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Teacher Professional Development: Who is the Learner?

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Abstract: One of the challenges in in-service teacher education is how teachers can be given professional development (PD) that enables them to respond to national curriculum and policy change. In recent years primary teachers in New Zealand have been inundated with Ministry of Education-funded professional development programmes to help them implement a plethora of curriculum policy and reform initiatives. This paper explores how the design and delivery of one PD programme, the Physical Activity Initiative (PAI), positioned and supported teachers as learners. An evaluation of the programme sought data from 25 teachers and 14 advisers to schools. The focus was the impact of the PD on how and what teachers learnt about teaching physical education and how their learning impacted upon their classroom practices. The data highlight the difficulty of accommodating the teacher as a learner, within a "one size fits all" PD model. Little attention was paid to the learning differences among the teachers. It is argued that providers of PD need to understand the unique complex web of contextual factors that impacted upon each teacher, and that each teacher's learning needs and learning approaches vary and this needs to be accounted for in the design and the delivery of PD

Introduction

Professional development (PD) for teachers is recognised as a key vehicle through which to improve teaching and, in turn, to improve student achievement. Professional development is also a way to introduce curriculum and pedagogical reforms (Carr et al., 2000). A growing body of international research (for example, Lieberman & Miller, 2008; O'Sullivan & Deglau, 2006; Richardson & Placier, 2001) has resulted in guidelines to support developers and deliverers of PD to understand what constitutes effective PD and approaches that are most likely to lead to improvements in teacher and school practices.

There has been growing criticism of short-term, transmission models of PD that pay limited attention to the individual needs of teachers or the specific school context. In response to the criticism, it is now recognised that meaningful teacher learning is often a slow, difficult, gradual and uncertain process (Borko, 2004; Richardson, 2003). Effective PD needs to be sustained over time, with intensive learning experiences, and it needs to be contextualised (Garet et al., 2001). Teachers need to experience 'on-going sessions of learning, collaboration, and application, accompanied by school- and classroom-based support, over an ample time period … to incorporate new behaviours fully into a teacher's repertoire' (Killion, 2005-2006, p.5). Thus attention needs to be focused on the teacher as a learner.

The curriculum context of this paper is physical education. Research focusing on physical education (PE) has resulted in findings establishing firmly that PD needs to be more responsive to teachers' own learning, based largely in schools, and include context-specific

learning opportunities that support teachers to make connections between the PD, their school and their classroom teaching (Armour & Duncombe, 2004; Armour & Yelling, 2004a; Bechtel & O'Sullivan, 2006). Central to the emphasis placed on sustained and contextualised PD is a need to involve teachers as both learners and teachers (Armour, 2010; Borko, 2004; Darling-Hammond & Bransford, 2005). In PD, teachers are encouraged to become active learners who pursue continued growth in their knowledge, understandings and skills to support the development of themselves as ongoing learners.

While the need to embrace these principles in the design of PD is now well established in PD rhetoric, insights into impacts of PD upon teachers' learning and classroom practices are arguably still limited (Bantwini, 2009; Cothran, et al., 2006). Guskey (2003) has suggested that the varied contexts in which PD occurs are complex and introduce a 'web of factors that influence whether or not a particular characteristic or practice will produce desired results. The nuances of context are difficult to recognise and even more difficult to take into account in the confines of a single program' (p. 750).

This paper focuses specifically on issues associated with the design and delivery of PD in the New Zealand context. Teaching and learning to teach PE as part of a PD programme in primary schools provides the basis for exploring these issues.

Curriculum Reform and PD in New Zealand

In the last two decades, there has been a succession of national curriculum reforms and associated PD initiatives in New Zealand's education landscape, including two major revisions of the national curriculum and numerous PD provisions across subjects in the curriculum. It can be argued that changes have placed primary school teachers (classroom generalists) on a treadmill as they have attempted to keep pace with expectations; they have been expected to engage in multiple examples of the government-initiated 'cheap and cheerful cascade model' of PD (Solomon & Tresman, 1999, p. 341). Numerous PD programmes have been associated with the introduction and implementation of eight distinct curriculum documents, including *Health and Physical Education (HPE) in the New Zealand Curriculum* (Ministry of Education [MOE], 1999), as well as The Numeracy project, the Assessment for Learning initiative and the mandatory introduction of *The New Zealand Curriculum* (MOE, 2007).

