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Translating change into improved practice: analysis of teachers' attempts to generate a new emerging pedagogy in Scotland.

10th May, 2011

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Abstract

In Scotland, substantial changes in the management of education at national, local authority and school/community levels are afoot. Central to future improvements are how teachers translate curriculum guidelines, with an increased focus on health and wellbeing and holistic learning experiences, into constructivist inclined pedagogical practices. Through reviewing semi-structured interviews and planning conversations, this paper reports on five teachers' attempts to introduce new teaching approaches in primary school physical education programmes. Each of the teachers' had completed a new Postgraduate Certificate in Physical Education which aimed to help teachers understand more about developmentally appropriate physical education. We investigate their responses in trying to cultivate an emergent pedagogy with a greater emphasis on creating pedagogical opportunities which are inclusive and clearly connected with national educational priorities. Findings illustrate the diverse ways in which teachers used their professional development experiences as the basis for engaging with curriculum policy and the means by which they implemented new practices and knowledges in their schools.

Pedagogy

Curriculum

Health and Wellbeing

Innovation

Physical Education

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Malcolm Thorburn is a Lecturer in Physical Education at the University of Edinburgh. After teaching in secondary schools his research focus is now on the policy making and implementation issues associated with physical education; in particular with issues of professional change for teachers in terms of curriculum planning and pedagogical practices.

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A policy context of opportunity for physical education

Education has been recognised by the new devolved government in Scotland as a key driver in efforts to seek a cultural change of attitude in the way many young Scots lead and construct their lives (Humes and Bryce, 2008). Furthermore, physical education has been identified as having a central role to play in that it openly connects education with policy interests focusing on health and wellbeing (Thorburn, 2010). Inspectorate evidence on primary school physical education (HMIE, 2001), the National Physical Activity Strategy (Scottish Executive, 2003), the Active Schools Programme (Sport Scotland, 2003) and the Report of the Review Group on Physical Education (Scottish Executive, 2004a) have all argued for increased curriculum time and improved pupil learning experiences. The burgeoning sense that it would be a good idea if pupils were more active more often has been endorsed in new 'Curriculum for Excellence' (CfE) guidelines. Physical education is now predominantly housed in the core curriculum area of health and well-being, on the basis that the subject can purposefully contribute towards promoting cross curriculum learning in schools and thereafter across the adult lifespan (Scottish Executive, 2006; Thorburn et al., 2009). Dance as a contributor to physical education remains within the Expressive Arts. Uniquely, physical education has been specified as the only subject which requires a specific time schedule - two hours provision each week for all pupils between five and sixteen years.

Alongside commitments to provide more time and teachers to support curriculum developments (Scottish Executive, 2004b), a further important professional development opportunity for class-based primary and physical education teachers was initiated. The Postgraduate Certificate in Primary Physical Education (PGCPPE) is a programme which over eleven hundred teachers (predominantly primary education teachers) have completed between 2008 and 2011. The PGCPPE

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is among a cluster of national initiatives pioneered by the Universities of Edinburgh and Glasgow which focus on providing developmentally appropriate physical education programmes, as the basis upon which pupils can translate their in-school learning into higher rates of voluntary active learning and participation (Thorburn et. al., in press).

However, the policy opportunities of the present time follow a period where support for physical education in schools has been characterised by diminishing national and local authority assistance and an increase in school-based decision-making and teacher responsibility for implementing curriculum innovations (Thorburn, 2010). None of the thirty-two local authorities in Scotland now has a full time subject adviser in physical education. Staff who used to be subject advisors have often been recast as generic 'quality improvement officers'; a more managerial remit with an emphasis on quality assurance and public accountability for standards in education rather than for improving teachers subject knowledge (Cameron, 2008). This approach has been reinforced at national level where HMIE continue to monitor school performance rather than seeking out and recommending new curriculum interventions and pedagogical approaches. In addition, in primary schools there has been a shift from a more traditional hierarchical model of school leadership to a more distributive model where, in effect, 'all teachers are leaders of learning' (Humes and Bryce, 2008, p. 910). Within this 'flatter' more dynamic managerial structure, teachers are expected to effectively network and liaise with colleagues in the wider school community. A further consequence of this form of management is that budgets for professional development are identified on a competitive needs-related 'whole school' basis. Therefore, support for physical education is no longer unconditional.

