examine the key

characteristics of 'effective' CPD and, within that framework, to analyse both the concept of CPL and its practical application. The area of practice used as an exemplar for this discussion is primary school physical education, an aspect of the curriculum that suffers from sparse initial teacher training (Hardman & Marshall, 2001) and low levels of teacher confidence (Qualifications and Curriculum Authority [QCA], 2002). Drawing on selected data from a one-year research project in two case study schools, the evidence suggests that while it is clear that teachers would value further opportunities to engage in CPL, schools would need to radically alter their structures, processes and priorities to enable it to happen effectively.

The Importance of Career-long Learning and the Case of PE

CPD is an essential part of every primary teacher's career-long learning. Becoming and being a professional requires both initial and ongoing training (Schön, 1983) and it can certainly be argued that Initial Teacher Training (ITT), on its own, is unlikely to be sufficient to provide teachers with the necessary knowledge and skills they will need for the rest of their careers. Indeed, if it takes 10 years of 'repeated practice' to become an expert (Ericsson et al, 1993), then this would suggest that professional development is needed for at least 10 years. Furthermore, teachers will need to update what they know as and when new government or school initiatives are introduced. Thus, the GTC suggests that:

Learning is an integral part of professional practice and the means by which teachers rejuvenate their practice on a daily basis in their desire continuously to extend themselves and their pupils. (GTC, 2002, p. 1)

In addition to the general need for career-long professional development, there is also a need for more subject-specific CPD. Physical Education (PE) is a good example of a curriculum subject where teachers' levels of knowledge and confidence after ITT are often low (QCA, 2002). In recent years, the heavy emphasis placed on the teaching of numeracy and literacy in the United Kingdom, and the introduction of the literacy and numeracy strategies, has inevitably squeezed the time available for teacher development in other areas of the curriculum. Individual primary school teachers may have a personal interest in PE, and some may have taken intensive or specialist PE options in ITT; for the majority, however, the skills required to teach PE probably derive from a combination of distant memories of their own PE lessons, some all-too-brief hints and tips from their training, and some on-the-job learning. Given the lack of PE expertise in primary schools and the low status that PE is afforded more generally (Armour & Jones, 1998), it is difficult to see how pupils can maximise their learning potential in this area of the curriculum. Hence, it

can be argued that the establishment of effective models of CPD is particularly important for primary teachers as they grapple with the demands of delivering the national curriculum in foundation subject areas such as PE.

What Makes 'Effective' CPD?

If it is agreed that CPD is essential for primary school teachers, both generally and for certain subjects, then it is important to consider what would constitute 'effective' CPD. It seems likely that schools' and teachers' needs are too diverse to pinpoint an exact 'formula' for effective CPD; as Guskey (2003) has pointed out, most statements about effective professional development can be described as 'yes, but ...' statements. Nonetheless, there is some agreement in the international research literature about the main features of effective CPD. Guskey (1994), for example, argues that an optimal mix of CPD is required and that this varies from teacher to teacher. Others argue that CPD is more likely to be effective when it is:

- active (Day, 1999) and practical (Lee, 2000);
- ongoing (NPEAT, 1998; Day, 1999; Pennsylvania Department of Education [PDE], 2000; Garet et al, 2001);
- reflective (Hay McBer, 2000);
- collaborative (Hixson & Tinzman, 1990; King & Newmann, 2001);
- planned and focused upon the needs of specific teachers and pupils (NPEAT, 1998; PDE, 2000).

Furthermore, it is widely agreed that 'courses' should be taught by experts who have relevant experience and that they should be well structured with clear goals (Lee, 2000). On the other hand, ineffective CPD is that which is undertaken away from the school, resulting in decontextualised professional development that has few opportunities for follow-up activities or progression (Connelly & James, 1998; Fennessy, 1998; Garet et al, 2001):

Instructional methods designed simply to pass on knowledge as separate, decontextualised pieces of information miss the whole essence of the ways in which knowledge is constructed and understanding developed. (Entwistle et al, 1993, p. 331)

Thus, NPEAT (1998) argued that professional development is more effective when it is school-based and embedded in teachers' everyday work.

Perhaps because of the cost-effectiveness of mass in-service 'courses', much professional development has been developed using this model, but, arguably, such courses can be irrelevant to the specific needs of many of the participants and the knowledge may be difficult to transfer

into individual school contexts (Craft, 1996). Moreover, in traditional 'courses', there is seldom time available for reflection and rarely a chance for follow-up activities, so many learning opportunities are lost. Some CPD is also provided within schools at staff meetings and on in-service training (INSET) days, but this often reflects specific school policy imperatives, rather than meeting the needs of individual teachers (Craft, 1996). Thus, it could be argued that one of the most valuable resources that schools possess is under-utilised; the teachers themselves have a wealth of knowledge between them that could be shared within the context of the school, but this resource is often overlooked and more formalised training 'days' favoured (Craft, 1996; Lee, 2000). PE-CPD is a very good example of this phenomenon, being dominated by one-off, sport-specific update courses (Armour & Yelling, 2004) that separate the teacher's learning from the context in which it must be applied. So, could school-based and collaborative professional learning be more effective for enhancing teachers' and ultimately pupils' learning in primary PE?