In recent years, New Zealand primary schools and teachers have also been bombarded with public health and health promotion policies, initiatives, PD interventions and guidelines introduced to promote healthy eating and enhance student engagement in physical activity (Burrows, 2009). Many of these initiatives have had associated PD programmes that have been viewed as opportunities to assist teachers in developing their classroom programmes, pedagogies and practice in ways that will lead to improved student outcomes and achievement (Holland, 2005; MOE, 2008; Timperley, 2009).

As a result there appears to be a paradoxical situation: on one hand, PD programmes are designed to support teachers to provide their students with contextually relevant, ongoing, needs-based learning opportunities, and, on the other, PD appears to deny these approaches to teachers when they are the PD learners (Lieberman & Miller, 2008).

In view of the many PD offerings, primary school principals highlighted their concerns that pressures to engage in consecutive and sometimes concurrent PD placed on schools and teachers by the MOE do not allow teachers time to develop their own learning. Thus it is unlikely that they achieve deep understanding and greater confidence from the PD they undertake, because one year is not long enough to embed the learning before they have to move on to new PD, and the learning from the previous year is pushed to the side (Petrie et

al., 2007). Previous New Zealand research (Timperley, et al., 2007; Wylie, 2007) has shown that involvement in multiple PD programmes at the same time inhibits teacher learning, limits the chances of sustainable change, and challenges teachers to prioritise the PD programmes they are going to invest their time and energy into. The context of the primary school, and the requirement to teach numerous subjects, appears to place teachers in the unique and difficult position of having to engage in multiple PD programmes in order to stay current with the content and pedagogical approaches across all curriculum areas.

In relation to PE in particular, two significant PD programmes have run in the last 15 years, the 1999 Curriculum Implementation Project and the Physical Activity Initiative (PAI), both funded to support individual schools for up to 10 days across a one-year period. As a result PD programmes are dominated by a cascade approach (Kennedy, 2005), what New Zealand teachers commonly refer to as a 'top-down' model. Curriculum innovation is generated by policy-makers, and PD programme content by Teacher Advisory Services (TAS), all of whom are 'external to the school, and then staff [teachers] are encouraged to endorse and develop it' (Martin et al., 2006, p. 432) further once external support has been withdrawn.

Teachers-as-learners

The challenge facing teachers is how to negotiate their dual role, that of teachers-as-learners in PD as well as teachers of children, amid pressures associated with high workloads, expectations to teach across all curriculum areas, and competing and constantly changing desires and demands of policy makers, parents/caregivers, principals and students. This challenge is accentuated in PD programmes by developers and deliverers that appear to position the students as the learners and convey to the teachers that their own learning is not central to the process, that they are simply conduits for change.

It is in this complex context that policy makers and external providers of PD need to develop and implement effective programmes that take into account the specific needs of individual schools and two learner groups: teachers and primary children. This paper illustrates how contextual factors and policy that focuses on enhancing outcomes for students by changing teachers largely ignore the learning needs of the teachers undertaking the PD.

Research Approach

This paper reports on outcomes from a PD programme in PE that was part of the broader Physical Activity Initiative (PAI).

The Professional Development Models in the Physical Activity Initiative

The PAI saw the Ministries of Education, and Health, together with Sport and Recreation New Zealand (SPARC) working collaboratively through a tripartite agreement to build strong, confident learning communities with a focus on effective teaching and learning in the HPE curriculum. The PAI was intended to complement schools' current HPE programmes and co-curricular physical activity by providing additional PD to schools and teachers. The MOE funded two variations of the PD associated with the PAI, simply called 'Model 1' and 'Model 2'. Both were 'top-down' or cascade models. Model 2, the focus of this study, was designed to provide 'in-depth, whole-school professional development for schools that need more focused support' (MOE, 2005d, p. 3) and ran for one school year.