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Against a backdrop of changed structures and limited specialist support, concerns have also been voiced about whether physical education teachers in Scotland are making the most of the present policy circumstance (Thorburn and Horrell, in press). When discussing the involvement of teachers in the construction of policy in physical education, Reid and Thorburn (in press) found that a leading national level civil servant commented on how teachers were 'so used to being on the outside they failed to recognize when the door was wide open'. Teachers were clearly perceived as failing to make the most of the curriculum change opportunities that were available to them.

Accordingly, our focus in the paper is to analyse whether there is evidence of new approaches to teaching emerging that can be seen as linking to physical education's new found curriculum prominence in Scotland, and with participation in the PGCPE course. In order to theorize our analysis, we draw upon educational change literature (Fullan, 1993; Fullan, 2006) and also complexity theory (Morrison, 2008). We have decided to take forward a mix of two theoretical approaches precisely because, at face value, the logical step-by-step approach of Fullan in generating improvements contrasts with parts of complexity theory where a greater recognition of unpredictability and self organization informs analysis.

Fullan (2006) proposed that there are four broad phases in the change process: initiation, implementation, continuation, and outcome. Previous papers associated with new developmental programmes in Scotland have discussed initiation (Jess and Collins, 2003) and implementation (Thorburn et al., 2009), and in due course papers are expected to review outcomes of pupil learning gains. Here, the focus is on the continuation of change. Fullan's (2006) concerns in this area centre on why fundamentally good ideas often have such difficulty in becoming established practice (Datnow, 2006). Fullan (2006, p.3) considers that theories of educational change, to date, are

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incomplete as there is a lack of adequate 'theory of action' focus on the importance of pedagogical change and professional learning communities. Specifically with regard to these areas, Fullan (2006) argues that focusing on levels of motivation, reflective action, persistence and flexibility are key to changes in practice becoming deeply embedded and self sustaining.

As indicated, we also consider that complexity theory is an appropriate framework to underpin analysis of the continuation of change process. As Wright (2004) notes profound social and cultural changes have created conditions where the values and meanings associated with physical activity and sport are not static and fixed. Thus, complexity principles can have relevance for those involved in physical education when faced with uncertainty and contradictions (Jess et al., 2011). Morrison (2008, p. 22), for instance, suggests that schools are 'dynamical and unpredictable, non-linear organizations' operating in ever changing environments. These views suggest that knowledge is not static, but is instead 'dispersed, shared and circulated throughout the system' (Morrison, 2008, p. 21). Thus, teachers, in order to become flexible and creative, need to experiment and reflect upon ideas and practices which articulate with the realisation of policy goals. Through working collaboratively and sharing ideas, vibrant communities of practice which cultivate professional dialogue and deeper levels of engagement with new ideas can emerge in ways which recognize that learning is non-linear and often uncertain (Wenger, 1998). Overall, the description of educational structures and practices *as complex* marks a change from being governed by notions of cause-effect and linear predictability which have long held currency in education (Johnson, 2008). Such a perspective concurs with recent analysis of policy making in Scottish physical education and school sport which has highlighted that achieving change across national, local authority and school interfaces has been variable due to excessive differences in the ways policies were interpreted, understood and monitored (Reid and Thorburn, in press). In this paper, we discuss how the teachers

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interviewed attempted to adapt their teaching role in light of uncertainties and complexities encountered following completion of their PGCPPE course.

The introduction of developmentally appropriate physical education courses in Scotland

There has recently been a more coherent commitment towards introducing more developmentally appropriate learning principles in physical education (Thorburn et al., in press). Teachers are encouraged to be creative and adaptable in designing rich task learning experiences which enable pupils to develop skills and knowledge in a more progressive way that increases their autonomy in learning. Thus, the current priority is to introduce new pedagogical practices with a greater emphasis on contributing to the different domains of learning (psychomotor, cognitive, social and emotional) and which articulate with the outcomes of CfE and national targets for lifelong physical activity.