Understanding Collaborative Professional Learning

As was noted earlier, much of the literature outlining the characteristics of effective CPD identifies the benefits of school-based, collaborative professional learning (CPL). CPL can be defined as any occasion where a teacher works with or talks to another teacher to improve their own or others' understanding of any pedagogical issue. CPL encompasses a wide range of concepts and processes such as:

- mentoring or interaction with colleagues (Sandholtz, 2000);
- peer coaching (Lieberman 1996, cited in Day, 1999);
- critical friends (Day, 1999);
- collegiality (Fennessy, 1998);
- a whole range of activities such as observation, working on tasks together, sharing ideas or discussing the implementation of resources.

Although each of these could involve different activities and processes, an underpinning notion of the value of collaborative learning seems to unite them. This is founded on the assumption that every school contains expert and experienced teachers with a range of knowledge and experience that could be shared. In sharing this knowledge, teachers can collaborate, reflect and learn from each other. They might also, at times, attend more traditional 'courses', but in a collaborative approach any learning gained would then enter the pool of valuable knowledge to be shared. In this context, Sternberg & Horvath's (1999) concept of 'tacit knowledge' is relevant. Tacit knowledge is defined as the knowledge that teachers (or other professionals) possess, but without necessarily recognising or valuing it:

People know more than they can tell. Personal knowledge is so thoroughly grounded in experience that it cannot be expressed in its fullness. In the last 30 years, the term *tacit knowledge* has come to stand for this type of human knowledge – knowledge that is bound up in the activity and effort that produced it. (Sternberg & Horvath, 1999, p. ix)

It is this tacit or implicit knowledge that needs to be ‘extracted’ for use in CPD, and collaborative learning amongst teachers is one way in which this can be structured and enabled.

As was previously noted, the concept of collaboration between teachers and within schools has found much support in the professional development literature. Day, for example, drew on research by a number of authors (Purkey & Smith, 1982; Rosenholtz, 1989; Mortimore et al, 1994; Hopkins, 1996, as cited in Day, 1999) to conclude: ‘Much research suggests that collaboration is an essential ingredient of teacher development and thus school improvement’ (1999, p. 80). Furthermore, many other authors, including King & Newmann (2001), Nicholls (1997), Sandholtz (2000) and Craft (1996) argue for the benefits of collaboration. In a study conducted by the National Foundation for Educational Research (NFER), Lee (2000) concluded that teachers favour activities that allow opportunities for sharing ideas:

A primary teacher described how effective it had been to work alongside a mathematics consultant who had provided a demonstration on the Numeracy Hour: *It was very useful to have the opportunity to watch an experienced teacher show you how they expect numeracy to be taught ...* Other teachers commented on the benefits of sharing ideas, as one said: *Working with other teachers in the Pyramid, increases common practice across all schools, enhances understanding and is cost effective.* (p. 29)

King & Newmann (2001) suggest that it is important to have an extended understanding of collaboration in schools, to include members of the profession from other schools and institutions:

Teacher learning is most likely to occur when teachers have opportunities to collaborate with professional peers, both within and outside of their school, along with access to the expertise of external researchers and program developers. Peer collaboration offers a powerful vehicle for teacher learning, a necessary supplement to published materials and advice from other authorities. (p. 86)

However, despite the widespread agreement that collaboration can be a beneficial process in teachers’ learning, it is important to clarify the

difference between productive collaborative opportunities and everyday discussions. Rosenholtz (1991) identifies experience-swapping, sympathy and support as examples of collaborations that may not be productive in terms of enhancing teacher or pupil learning. Indeed, Whelan et al (2001) warn that some 'stories' told between teachers may act to hinder learning, while others may need to be told and retold in different ways and with differing emphases in order to meet teachers' different learning needs. Similarly, Little (1994, cited in Guskey, 2003) found that collaboration can either encourage or inhibit progress. Nicholls (1997) clarifies the concept of CPL further by differentiating between collaboration and cooperation. The example of children working together on the computer is used to clarify this point. In a cooperative situation, children share the mouse and take turns, but do not discuss the problem. In a collaborative situation, the children cooperate as before, but they work together to solve a problem by discussing and exploring possible solutions. The former of these could be seen as analogous to a situation where teachers cooperate with each other, share resources and swap lessons plans, but do not explore problems at a deeper level. As Little (1990, cited in Day, 1999, p. 80) explains: discussions may be 'cooperation masquerading as collaboration and remain at the level of talking about teaching, advice giving (and) technique trading'. Nicholls (1997) provides another example of this in the context of higher education institutions (HEIs), which often cooperate with schools by providing INSET courses, but rarely collaborate with them to resolve a problem together. Thus:

[A cooperative partnership is where] schools/HEIs use each other as a resource to facilitate their end goals. They are merely 'willing to assist' each other in a venture – a scenario very often found with INSET courses. (A collaborative partnership could be when institutions) seek to make partnership agreements through a genuine desire and active interest in resolving problems jointly ... Both institutions see themselves as 'working with one another on a joint project' Each institution opens themselves up to their private worlds becoming intertwined as the process develops. (p. 9)

Recognising the difference between cooperation and collaboration is an essential part of the process of enabling teachers to learn together by engaging in reflective, collaborative, problem-solving activities. Collaborative professional learning has been described as a 'growth in practice' model of professional development that acknowledges teaching as an intellectual endeavour and professional development as an outcome of teachers learning together (Lieberman & Miller, 1999). However, it is clear from the literature that CPL is a multi-dimensional concept with numerous different expressions and labels. It is important,

therefore, to explore the theoretical and practical foundations of the term in order to capture its essential elements.