The MOE detailed the rationale and focus for Model 2, as well as determining the aims, intended outcomes and the expected outputs from the 'contractors' (PD providers). These are detailed in the following rationale.

> The contractor will provide professional development opportunities to schools in order to build teacher capability by focusing on quality teaching and learning relating to physical education. Through this professional development, students will experience a range of movement skills and develop positive attitudes, which will contribute to them becoming intrinsically motivated to partake in regular physical activity. (MOE, 2005b, p. 1)

As with previous PD programmes in PE, the rationale and the associated aims centred on improving outcomes for students through changes in teachers' practice. This is reinforced by the aims for this PD, provided by the MOE (2005d).

The aim of the professional development is to deepen teachers' understandings and contribute to their teaching strategies so they can:

- Increase student physical activity through needs-based, quality physical education programmes;
- Motivate students so that they become active learners;
- Promote physical activity within the school;
- Identify ways to maximise physical activity within the school curriculum;
- Create opportunities to work with other teachers, agencies, and schools (p. 3).

The MOE also supplied PD providers with direction on the pedagogical strategies to be used, and suggestions about the potential content of the programme (MOE, 2005a; MOE, 2005c).

In addition to setting the direction for the PD, the MOE funded and therefore controlled the timeframe for the PD. In August 2005, the MOE announced the PD programme that would be available for schools at the end of 2005 and during the four terms of 2006 (MOE, 2005d). Introductory workshops were run nationally during November-December 2005, to introduce principals and lead teachers to the PAI and changes to the National Education Goals (NEGs) and National Administration Guidelines (NAGs). This workshop was a 'prerequisite for ongoing professional development' (MOE, 2005d, p. 3) and provided an opportunity for regional coordinators to work with schools to conduct analyses of their needs and consider which PD programme, Model 1 or Model 2, would best serve the interests of each school.

Alongside the PD, an evaluative research project was undertaken (Petrie et al., 2007), funded by the MOE, to explore the impacts of Model 2 on curricular and co-curricular physical activity, in 10 schools across three regions throughout New Zealand. This paper draws on data collected in relation to evaluation of Model 2 of the PD, which focused on supporting primary school teachers to improve their delivery of PE. While there are limitations to focusing such a study on one subject discipline, the findings provide insights into understandings of teacher learning that are pertinent to providers of PD more broadly. The relevance of the data is by no means confined to PE or the primary school sector.

Participants

The data presented in this paper were drawn from two sets of participants: PD providers (n=14) and teachers (n=25), all of whom were involved in Model 2 of the PAI programme during 2006. The MOE, the overseers of the PD contract, may also be perceived as participants, given that much of the documentation and policy data used in the study were developed and distributed by this organisation.

This research took the form of an evaluation of Model 2 implementation in three regions. The pool of potential participants included advisers to schools, among them three regional coordinators, who worked in the 110 Model 2 schools. Fourteen advisers were available to participate.

Ten schools were invited to participate in the study. The sample included schools that varied in terms of socioeconomic status, ethnic make-up, enrolments and type. From these 10 schools, 25 teachers were participants in this study, including between two and four from each school, determined by school size. Purposeful sampling was used to ensure that the teacher responsible for leading the PE-PD in each school was part of the sample (10/25). These teachers are hereinafter referred to as 'lead teachers'. The remaining 15 were selected based on teachers' self-reported levels of confidence and competence in teaching PE drawn from responses to an initial questionnaire. School principals were also consulted to ensure involvement in the study was not likely to unduly impinge on the workload of teachers. Pseudonyms were used throughout the research to protect the identity of the advisers and teachers.

Data Collection

This paper draws primarily on data that were gathered from interviews and documents provided by the PD advisers and teachers in Model 2, and on policy documents and contract guidelines from the MOE on Model 2. Data collection occurred in two phases (see Figure 1).