Providing professional learning opportunities such as the PGCPPE for existing teachers has long since been considered a priority in terms of improving quality of provision of physical education in Scottish schools (HMIE, 2001) and also in terms of recognising that many primary teachers wish to be centrally rather than peripherally involved in the teaching of physical education (Sloan, 2010). Between 2006 and 2011, academics from the Universities of Edinburgh and Glasgow together with each of Scotland's thirty-two local (unitary) authorities, have been charged with fulfilling a major part of the professional learning remit. This has involved the two Universities introducing a PGCPPE course which aims to provide primary teachers with the opportunity to develop a specialism in primary physical education. Four key principles have informed professional learning efforts. These principles emphasize that physical education should provide learning experiences which are developmentally appropriate across the domains of learning; inclusive; connected within

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physical education and across the whole school curriculum and lifewide as learning in school needs to link with the child's life beyond the school gate (Thorburn et al., in press).

Reflecting Fullan's (2006) focus on achieving effective and sustainable change by authentically developing and modelling interventions on familiar school learning contexts, the PGCPPE course involves a blend of in-school experimentation, off-site learning and on-going reflection. Within this construct, the overarching intention has been that learning is collaborative and connected in order that teachers can become more competent and confident. Accordingly, teachers are provided with experiences which explore critically how current education theory can support pupil learning which is inclusive and comprehensive. Aspects of the context in which the course is occurring are pertinent here. For example, only around a tenth of schools have achieved the two hour per week target time for physical education (Audit Scotland, 2008); a situation described by a Scottish Parliamentary Health and Sport Committee report as 'a lamentable failure' (Scottish Government, 2009, p. 11). Furthermore, questions remain about the impact of CfE on teaching. Priestley and Humes (2010) are concerned, for example, about whether the requirement for pupils to achieve age and stage outcomes will impact on the range of teaching approaches adopted by teachers. As such, what might happen in practice may have less to do with achieving deeper pedagogical change and more to do with teachers completing a surface mapping exercise designed to indicate, in effect, how static teaching practices can realise new curriculum goals. Such problems are familiar in physical education. For example, in addressing curriculum reforms in Hong Kong. Ha et al., (2008) identified that pedagogical skills and student assessment were areas where greater professional development support was required.

Methodology

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Process

The interpretive research reported here aimed to analyse how five primary school teachers (pseudonym names: Imogen, Max, Jackson, Lara and Geoff) engaged with new developmental approaches in physical education following the completion of their PGCPPE course in 2008 and 2009. All interviewees teach in large size schools with between 300 and 400 pupils. Imogen, Max and Jackson are employed in city schools while Geoff and Lara teach in small town schools in rural areas. Each of the teachers is over 30 years of age and has between eight and fifteen years service as primary class teachers. Two semi-structured interviews were completed with each teacher. The first interviews occurred between June and November 2010 and focused on the teachers' backgrounds and their 'typical' pedagogical practices before commencing the PGCPPE. The second interviews took place between October 2010 and January 2011 and focussed on the extent of the changes to curriculum and teachers' practice since completing the PGCPPE. In addition, two follow up 'planning conversations' were also completed during this time with each teacher. These conversations were intended as an unstructured forum during which teachers could openly discuss their planning and teaching intentions. The role of the interviewer in this setting was to listen to teachers outlining their ideas and to offer a supportive environment for discussion, but one which avoided the possible excesses of imposed or contrived collegiality (Hargreaves and Dawe, 1990).

Data analysis

Interviews were recorded with the interviewees' permission and lasted between 45 and 60 minutes. Interviews were transcribed and carefully listened to in order to familiarise ourselves with the data. Thereafter, repeated reading highlighted patterns, contrasts, new issues, and relationships pertinent to translating change literature in education (Lees and Fielding, 2007). This process involved putting passages into our own words and noting comments and illustrative quotes (Hardy and

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Bryman, 2004). After data reduction, the descriptive version received more fundamental analysis in order that links to the wider continuation of change context could be discussed. Interpretation was predominantly informed by teachers' reflections on the value of the PGCPPE and their subsequent experimentation with new pedagogical practices.

Discussion

Teachers' reflections on the postgraduate certificate in primary physical education

Two general features of the PGCPPE - the benefits of reflection, and engaging with theory and practice - were commented on by all teachers as positive influences on their professionalism. The benefits of on-course time for reviewing progress match findings from other authors on the importance of reflection as a course component in professional development programmes (Armour and Duncombe, 2004; Petrie, 2007). As Lara expressed it:

I suppose it was just seeing it [teaching and learning] as much more of a complex process ... a lot about unpicking where we were and where we'd come from and how that was influencing the way I was teaching. So really, I suppose, it's the overall reflection and that opportunity, that time to really look deeper into something and make sense of it.