A Theoretical Framework for CPL

CPL may be a fashionable term, but it is not a new concept. An analysis of the historical development of CPD indicates that the concept of CPL may have its roots in the informal discussions and unstructured observations of colleagues that have been occurring from as early as the nineteenth century. It is worth clarifying that CPL may or may not be school-based; teachers may learn collaboratively from colleagues within their own school through lesson observations, discussions or problem-solving, or they may learn from other teachers away from their school; on a course, for example. However, situativity theory hints at the particular benefits of learning that is school-based, a concept that also has roots in the past. For example, *The Handbook of Suggestions for Teachers* (HMSO, 1937) acknowledges that teachers may have a lot to learn from each other; furthermore, it recognises that teachers need regular opportunities for discussion. More recently, the Schools and In-service Teacher Education (SITE) Project (Baker & Sikora, 1982) noted the value of school-based learning, and the School-based Staff Development Project (Oldroyd et al, 1984) is further evidence that the recognition of the value of school-based learning for teachers is not new. In the context of PE, this is further reinforced. For example, the Ling Association, which was formed to promote the use of Swedish gymnastics in 1899, held demonstration lessons for teachers in their own schools and, more recently, local authority advisors were employed to visit schools and to work with teachers in their own settings, advising them on aspects of PE teaching (Evans & Penney, 1994). Yet although support for CPL (school-based or otherwise) as a central part of teachers' CPD is rooted in history and is supported strongly in the current professional development literature, it would appear that something happens in practice to prevent its widespread use. An analysis of the theoretical roots of the concept is the first step towards explaining this.

As was noted earlier, CPL is, in essence, the learning of new skills or knowledge by one or more members of a group that occurs when professionals work together. There are three dominant theories of learning located within the psychological and sociological literature that are potentially relevant to this analysis: behaviourism, cognitivism and constructivism. In short, behaviourism concerns the ways in which behaviours are learnt through trial and error experiences, cognitivism is concerned with the mind and how it makes sense of the information it receives, and constructivism focuses on the ways in which knowledge is constructed, and is based on interactions with others and the environment. Constructivist learning theory, therefore, emphasises a

person's active involvement in personal learning and suggests that learning will be more effective when it is active, interactive and authentic (Newmann, 1994). Atherton (2001) provides a useful clarification of these differing theories:

Behaviourism treats the organism as a black box. Cognitive theory recognises the importance of the mind in making sense of the material with which it is presented. Nevertheless it presupposes that the role of the learner is primarily to assimilate whatever the teacher presents. Constructivism suggests that the learner is more actively involved in a joint enterprise with the teacher in creating new meanings. (p. 1)

Whilst behaviourist and cognitive methods of learning have their merits, it is constructivism that most closely resembles the learning that is suggested can occur through CPL. Constructivism has its roots in the child-centred, progressive ideologies of educationalists such as John Dewey (e.g. 1956), Jerome Bruner (1968, 1974) and Jean Piaget (1970) that can be seen to contain elements of what is now known as constructivism. Constructivism concerns the ways in which people construct meanings in their world. It is argued that through experience, reflection, interaction and discussion, learners can construct understanding and knowledge. Essentially, this means that learners actively construct new knowledge, rather than just receiving it from a teacher or reading it in a book. A constructivist learning environment, therefore, promotes the idea that learning should be active; a notion which is shared by many authors, e.g. Simons (1993), Jonassen (1994), the earlier learning theories of Piaget (1970) and Vygotsky (1978), as well as Bruner (1974) in his suggestion that knowledge needs to be discovered through experience.

Within that broad theoretical framework, the constructivist literature identifies two strands of constructivism: cognitive constructivism and social constructivism. The former is associated with the work of Piaget (1970) and the latter with the ideas of Vygotsky (1978). Although originally concerned with children's learning and development, it is relatively easy to see how these theories can be applied to adult learning. Piaget's theory of learning assumes that humans cannot learn by simply absorbing information, but must experience it; thus, instructional forms of tuition would be wasted if people did not have some experience of the knowledge they were receiving. In relation to professional development, this key concept is important as it suggests that where teachers just attend courses and 'receive' knowledge, it is unlikely to lead to effective learning because the learning will be out of context and so not readily applicable to practice. As Loughran & Gunstone (1997, p. 161) point out, 'teachers' learning is not something that can be 'delivered', rather it should be about 'working with, not doing to, teachers'. However, for the purposes of this discussion, although cognitive constructivism

identifies how individuals learn from their experiences and is useful for providing a framework for a certain type of learning, it is also limited because it does not consider how people learn from each other. For this reason, Social Constructivism, incorporating the ideas of Vygotsky (1978) is more pertinent to this analysis of CPL because it explicitly focuses on interaction between individuals and with the environment. Vygotsky (1978) identifies the benefits of working together in order to learn effectively and proposes the concept of the Zone of Proximal Development (ZPD). In the ZPD, children (and adults) have certain potentials for understanding and learning and these differ depending on the amount of help they are given. A person's actual development is what he/she can do on his or her own, whereas potential development is what they can achieve with help from others:

(The ZPD) is the distance between the actual development level, as determined by independent problem solving and the level of potential development, as determined through problem-solving under adult guidance or in collaboration with peers. (Vygotsky, 1978, p. 86)

This concept has clear relevance to an analysis of CPL in schools because it hints at the potential value of mentoring and collaboration in professional learning. Thus, an inexperienced teacher may have a lot to learn from a more experienced teacher, who may help them to achieve their own personal zone of proximal development. In turn, the experienced teacher is also likely to learn from the process (see below).