Beginning of the school year (March & April)	**Phase One** **Focus:** pre-PD understandings of and practices in PE **Procedures:** teacher interviews and Questionnaire One **Supplementary data:** adviser interviews, document analysis
Near end of school year (November)	**Phase Two** **Focus:** content and delivery of PD, and impact of PD on teacher understandings of and practices in PE **Procedures:** teacher interviews and Questionnaire Two (including teacher reflection on Phase One data). **Supplementary data:** principal, student and adviser interviews, lesson observations and document analysis

Figure 1: Data collection schedule

The first phase occurred prior to the introduction of the PD intervention (the beginning of the school year), and the second occurred near the end of the intervention (the end of the school year). In relation to the findings reported in this paper, data collection in Phase One involved focus group interviews with advisers, and the collection of documents from regional coordinators, MOE officials and broader publicly-available policy documents.

The nature of the advisers' work, which led to them being based in schools on most days and spread across the country, as well as the restricted timeframes and funding for data

collection, meant that group interviews were carried out. While this might have limited the voices of individual advisers, the focus groups provided opportunities for broad dialogue and the sharing of different experiences. Three focus group interviews, one per region, were the most sensible alternative. Between Phase One and Phase Two, continued contact was maintained with advisers at regional coordinators meetings, and national conferences provided opportunities to gather anecdotal accounts about how the PD was progressing.

Teachers completed a questionnaire and an initial interview during Phase One, which provided baseline data. In Phase Two, teachers were interviewed about their experiences of the PD, with a particular focus on how they perceived the delivery of the PD, and what it meant for their learning. In addition, at the time of the teacher interviews, many of the teachers (18/25), including all the lead teachers, shared documentation that they had received from advisers in the form of example lessons, feedback sheets or material they had developed themselves during the PD programme.

During Phase Two, focus groups with advisers explored their impressions of the strengths and weaknesses of the design and delivery of the PD programme that they were providing to schools. At this time, regional coordinators also were able to share overviews of the workshop presentations, and individual advisers contributed their accounts of the work they had done in schools. Given that these advisers were working in the identified schools, the data collected could be triangulated.

Data Analysis

The process of handling, managing and coding the extensive amounts of data was undertaken through the use of the qualitative analysis software ATLAS.ti (Muhr, 1991). It was used to connect selected words, phrases, sentences and whole paragraphs from transcripts, documents and memos to codes. The data were openly coded using a line-by-line approach (Charmaz, 2003) to identify the substantive codes emerging in the data (Glaser, with assistance of Holton, 2004). Following this initial phase of the analysis, more focused coding occurred, with new codes being developed and other codes redeveloped as new categories emerged and others merged. This meant that some units of the text were coded several times. In addition to the open coding process, analytic memos (Miles & Huberman, 1994) were used to record thoughts and ideas about the coding process and the data. After the focused coding, coded material from across all the data sources was drawn together into new documents, e.g. a document with all phrases coded 'PD content', using the ATLAS.ti software to support the process. These data were then revisited and a second cycle of coding occurred. At this stage of the analysis two main tasks were undertaken: 'identification of themes in coding categories' and 'identification of themes across coding categories' (Knafl & Webster, 1988, p. 197). These tasks were supported by two basic analytical procedures, those of 'making comparisons' and 'asking questions' (Strauss & Corbin, 1990, p. 62) of the data.

Research Findings and Discussion

This section reports findings related to key issues in the nature of the PD experiences and particularly the notion of teachers-as-learners. Discussion of the findings highlights the complexity of the contexts in which PD was being delivered and implemented, and how the contexts were influenced negatively by compromises and time constraints.

The information on the PD provided by the MOE suggested that an adviser would work with each school for 'up to eight days' (MOE, 2005d, p. 3) to design and develop a programme of 'PD based on the unique needs of the school' (MOE, 2005a, p.1). In

accordance with what was believed to be effective PD, it was thought that working in schools would allow the advisers to offer more context-specific programmes so that teachers could translate the principles and practices learnt in the PD sessions to their own classrooms. However, contractual obligations and shortened timeframes appeared to play a key role in determining, firstly, the model for facilitation and the appointment of advisers and, secondly, the pedagogical approaches used by the advisers in their interactions with teachers. This section illustrates how these contextual factors influenced the design and delivery of Model 2 of the PD programme and the implications for teacher learning.