Also implicit in interviewees' commentaries was a consensus that linking theory and practice led to a feeling of improved competence, particularly in terms of how the teachers developed a personal vision of physical education that articulated with wider policy goals (Fullan, 1993). Jackson spoke of 'constantly thinking' about the aims of CfE and attempting to incorporate them into physical education lessons. He also outlined how the constructivist approach to physical education teaching and learning advocated by the PGCPPE 'led him to believe that this was his style of teaching' and that the knowledge he had gained helped him to feel 'confident and much more comfortable in

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having a better understanding in how it [physical education] all links together.' Such findings concur with evidence from Sloan (2010) on the importance of improving subject knowledge as part of training opportunities.

Additionally, Max came to relish the relatively open planning possibilities afforded by CfE. He took forward some of the key ideas from the PGCPPE (i.e. considering the four domains of learning and making learning inclusive, connected and of lifelong value) and referenced these ideas against the Olympic rings. He then displayed these guiding principles for physical education in the games hall and incorporated them into his planning. By generating such a vision of physical education, Max considered that he did not have to contrive the way he taught to achieve curriculum targets: 'I don't feel I've had to adapt the way I want to teach physical education because of Curriculum for Excellence... I think the 3-14 [PGCPPE] taught me to do it that way.' As Jackson stated the PGCPPE 'whetted their appetite' so that within their school contexts he (along with other teachers) was motivated to put into practice what he had learned from the course. Imogen recalled that:

I quite like the freedom, I've always been like that, I don't like to have to follow things slavishly. I think that's where you're creativity as a teacher comes in and if you are just following a plan all the time you're not really a teacher, you're just following a set of instructions and anybody could technically do that.

The personal vision and motivation these teachers displayed in adapting their pedagogical practices in order to link their teaching more closely with CfE curriculum imperatives illuminates the self organizing characteristics the teachers possessed.

The university based sessions also provided teachers with the opportunity to meet with colleagues from local authorities across Scotland, something which seldom occurs ordinarily. During these

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sessions teachers engaged in collaborative professional dialogue around new ways of thinking about physical education. Jackson commented that 'I really enjoyed having the kind of rigorous discussions that we had' while Lara stated that 'hearing other people on the course, hearing the lecturers... that sort of sharing and the penny dropping and then going back and teaching and reflecting was good'. An embryonic community of practice emerged from the connections teachers were making with each other (Wenger, 1998). The unpredictable and uncertain nature of these learning trajectories is highlighted in Max's experience. Since completing the PGCPPE despite maintaining close links with the university, within his school context Max is harbouring feelings of isolation:

I don't find many opportunities to share what I'm doing or have a look at what other people are doing, that doesn't seem possible with where I'm working at the moment. I don't have a stage partner, I don't seem to have a group of other teachers who I can share ideas and things with.

All apart from Geoff found themselves a lone physical education voice in their school contexts.

In order to counter feelings of isolation the interviewees attempted to make connections with colleagues and the wider professional community. However, lack of time and a high turnover of staff often made this difficult. As such, progress was quite slow when trying to link physical education classes with extended school day sport sessions organised by local and national based Sports Development Officers. This generally disjointed process led Lara and Max in particular to show signs of frustration and isolation as they continued to work with modest whole school support or recognition, and with limited time to confer and collaborate with colleagues. Nevertheless, both Lara and Max were determined to persist and build upon the added interest that some colleagues and senior management staff were showing in physical education in their schools. As they reflected

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on their personal vision of physical education, developed through the PGCPPE and their specific school contexts, ideas and concepts emerged (Phelps and Hase, 2002) which led them to take on responsibility for organising and presenting continuous professional development sessions. Max has organized whole school sessions on developmental physical education over a two year period while Lara is currently working under the auspices of local authority based quality improvement staff in organizing and running courses on new approaches to games teaching and sport education.