Constructivism not only identifies the importance of collaborative and active learning, it also points to the benefits of making learning interactive. Learning, it is suggested (Vygotsky, 1978; Kirk & MacDonald, 1998) is more effective when the learner has the opportunity to interact with others and with their environment. This further supports the notion that mentoring and collaboration between colleagues are likely to be helpful to teachers' learning. Another dimension to this is the suggestion that learning should also be authentic, contextualised and situated (Lave & Wenger, 1991; Entwistle et al, 1993; Knuth & Cunningham, 1993; Kirshner & Whitson, 1997; Stein, 1998). In this context, Newmann and Associates (1996) argue forcefully that teachers should focus closely upon their pupils' learning, thus engaging in 'authentic pedagogy'. There are links here with the work of Barab & Duffy (2000) who identify the notion of situativity theory, and make a distinction between psychological and anthropological situativity. Thus, whereas Piaget's and Vygotsky's perspectives differed in the extent to which social factors were considered, these two perspectives differ in the degree to which a learning environment is situated and 'real'. The psychological aspect of situativity theory (Resnick 1987; Brown et al, 1989; Greeno & Moore, 1993, cited in Barab & Duffy, 2000) refers to learning in an environment that is

situated and contextualised but not 'real' and so includes methods such as role-play, anchored instruction (Bransford & the CTGV, 1990) and problem solving. However, authors such as Barab & Duffy (2000), although supporting these methods as a useful means of knowledge acquisition, criticise them for being too far removed from the real-world, thus allowing too many opportunities for decontextualisation: 'There is potential for great realism, but since there is a single scenario, transfer to new environments may be quite limited' (Honebein et al, 1993, p. 97). They, therefore, prefer to support an anthropological view of situativity; that is one that is situated in a real context. Thus, for CPL, the distinction between the two could be illustrated as, on the one hand, undertaking collaborative problem solving on a 'course' (psychological situativity) and on the other, solving real-life problems with colleagues in the workplace (anthropological situativity). Further support for this can be found in Lave & Wenger's (1991) work on situated learning, which suggests that practitioners should generate knowledge within the practice in which it will be required. Lave & Wenger's work helps to explain how teachers can learn from one another, and especially how newcomers may learn from more experienced practitioners and this underpins the notion of mentoring in schools. However, Vygotskyian theory and notions of apprenticeship tend to underplay the potential for the experienced teacher to learn as part of the process. Yet, experienced teachers may have a lot to learn from less experienced members of the profession, particularly in the process of teaching, explaining and demonstrating. As Azmitia (2000) argues:

Whilst researchers have generally not considered the experts' cognitive development following collaborations with novices, it is likely that the process of carefully considering the task, decomposing it into manageable chunks and explaining the steps to the novices increases the experts' understanding. As many professors know, the best way to master the ins and outs of a domain is to have to teach it. (pp. 182-183)

Thus, Azmitia (2000) points to the possibility of two-way or multi-directional learning, where all members of the learning process can benefit from the process. Wenger (1998) encompasses this idea in his research into 'communities of practice'. This concept links well with the notion of CPL as it is based on active, interactive, situated and multi-directional learning. Communities of practice within a school could be defined as:

At the simplest level, they are a small group of people who have worked together over a period of time. Not a team, not a task force, probably not even an authorised or identified group. People in communities of practice can perform the same job or collaborate on a shared task or work together on a

product. They are peers in the execution of 'real work'. What holds them together is a common sense of purpose and a real need to know what each other knows. There are many communities of practice within a single company, and most people belong to more than one. In a school, the main community of practice would be the teaching staff, but would also include non-teaching staff such as Learning Support Assistants (LSA), administration staff, parents and children. Learning within a community of practice would include anything learnt by teachers or others to enhance their practice. In a school, opportunities for learning may occur when teachers talk to each other during their breaks or when they discuss issues with an LSA or parent helper during or after a lesson. Alternatively they could occur within formal staff meetings as well as many other instances too. (TCM.com, 2002, p. 1)

The notion of a 'community of practice' provides a useful dimension to this analysis of CPL because it encourages a view that everyone within a particular community is a learner; so in this case, all members of the school community are learners and all members of the community are involved in the process of learning. Following Wenger (1998), many similar concepts have been proposed; for example, Toole & Louis (2002) choose to employ the term 'professional learning community' and argue that:

Researchers use a variety of terms to describe how to organise schools for teacher learning: *collegiality* (Little, 1982, 1990, 1993; Barth, 1990; Sergiovanni, 1994) *collaboration* (Rosenholtz, 1989; Nias, Southworth, and Yeomans, 1989; Zellermayer, 1997), *professional community* (Louis and Kruse, 1995), *discourse communities* (Putnam and Borko, 2000), *teacher networks* (Lieberman, 2000), *professional learning community* (Hall and Hord, 2001) *democratic communities* (Kahne, 1994) *and schools that learn* (Leithwood, 2000; Senge et al., 2000). (p. 4)

Moreover, Cocklin et al (1996) define a 'learning community' as follows:

The school as a learning community is characterised by an active participation by all in a collaborative culture taking responsibility for learning. No longer is learning solely the domain of those vested with power in a hierarchy of knowledge relationships, but requires the interactive involvement of families and children, as well as principals, teachers and administrators. (p. 3)

It is thus clear that many authors have explored concepts that have links to the notion of CPL. Whilst the terms employed to describe CPL differ, they are essentially describing similar concepts that all fall, to some extent, within a broad constructivist framework. However, given the avowed benefits to teachers' learning of a collaborative approach, and the value of envisaging schools as professional learning communities, it is disappointing to note Stokes' (2001, p. 142) comment that few schools support teachers to work together in this way: 'professional culture of inquiry remains less a reality than a phantasmagoric ideal'. Similarly, Newmann (1994, p. 2) describes 'formidable obstacles to the development of clear, shared purpose, collective responsibility and collaboration' and Mayer et al's (2003) research points to lack of time and opportunity for teachers to work together as a persistent problem. However, why is this the case – and how does it manifest itself in the case of primary school physical education?

Some Constraints to Engaging in CPL: a view from two case-study schools

The central focus for this study is *school-based* collaborative professional learning, and it is acknowledged from the outset that there are other forms of collaborative learning that could – and should – be analysed. In the context of this study, and despite a growing interest in the merits of active, collaborative and authentic learning for pupils, it is important to note that neither schools nor professional developers have applied this to teachers' learning in a systematic way. There could be many explanations for this, but in this article, four specific issues are explored as potential barriers to the development of school-based CPL using the example of primary school PE. These key factors, identified from an empirical study conducted by one of the authors, are illustrated with examples from this research and other relevant examples from the CPD literature. The factors are traditional, structural, managerial and personal. Each of these will be illustrated by drawing upon evidence from the first phase of a study into teachers' professional development in physical education in primary schools and then discussed in relation to the wider research literature concerning barriers to CPD and CPL.

The Case Study Schools

Two very different schools were selected as case studies for this research and were chosen for their location (Midlands of England) and ease of access. The researcher, who is also a primary school teacher, had previously taught in one of these schools for 2 years (School A) and had taught a day's supply in the other (School B), and it was for these reasons that these two schools were approached. School A is located in a village.

It is a medium-large state run primary school with approximately 350 children. At the time of the research there were 13 classes in the school being taught by 11 full-time class teachers and 4-part time job-share teachers. Compared with the national average, School A scores above average in its Standard Attainment Tests (SATS) and has a lower number of children with special needs. School B is a medium-sized state run junior school. It has approximately 250 children spread between eight classes and taught by eight full-time teachers. In comparison with School A, it scores lower than the national average in its SATs tests and has a higher than average number of children with special needs. These two schools were thus different in several aspects including the researcher's familiarity with them.

Phase one of the research focused on understanding how PE was organised and taught in these two schools, what professional development the teachers had undertaken since qualifying and their assessment of the quality and relevance of any PE-CPD they could recall. This understanding was gained through participant observation of PE lessons, interviews and questionnaires. Participant observation was employed during PE lessons to find out how PE was being taught. Participant observation was chosen in preference to a more passive form of observation for a variety of reasons: for example, it was felt that the teachers would be more accommodating if they felt they were receiving something in return for being observed, and also the intention was to create a relatively natural learning environment where the observer was seen more as a helper than an outsider who was assessing the quality of lessons. Observation notes were written immediately after the lesson and focused on 7 key areas of the lesson: the warm up, the main activity, the cool down, equipment management, class management, children's learning and teachers' learning. These categories were not specified for teachers in advance as the researcher wanted to capture a 'normal' lesson, rather than one that had been planned specially because it was being observed. Lesson observations occurred in both schools on a regular basis during the winter term and to a lesser extent in the spring term too.

Whilst one purpose of this first phase was to understand what and how PE is taught, another was to establish the nature, relevance and quality of the CPD the teachers at these two primary schools had undertaken. Thus, four teachers in School A were interviewed to establish their views on CPD, find out what CPD they had received and their thoughts on its effectiveness/ineffectiveness. These interviews were semi-structured, encouraging teachers to discuss their CPD experiences and express their views on a range of CPD issues. Additionally, at the end of the interview, data such as years of experience and classes taught were extracted through more structured questioning. However, despite the rich detail that these interviews were eliciting, it became clear that the

time pressures on teachers and, in School B, their lack of familiarity with the researcher, was making further interviews an unwelcome burden. For the remaining teachers, therefore, an open-ended CPD profile questionnaire was used. These questionnaires were based loosely on the interview questions but focused more specifically on PE-CPD and spaces were provided for detailed answers to the open questions. This proved to be a more successful strategy.