One Size Fits All

In contrast to the context-specific whole-school PD programme designed to meet the unique needs of each school, the restriction of the eight-day timeframe and the limited opportunities provided for advisers to extend their knowledge base resulted in the focus on PE content being narrowed. Data from advisers shows that Model 2 was run using a nationally-standardised programme. The findings also show that as well as there being little difference in content, there was standardised delivery of the PD across all schools, regardless of regional or local variations. The 10 schools in the study represented varied contexts, in terms of locality (urban/rural), socioeconomic status, ethnic make-up, enrolments and type. However, they all experienced an essentially similar PD programme. In addition, there seemed to be little recognition of and accommodation made for the assorted prior experiences, practices and knowledge of the teachers involved in this study: in reality, these teachers varied a good deal.

All teachers across the 10 schools reported similar PD centred around quality teaching approaches, including questioning, ability grouping, feedback/feed forward, sharing learning intentions and success criteria, and the creation of positive and safe classroom learning environments. In addition, the PE-specific pedagogical approaches of the PE topics *Teaching Games for Understanding (TGfU)*, *Adventure Based Learning (ABL)* and *Movement Education* were presented as 'the' models for use in primary school settings. The replication of PD content was most evident when teachers expanded on the resources that had been provided to them and the activities they had experienced during whole-school staff meetings with advisers.

The uniformity continued as teachers across the country played the same games (dribblers and robbers, chuck the chicken) and received the same lesson and unit plans, with little modification to meet the diverse needs of their students. One teacher, Sally, 'was frustrated that there was a lot of the stuff that was just not relevant to me as a new entrant teacher, although I could see that the games might be good for the senior classes'. With support from advisers, two schools had developed identical school-based curriculum that reflected little in the way of adjustment to reflect the different needs of their school communities. One was rural, decile 8 (high socioeconomic), with five classes (roll approximately 100), while the other was urban, decile 5 (mid socioeconomic), with over 600 students and 25 teachers. 'Patricia', a teacher in a small school of only two classroom teachers, commented, 'lots of the PD focused on stuff that was relevant for those in large schools [some which had over 600 students] but not in a two-teacher school like ours'.

The findings highlight contradictions inherent in the delivery of the PD. Teachers were encouraged to use student-centred approaches and plan in ways that met the diverse learning needs of their students (Alton-Lee, 2003), but as learners they were not always exposed to these same pedagogical understandings or approaches (Lanier & Little, 1986). Instead they were treated homogeneously. There appeared to be little recognition of the diverse learning needs of the teachers, who had different past experiences, both in terms of physical activity

and as teachers, and were working in a diverse range of school contexts and communities.

According to advisers, there was little time between their appointment to the positions and when they were expected to begin working in schools. In the transition from their roles as generalist classroom teachers to advisers, new advisers reported that they had limited opportunities for professional learning themselves, and had relied on the knowledge learnt from their own PD experiences as teachers in schools, their knowledge of teaching school children, and the expertise of their regional coordinators to inform their delivery of the PD.

Few had opportunities to develop content knowledge or pedagogical content knowledge specifically associated with PE or understandings about adult teacher learning. With little previous experience in designing PD, the 'new' advisers had relied heavily on the programme information and workshop plans developed by regional coordinators and support from this same group as they worked independently in their clusters of schools. This issue was accentuated by the advisers working with large numbers of teachers (100^{+}) spread across a wide variety of schools (8-12 schools per adviser).

This may explain why the PD programme delivered in schools reflected a nationally-standardised model, as opposed to a planned programme that addressed the unique needs of schools and individual teachers.