Interviewees also reported that the combination of off-site learning and in-school practice coupled with on-going reflection encouraged them to experiment with new pedagogical practices. For example, evaluation of pupil responses to lessons were analysed to a greater extent than previously to ensure that practice in physical education better reflected the needs of the learners. Geoff described how 'sometimes a child might do something and you say oh great lets pick up on that' while Imogen commented on how 'speaking to the children they'll tell you where they want to develop...and that's again something I want the children to be doing'. Such constructivist-inclined experimentation links with CfE policy ambitions for teachers to articulate to pupils more clearly their reasoning and ideas about physical education in ways which to some extent take account of pupils' feedback on past and current learning. As Lara described it:

So it's not about hockey or badminton but it's about how I can engage the children. I suppose I'm noticing more that one of my main aims is about the children being able to take responsibility not just for their learning but also the organisation and sometimes structure of lessons. So thinking about how they can get ownership of it maybe getting them to break down games you know rather than just telling them or getting them to come up with games.

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Overall, the PGCPPE emphasis placed on constructivist approaches to curriculum and pedagogical innovation made interviewees question their practice. Typically, a shift in emphasis occurred from teaching to learning, as exemplified above, where Lara attempted to create deeper connections between her pedagogy, the pupils and the curriculum by including learners' thoughts when evaluating new teaching ideas.

Experimentation with new pedagogical approaches

In their school contexts all five teachers actively sought out opportunities to employ the knowledge and skills they obtained through their engagement with the PGCPPE. One of the main affordances enabling them to experiment with new curriculum and pedagogical approaches was their position as physical education teachers in their schools. Gaining a qualification in a specific subject area (physical education) has led to career level change for all of the teachers. Jackson and Max are now employed as full time specialist physical education teachers while Geoff, Imogen and Lara have dual remits as whole school physical education teachers as well as primary education class teachers. However, in each teacher's case the change was not part of a predetermined career move change but rather in response to the shifting uncertainties of teaching at the time. New responsibilities include taking on school-based sport and health coordination remits associated with CfE; a situation which has led many in the wider school community (e.g. school senior managers, teachers, pupils and parents) to assume that they are the school's 'sports' person. As Imogen noted:

I'm kind of viewed as the sports guru for some reason. At assemblies I'm asked to stand up and explain something that's happening about this, that and the next thing. And all the children if they've done something about sport or the football team have a score they come and tell me, so they see me as being the sport person in the school.

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The knowledge and skills the interviewees demonstrated has led them, often somewhat inadvertently, to take on leadership roles in promoting physical education, physical activity and health and wellbeing in their schools. Such developments resonate with the new emphasis on distributed leadership in Scottish primary schools (Humes and Bryce, 2008) and highlight the dynamic and non-linear nature of managing innovation agendas at the present time. Interviewees also showed persistence and a degree of professional identity and flexibility in trying to make the most of the opportunities available (Fullan, 2006).

To further increase their knowledge and understanding of curriculum and pedagogy the teachers have become immersed in a process of continuous reflection and experimentation. During the planning conversations the teachers described in detail the physical education lessons they taught, how they constructed them and the evaluations they made in response to lessons. This is exemplified in Jackson's description of his first experience of teaching Sport Education:

I wrote on all of the evaluations that I felt to run Sport Education with four classes was biting off a bit more than I could chew...I'd read in Siedentop's book that there is a lot of paperwork and you've got to be prepared for that I guess I kind of glazed over that and thought oh I can manage and a bit of a gung ho approach and felt that there was a bit too much there for me. So in hindsight it probably should have just really been the Primary 7's that I pioneered it with and then I feel I probably could have done it really well.

The process of teaching and learning was described as one of 'trial and error' and as Max elaborated 'if something works really well then I go with it, if something doesn't work very well then you have to take a step back from it and think.' Immersed in this process of experimentation

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the teachers often made changes to their lessons as they were teaching. As Imogen states 'I might have put down this is what I'm going to do...and just as you're watching...you change it on the hop, which I am confident enough to do now.' These findings concur with the recently published review of teacher education in Scotland, which outlines that successful education systems invest in developing teachers as 'reflective, accomplished and enquiring professionals who have the capacity to engage fully with the complexities of education and to be key actors in shaping and leading educational change' (Scottish Government, 2011, p. 4).

The new pedagogical approaches the teachers were experimenting with embraced a more constructivist approach to curriculum and pedagogy as espoused by the PGCPPE. Jackson states how he now:

Encourages the kids to speak up in lessons, with good questioning and also giving them opportunities to talk about their learning...and getting them to feedback as much as possible and not talking at them but finding out what's going on in their heads...and encouraging the kids to take ownership...because so often teaching is dictated by our programmes.