Using the data from this first phase of the research and considering CPL as a form of CPD, two action research activities (Phase 2) based on athletics CPD were set up; one in each school. Although the findings from this second phase are not the specific focus of this article, a brief outline provides important contextual information for the ensuing discussion. Thus, the first action research activity (in School A) involved regular weekly meetings on a voluntary basis with six members of staff throughout the Summer term. The aim of each meeting was to reflect on the previous week's learning and the implementation of that learning into practice; it then focused on the learning of a new skill and ways to teach that skill in PE lessons. It was hoped that the teachers would draw on each other's ideas and experiences to generate new ways to teach specific skills in practice. The second action research activity (in School B) was structured around a weekly after-school athletics practice in the summer term, at which the teachers all took turns to help. This was useful as it meant the teachers would be present in most sessions, however, not all teachers would be present each week. Instead of the teachers all taking one group of children throughout the session, they rotated with a group of children around the different activities, observing the researcher taking their group when they got to the activity that she was demonstrating. Both schools received lesson plans to accompany what they had been taught or observed, as well as receiving all the necessary athletics equipment to teach the skills and a handout to accompany each session focused on the learning of one skill: running, throwing, jumping, hurdling, warm-ups, health and athletic challenges. Thus, the teachers' learning was situated within the environment in which it would be used and they had all the necessary resources to put into practice what they learnt. The sessions at School A were usually tape-recorded; when this was not feasible, the researcher took detailed notes immediately following the session. Tape-recording was not possible at School B, so the researcher made notes following the sessions. Throughout the year, the researcher also attended a PE coordinators' meeting, which was run through the local Specialist Sports College and also a basketball course. These were attended with the PE coordinator from School B (the PE coordinator from School A did not attend any PE-CPD in this academic year). The primary purpose of this was to see what was available as PE-CPD throughout the year to primary teachers in the local area. A secondary reason was to gain access to other teachers'

experiences and opinions. The researcher was introduced openly as a primary school teacher and a researcher on both occasions.

The data were analysed both within data-sets as generated by each individual research method, and then for emerging themes across data to identify common themes. However, Lofland & Lofland (1984, p. 12) define participant observation as 'the process in which an investigator establishes a many-sided and relatively long-term relationship with a human association in its natural setting' and this definition points to the difficulty inherent in untangling holistic and intertwined data, such as was generated at times within each of the schools. It was possible, for example, to note the number of teachers sharing particular views in some cases. However, for the majority of data, the findings were not that simple, and so they are presented instead in rich detail both to illustrate similarities and differences between the teachers' experiences and views and to develop theory from them. Grounded theory (Glaser & Strauss, 1967) is a term that captures this process.

Although it is not claimed that findings from these two schools are representative of all schools, and the difficulties of simply applying findings from one social setting to another are readily acknowledged, it seems likely that the study has raised issues that may be of interest to other schools, and that are probably reflected in quite a few. This claim is based on the basis that teachers share experiences of the broader social structures of schools, professional development and initial teacher training in primary physical education; in short, teachers can only access what is made available to them. Thus, the lesson observations, interviews and questionnaires soon revealed that there were common problems facing primary teachers of PE in these two schools that were hindering effective teaching. Some were rooted in practical issues, such as a lack of good quality resources and issues of behaviour and class management; others were located at a more personal level where a lack of PE knowledge and, in some cases, a lack of confidence were restricting practice. Analysis of the early interview transcripts/questionnaires revealed that most teachers had received little initial PE training and that experience of PE-CPD was very limited. For example, teachers were asked to identify all the PE-CPD they had undertaken since qualifying, and also to identify any other opportunities (other than organised courses or INSET days) where they felt they had learnt about PE. In their responses, most duly listed traditional 'courses'; for example:

I have been on some training courses for PE, athletics and so on. (Athletics, team games, ball games, teaching swimming)
The ball games focused on rugby and football and quick cricket, the athletics was track and field and organising sports days. (Simon, School A, interview transcription, 2002)

Dance – monthly workshop for teachers (1992-1994) after school sessions. (Kim, School B, Questionnaire, 2002)

Only two teachers identified something different that could be classified, loosely, as a form of school-based CPL: informal discussions with colleagues and observing another colleague teaching. This is not to conclude that CPL was not occurring more regularly, rather that teachers didn't recognise it as 'CPD' in this context. Given this background, therefore, we would like to identify and discuss four key issues that appear, in these two case study schools, to be central in restricting teachers' learning in PE-CPD. They are: (i) tradition, (ii) structure, (iii) management, and (iv) personal factors, and they militate against the development of school-based CPL as a valuable and valued form of teacher learning in physical education.

Tradition. Historical traditions are often entrenched in practice and it is clear that professional development (or INSET) has been provided for teachers in a specific format since the James Report (HMSO, 1972), when it first became prioritised. Off-site courses have traditionally been the primary means of professional development and this position has not really been challenged. Data from these two case study schools imply that teachers are unfamiliar with CPL as a legitimate form of professional development and they frequently cited off-site 'courses' as being their main means of professional development. One reason for this could be the domination of such courses as a primary means of professional development in the past. A further problem could be that, historically, professional development has focused on teachers' knowledge and has centred on teaching teachers new facts and skills, rather than focusing on teachers' learning. If the success of a professional development activity is measured solely on the amount of information that is presented to teachers, then many activities could be viewed as successful. However, if CPD were measured by the knowledge and skills that teachers learn, put into practice and that impact upon the quality of pupils' learning, then the extent to which it could be viewed as successful might be challenged. Hargreaves (2001) highlights just such a point when he argues for a change in focus from a pedagogy for teaching to a pedagogy for learning. Thus by focusing on how teachers learn as well as what it is they need to learn, more effective learning might occur. One teacher from School A illustrates this point and highlights the problem of off-site, decontextualised learning:

Having had a couple of days off on a course last week, things that seemed quite possible and not just for me but for colleagues, now seem not quite so realistic. (Simon, School A, interview transcription, 2002)

Another teacher, this time from School B further highlights this problem:

Practical courses have more impact. Daytime courses are more effective than after school (when teachers are usually tired out). Ideas from training need to be used asap in order to consolidate and use them most effectively. Opportunities to share ideas with colleagues needs to happen during the week following the training otherwise the impetus is gone. (Kim, School B, questionnaire, 2003)

It should also be remembered that it is not just schools that are governed by tradition; many professional development providers also have traditional views of what constitutes CPD. In order for CPL to be utilised systematically as a means of professional development, professional development providers may have to break from historical traditions and reform their CPD activities too. As Stein et al (1999) suggest:

Just as teachers need to relearn their teaching practice, so will experienced professional developers need to relearn their craft, which traditionally has been defined as providing courses, workshops and seminars. (p. 237)

Structure. Another reason for the lack of CPL could be located in the structures within schools that prevent this type of learning from taking place. Three quotes from interviewed teachers in School A stand out as being particularly illustrative of this point. For example, when asked if he got the opportunity to observe good practice in schools, Simon answered 'Very occasionally, yes you do but not as much as would be desirable' (School A, interview transcription, 2002). Another teacher said, 'You don't get the chance to observe other teachers really. I would like to watch Sandra teaching PE as when I talk to her she always has really good ideas for teaching' (Claire, School A, interview transcription, 2002). Furthermore, when asked whether it would be possible to spend time with colleagues discussing teaching and solving problems, Linda replied, 'Yes it (CPL) would probably be beneficial but I can't see how it would work. When would they do it? They may prefer to mark and plan lessons and get other things done first'. (School A, interview transcription, 2002). The situation in School B was similar; the teachers seemed to acknowledged that CPL could be a valuable form of learning:

The head teacher at School B said that courses were wasteful of resources and that he would rather his staff learnt from observing and talking to each other. (Field notes, 2002)

The PE coordinator at School B was supportive of paired CPD, where teachers attended CPD activities together. She felt this was especially beneficial when the teachers came from different age groups because the learning would be more

diverse and could help more members of staff within the school. (Field notes, 2002)

Similarly, teachers at School B identified structures within the school that may have prevented CPL from occurring and cited time and lack of opportunity as reasons why CPL may not have taken place.

The teachers interviewed at School A also seemed to be in agreement that collaborations would be beneficial but they were unsure of whether it would be possible within the structures of the school. On a practical level, CPL cannot take place if there is no time or space available for teachers to engage in discussion and observation (Helsby, 1997, cited in Day 1999; Hemmington, 1999). The whole point of CPL is that teachers learn from one another by observing each other, discussing problems and reflecting on practice together. It involves the sharing of ideas and resources and is only possible if there is time in the school day for teachers to engage in such activities. Friedman & Phillips (2001) identify time, cost and access as frequently cited barriers to CPL. Lunchtimes and after school are often taken up with marking, planning, photocopying or clubs and the productive time that teachers spend together is, therefore, limited. Teachers may also be too tired or too busy to take on extra things on top of their everyday work: 'I mean too much marking could stop you from wanting to do anything!' (Linda, School A, interview transcription, 2002).

CPL is a form of learning that depends on teachers working together; this could be through observing a colleague's lesson, discussions, joint planning or problem solving, but in practice this is far from realistic. In addition to time constraints that prevent teachers from collaborating, there is also the issue of supply cover. A teacher may not be released from their teaching duties because of the cost, or the lack of good quality cover; during Linda's (School A, 2002) interview, she identified that if she was in the middle of a numeracy topic for the week, she did not like it to be interrupted by not being there. A further problem is that teachers don't necessarily want to leave their classes with another teacher because behavioural problems may erupt and routines may be disturbed (Craft, 1996). This point is further illustrated from some field notes taken whilst attending a PE subject coordinators' course with the PE coordinator from School B; one teacher reported that a school had pulled out of the meetings because of the difficulties they found getting supply teachers and also because of the disruption it caused to the children's routines.

Management. A further barrier to CPL occurring in schools could be lack of support from the school management and specifically the head teacher. In theory, it might be suggested that managers could direct staff meeting time to collaborative planning sessions and encouraging

teachers to share their ideas and resources; on the other hand, some might be more insular and discourage a collaborative atmosphere. During phase 2 of this study, the two head teachers were found to be very different in their approach to allowing the researcher the freedom to set up the athletics CPD in their schools. In School A the management was very receptive to the proposed CPD whilst in School B the management was less accommodating. This seems to suggest that for CPL to be effective and accepted, its merits as a form of CPD need to be acknowledged and encouraged by head teachers and other management structures within the school. As Rosenholtz (1991) confirms: head teachers need to be supportive of a collaborative ethos throughout the school if collaborations are to take place:

Principals may establish collaborative norms. They make helping behaviours salient, necessary, and dominant features of school life. (p. 61)

Personal factors. Other potential barriers to CPL exist at a more personal level, whereby it is the teachers themselves who are preventing collaborative practices from taking place. Some teachers will go to a friend for help, but see some members of staff as unapproachable. Alternatively, teachers may be reluctant to offer advice without being asked because they see it as being unprofessional to do so. This is illustrated in this study by Claire who states:

I don't really talk to other colleagues about teaching PE. I suppose they might help but I can't really see me asking them. (School A, interview transcription, 2002)

In order for CPL to be effective, teachers need to trust one another enough to admit they have a problem and to share their problems (Darling-Hammond, 1994; Nicholls, 1997):