Limitations of the Whole-School Cascade Model

Of further concern, and in contrast to the suggested 'in-depth, whole-school professional development for schools that need more focused support' (MOE, 2005d, p. 3), less than half (10) of the teachers interviewed received the full eight days of PD. As a pragmatic solution to the short timeframe and funding restrictions, and under advice from the MOE, each of three regions investigated in the evaluative research opted for a lead teacher 'cascade' model as a way of delivering the PD, even though this approach has consistently been identified as limiting (Armour & Yelling, 2004b). This involved each school, regardless of size, sending one lead teacher (with the exception of two schools, who sent two) to series of four one-day cluster meetings run by the advisers throughout 2006. The lead teachers then worked with the advisers to deliver PD at school-based staff meetings. For teachers who were not in the lead teacher role, their opportunities for learning were limited to school-based professional learning through staff meetings, the modelling of lessons and learning activities, and most (22 teachers) taught a lesson that the adviser observed, and provided feedback on. The 15 teachers in this study who were not lead teachers reported that they had received far fewer days of PD than the eight days expected as part of Model 2. 'Sally', a lead teacher, commented on the issue:

> We don't do the PD in school as such. But the reason I say this is that I kind of feel the rest of the staff have been left behind a little bit. Yeah, we've had some staff meetings, but because it hasn't been ongoing and constant for them … with someone coming to visit and then being involved in all of that aspect of it, I kind of think they are probably not that much further forward than they were at the beginning of the year.

'Student' Centred?

The evidence from teachers showed that the PD approach to learning in PE tended to take teacher learning for granted: that is, it seemed to be assumed that teachers *would* learn. When *they* had learnt, teachers could then get their students to learn. Thus, when it came to

learning the focus was on teachers developing their students' learning as a result of the PD. This assumption was apparent through the way teachers were engaged with the PD learning activities and the resources that were provided to support their learning. It is illustrated in more detail in the following sections.

Playing at Being the Student

The findings showed that teachers were frequently expected to play the role of their students during learning activities in the course of the PD. The practical nature of aspects of curriculum PE provided opportunities for advisers to demonstrate model lessons, games and learning activities for the teachers to use in the classroom, as shown in this comment:

> When she [external provider] does PD for the whole staff, we play games and things that we can take straight into the classroom… Sometimes you go for PD and it's all theory and you go back and think, 'Well what was that all about?' but with her she shows us and we play the games and we do it. And we have a lot of fun. And so we just take it straight back and do exactly the same with our kids.

In other words, teachers learnt a game, then taught it to their students.

All teachers were exposed to multiple games and lesson ideas during school-based PD. Because this PD mostly occurred at the end of the school day during staff meetings, the advisers commented that they had seen it as essential to keep teachers stimulated and engaged, so they had opted to involve the teachers in 'doing' as opposed to simply 'talking at them' (advisers' post-programme responses). Advisers modelled lessons and activities, and all teachers said this helped them develop a better understanding of how to teach PE, particularly when the modelled material and activities were drawn from the exemplar lessons and unit plans that advisers provided. All teachers reported finding involvement in the 'doing' of the activities very enjoyable and valuable as a way for them to learn the 'games' themselves, as is evidenced by one teacher's comment about his experience of the final lead teacher cluster workshop:

> At the last workshop, there was a plethora of games that we played… Blindfolds and trusts and all that sort of thing and they were bang-bang-bang-bang just straight out, and I thought, this is awesome 'cos I was enjoying it and it was fun, just being a kid… great to take back to your class and say, 'We're going to do this activity…'

While engaging in the learning activity (game) the teachers learnt the sequence of the activities, the rules of the game and the strategies for being successful, from the perspective of the student. This approach supported them in learning the activities and game and enabled them to, as one teacher put it, 'take back to the classroom the very next day and deliver it before I forget it'. All except one teacher relied heavily on the games demonstrated by advisers and participated in by teachers when they returned to their classrooms.

The key strategy in these demonstration activities was that the adviser assumed the role of the teacher and the teachers played the students. Teachers' opportunities to learn to be teachers of PE appeared to be enhanced when their learning opportunities centred on them playing the role of the school-aged learners. The findings highlight the fact that teachers responded positively to being able to 'play the games', 'do the activities' and then 'take them straight back to the classroom' to replicate with their own students.