At times, relinquishing control to the pupils as a prerequisite to adopting a more constructivist style of teaching, proved challenging. Jackson sums this up when he states:

Maybe gone are the days of just like super, super strict, structured lessons and there's got to be more pupil freedom and we've not to feel bad about that and we've not to feel like we're failures because they're not automatically behaving like little robots doing what we want them to do.

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As the teachers have experimented with new teaching approaches they report on facilitating learning to a greater extent than previously. The constructivist approach they now typically take is not a case of anything goes but rather one of establishing more expansive parameters within physical education lessons which support guided discovery approaches to teaching and learning. As Imogen noted, 'once the children know what they're doing ... I'm just totally relaxed'. Such constructivist approaches to teaching attempt to engage pupils more deeply with their learning and provides them with greater decision-making responsibility; an approach clearly aligned with wider CfE aspirations.

However, there was not a straightforward, cause and effect correlation between teachers engaging with the PGCPPE and becoming more expert in physical education subject knowledge. Rather most teachers' recognised that to achieve greater mastery required a continuous process of inquiry (Fullan, 1993) and pedagogical experimentation from which confidence would follow the gaining of greater competence. Describing how this process developed, Max commented:

I think I am more confident now than I was about a year ago. It's been a steep learning curve. I think I should be doing more things and you know that's the idea...now I need to take it on a stage...and there's an awful lot of reading and researching that I need to continue to do.

The main concern underlying the teachers' aspirations regarding physical education was to improve the experiences for pupils in their schools. As Jackson commented:

I wanted to make it a positive experience for the kids. I want to build these kids up, kids that have had poor experiences in the past I want it to be fun for them, I want it to be interesting,

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I want it to be physical education that they are getting educated that they can take away these tools and use them either socially or in the future in High School or wherever else.

The underlying feeling of wanting to make a difference resonates with what Fullan (1993) describes as 'moral purpose' which he purports is central to productive educational change and for these teachers' is motivating them to continue with their change efforts. Despite, at times, lacking confidence in the physical education curriculum they deliver, the teachers remained motivated and committed to improving the quality of physical education. Imogen reflects such persistence when commenting:

I still have the [teach in] blocks cause I can't see at the moment how I'm going to cover everything if I don't block it out. Maybe one year down the line I'll be able to do that very eclectic mix of things all going on...but yeah I'm trying to think about asking the children where they think they are before I move them on and that's what I did this week.

Thus, unlike the concerns that some authors have about the implementation of CfE in achieving deeper and more self-sustaining pedagogical change (Priestley and Humes, 2010) the teachers sampled here were typically more optimistic when evaluating their planning and pedagogical outlook. As Max commented 'I would say I have got a programme which I think works in this school, with these kids, with these class teachers, and in this space, and much of CfE kind of agrees with this'.

Conclusion

The focus of the paper has been on illustrating the range of ways in which teachers have used their PGCPPE experiences and subsequent teaching in schools as the basis for reviewing and responding

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to contemporary curriculum policy opportunities. The common message arising from teachers' commentaries was that the opportunity for reflection and time to engage with policy and theory has led to a focus in teaching which has deeper learning possibilities and points of connectedness with policy aspirations across the primary school than previously. Teachers articulated a clear vision and moral purpose for physical education (Fullan, 1993). This was coupled with an enthusiasm and motivation for applying their practical and theoretical knowledge to instigate curriculum and pedagogical changes both in their own practice and across the wider school context. Such messages were frequently accompanied by examples-in-action of teachers recognizing that the policy door was for the most part 'wide open'.

However, while teachers generally report on being more confident and competent, the most pressing question which remains is how can the benefits gained from professional development become more widely dispersed and shared (Petrie, 2007). Fullan (1993) suggests that collaboration is essential for developing networks to support educational change. The importance of collaboration is echoed in the experiences of the teachers in this study. In short, making collaboration happen can often be a slow and frustrating process as exemplified by Lara and Max's experiences. These findings concur with Ha et al., (2008, p. 88) who suggested that collaboration was a 'slogan rather than a practice', and that to become truly embedded clear support from school management was required. If this next step could occur then the possibility exists for greater connections and collaborations across the school and community to take place. As such our future intention is to recognize experienced teachers interest in continuous learning and the change process and to put in place support networks which help teachers in years to come to make the most of the new subject leadership opportunities which exist (Thorburn, et al., in press).

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