Trust is essential and necessary for collaborative projects. The nature of this trust must nourish dialogue and inquiry, allowing those involved in the collaboration to tolerate ambiguity, misunderstanding, a divergence of views and continuing discussions even when the situation is uncomfortable, without forcing collaborations into one position or another'. (Nicholls, 1997, p. 115)

This notion of trust was also important for the research process itself. Data from the two case study schools were similar in many respects, but it was much harder to establish the project in School B where, even though the proposed action research was free and beneficial to teachers, the researcher was not well-known (trusted) and so the teachers were (initially) wary. In addition to this, teachers may be in competition with one another for results and they may not be willing to share their

knowledge. Teachers may be reluctant to ask for help because they are embarrassed or unwilling to admit that they are struggling (Rosenholtz, 1991). This was not, however, always the case and whilst there is little evidence that the teachers were willing to share ideas with each other, it does seem that the PE coordinators in both schools were approached for help and were willing to offer advice to their colleagues:

Linda has great ideas for PE and shares them with those who are keen to know – very helpful. (Julie, School A, questionnaire)

Jenny is always willing to help and explain. (Sarah, School B, questionnaire, 2003)

Teachers, for a whole range of reasons, may be unwilling to change their practice, something that Ward & O'Sullivan (1998) term 'pedagogical reductionism', where teachers are comfortable with a particular way of working and are reluctant to expand or change. This is not to say that their practice is unsuccessful, just that they are unconvinced of the need to improve their teaching by trying or adopting new techniques. Teachers may also be unwilling to accept new practices if they doubt their effectiveness; Guskey (1994) writes: 'Practices that are new or unfamiliar will be accepted and retained when they are perceived as increasing ones competence and effectiveness' (p. 7).

CPL: theory into practice?

Having explored the theoretical roots and dimensions of the concept of CPL, and then identified and illustrated some of the practical barriers to its widespread deployment in CPD in primary schools, perhaps the final task for this article is to attempt to identify a way forward. A possible first step is to take Greene's (2001) advice when she argues that finding new approaches to CPD requires:

imagination in order to be able to perceive the alternatives ... it is a matter of awakening. ... of attending to the teacher and with the teacher, a matter of keeping open what we can imagine as possibility. (pp. 10-11)

The problem, however, is that whereas researchers and theorists have imagined such a possibility, schools and teachers have been unable to act upon their imaginings. The task, therefore, is to work more closely with teachers and schools to enable them to take the first step towards change: i.e. to think differently. A useful starting point might be Falk's (2001) suggestion that in order to change perceptions about CPD, we need to begin to view professional learning as the job of teaching, rather than as an optional adjunct to it.

If this is to be accepted, then a cost-effective solution could be to incorporate more CPL into school professional development policies. However, as has previously been mentioned, despite its suggested merits, CPL is not eagerly embraced in schools. One possible way forward could be to consider Guskey's (2002) model of teacher change, whereby teachers are encouraged to change their practice, assess the merits and drawbacks to this change in practice and then adjust their beliefs accordingly. Guskey argues that in the past, teachers have been encouraged to change their beliefs before they have experienced the benefits and drawbacks of those changes in practice and it is this that has acted as a barrier to change. Relating this to CPL, it could be argued that teachers and schools need to be supported in their collaborations and thus witness the benefits of doing so first-hand, before they can be convinced of its worth as an effective form of CPD. This may be a new role for CPD providers. This is perhaps one solution to what could be done to encourage CPL in schools but it is also worth considering how this might be done in practice.

Nicholls (1997) argues that collaborations need to be more than cooperations, which means that collaborative encounters need some structure and that teachers need to be made more aware of effective ways to collaborate. In connection with this she identifies eight obstacles that need to be overcome in order for successful collaborations to occur. These are:

- 1) definition of role that limits collaborative initiatives;
 - 2) implicit and explicit conceptions of what it means to work as a professional within a given institution;
 - 3) conceptions of what it is to learn professionally, both explicitly and implicitly;
 - 4) career development: competition between colleagues for attention and prestige;
 - 5) lack of understanding about institutional differences;
 - 6) implicit and explicit hierarchical structures;
 - 7) lack of common communicative language;
 - 8) lack of understanding of the need to collaborate.
- (pp. 119-120)

Furthermore, and on a more practical level, schools may facilitate the employment of CPL within their schools by considering Darling-Hammond's (1994) 10 characteristics of successful collaborations, these are:

- 1) mutual self-interest and common goals;
- 2) mutual trust and respect;
- 3) shared decision making;
- 4) clear focus;
- 5) manageable agenda;

- 6) commitment from top leadership;
- 7) fiscal support;
- 8) long-term commitment;
- 9) dynamic nature;
- 10) information sharing and communication. (pp. 209-217)

It is clear that organising effective CPL in schools will not be an easy process. Many authors (Darling-Hammond, 1994; Nicholls, 1997; Guskey, 2002) have put forward recommendations to help facilitate this acceptance and improve the effectiveness of CPL in schools. However, structures and attitudes in existence within schools may still prevent successful collaborations from occurring. It is worth recalling Friedman & Phillips (2001) identification that time, cost and access are the most frequently cited barriers to CPD; organised, structured, reflective meetings would thus be essential. Similarly, opportunities to observe and share good practice with colleagues both within and between schools and institutions would also be essential. The form and structure that this should take needs to be based on the outcomes of future research into this area.

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