Paradoxically, this enhancement also had a negative effect. It meant that teachers were inflexible in the way they used these same activities with their students. They made little or no modification to make them developmentally or contextually appropriate. While teachers' role-playing their students is an established and recommended teaching model in both pre- and in-

service PE PD (Ward, 2009), these findings raise the question of how teachers, when they are playing the role of the learner, learn to also be the teacher.

The Focus of Resources

In addition to playing the games, advisers provided teachers with resources to help inform their learning. Designed to enhance and shape student learning in PE, the resources, such as model activities, games and full lessons and unit plans, appeared to provide teachers with opportunities to trial alternative activities and interact with new material, approaches and contexts in PE, including TGfU and a movement approach using the *Moving in Context* series (MOE, 2003a; MOE 2003b) as a resource. The plans contained detailed instructions for the sequencing and structuring of the units and lessons, specific learning intentions linked to national curriculum achievement objectives, activities, assessment, and, in some instances, the questions that would need to be asked to develop the learning. These samples were developed nationally for use with all primary teachers involved in Model 2, and did not reflect the different contexts, setting and needs of individual schools and communities.

Teachers reported using example plans including units focused on TGfU (either invasion games or tag games) or an aspect of the *Moving in Context* series (balance/statics, rotation or pathways). The quotation below reflects the experiences of all teachers in seeing the value of resources:

> She's [the adviser] given us lots of resources for activities, like that invasion unit… they've got all the questions there for them, like in [the adviser's] plan she had all the questions to ask.

Nearly all teachers reported feeling more motivated and confident in their teaching of PE when they were working from the resources supplied. In utilising them, teachers learnt and were able to replicate, indiscriminately, the activities, games and lesson sequences they had been shown and practised. These resources extended the teachers' repertoire of activities and provided scripts for them to work from. However, reliance on these externally-provided pre-packaged resources did not appear to support or encourage teachers to develop an understanding of how to use the resources flexibly to respond to the specific needs of their students. Teachers became copiers and seemed unable to innovate and develop for themselves. It appears that in many ways the resources provided acted as scripts for teachers to follow and, in so doing, unintentionally deskilled the teachers and allowed surface as opposed to deep learning to occur. The resources, designed to provide guidance for teaching to enhance student learning, did not appear to be utilised to provide an educative focus for teacher learning. Thus teachers adopted the practices in a relatively unthinking way, evidenced by little teacher critique in the PD.

It has long been suggested in PD literature that teachers require time and opportunities to critique both individually and through in-depth discussion of intentions, rationale and content, student conceptions and misconceptions, and pedagogical strategies (O'Sullivan & Deglau, 2006). In contrast, this PD simply provided teachers with another 'apprenticeship of observation' experience (Stuart & Thurlow, 2000, p. 114). As participant-observers, the teachers had opportunities to become skilled participants in the games and learning activities and replicators of sample and modelled lessons, but their opportunities to develop as independent, flexible and innovative teachers of PE were limited.

It would appear that while playing the role of school-aged learners, being supplied with and making use of resources that centred on student learning, teachers were not being provided with opportunities to understand the ideas underlying the rationale behind the task/plans and the decisions made by the teacher (in this instance the adviser) during the

delivery of the tasks and plans. Little was done in the PD on factors that are considered essential to achieving sustainable change in teachers: an ability to make explicit the reasoning behind the sequence, flow, questioning and feedback of the activities and lessons; and the ability to modify individual activities or lessons in ways that recognise the needs of school-aged learners in their own classrooms.

In a complex context in which these teachers were dealing with pressures of heavy workload, time, resourcing, multiple PD initiatives and, for some, their own levels of PE confidence, the pre-packaged PE curriculum resources and the opportunity to learn new activities offered a 'quick fix' solution to teaching at least some topics in PE.

This was not surprising, given that, as generalists, the teachers were expected to design and deliver learning opportunities across seven curriculum areas, and their teacher preparation courses and subsequent PD opportunities have provided limited time for learning to teach PE. However, it raises the question of how resource materials can be designed in ways that support teachers to become curriculum developers as well as implementers, as was the case in the PD explored in this paper. There is little research related to this issue in PE and researchers need to explore the research in science and mathematics that has shown the importance of studying the role of the teacher as a learner in PD experiences (Davis & Krajcik, 2005; Schneider & Krajcik, 2002; Remillard, 2000).

Conclusion

A focus on ways to develop sustained, intensive and contextualised PD for teachers of PE has intensified in recent years. This paper has reported on the impact of one model of PD in PE that sought to help primary teachers – some of whom had little confidence in teaching PE – to increase their repertoire of PE topics and learn how to teach them.

The findings and discussion demonstrate that there are two major competing aspects of teacher learning in PE: on one hand, there is the goal of designing and implementing PD that increases teacher learning and explores how teachers best learn. On the other hand, there is the goal of simultaneously meeting outcomes associated with student learning and achievement in specific classroom contexts.

In line with previous research (Bantwini, 2009; Hardy, 2008, Roux & Ferreira, 2005), this study demonstrates an underlying difficulty in designing PE PD that is responsive to each school and individual teachers' needs in a programme where timeframes and access to external support are limited. In contrast to the advocates (Borko, 2004; Darling-Hammond & Bransford, 2005) of the centrality of teachers-as-learners in PD programme, the findings suggest that in this PD, both at the policy and implementation levels, the student was positioned and talked about as the learner and the teachers were, in effect, in a neutral position as intermediaries through which enhancements to student learning outcomes could be achieved.

The teachers tended to be treated by professional developers as unproblematic; teachers would learn what was taught in the PD and apply it in the classroom in a similar way to all other teachers. This assumption oversimplifies the considerable differences that were seen to exist among the teachers in this sample: differences in their confidence in teaching PE, in their content knowledge in PE, in their actual teaching approaches in PE, and in their assessment and planning capabilities.

It is, of course, essential to recognise the importance of enhancing the learning experiences and outcomes for students. However, if the goal of a PD programme is to change teaching approaches, it is imperative that teachers-as-learners should be the central focus. Further research needs to explore alternative models of PD that are contextually relevant and sustainable and focus on improved teaching while not neglecting outcomes for students that

occur as a result of teacher change.

Developers of PD, at both national policy and implementation levels, ought to focus on teachers as both learners and teachers. This means providing adequate time and support for training the advisers and then allowing adequate time for advisers to develop and implement PD programmes that reflect the unique needs of each school and teacher. In terms of resourcing a programme of PD like PAI, there need to be general guidelines that establish a framework of intentions and content. Within this framework, providers need to explore the differences between teachers in the programme: for example, their preferred ways of learning, levels of subject content knowledge and gaps in knowledge, preferred ways of teaching and interacting with students and overall levels of confidence in teaching the subject. Finally, PD providers need to be helped to analyse the school and classroom context and plan learning experiences suited to that particular setting.

References

Alton-Lee, A. (2003). *Quality teaching for diverse students in schooling: Best evidence synthesis*. Wellington: Ministry of Education. Retrieved 7 April 2004 from http://www.educationcounts.govt.nz/publications/series/2515/5959.

Armour, K. (2010). The physical education profession and its professional responsibility... or... why '12 weeks paid holiday' will never be enough. *Physical Education & Sport Pedagogy, 15*(1), 1-13.

Armour, K. & Duncombe, R. (2004). Teachers' continuing professional development in primary physical education: lessons from present and past to inform the future. *Physical Education and Sport Pedagogy, 9*(1), 3-22.

Armour, K. & Makopoulou, K. (2006). *Effective teacher learning and the national PE-PD programme in England.* Paper presented at the AIESEP Conference, Juvaskula, Finland, 5-8 July.

Armour, K. & Yelling, M. (2004). Professional 'development' and professional 'learning': bridging the gap for experienced physical education teachers. *European Physical Education Review, 10*(1), 71-93.

Armour, K. & Yelling, M. (2004). Continuing professional development for experienced physical education teachers: towards effective provision. *Sport, Education and Society, 9*(1), 95-114.

Bantwini, B. D. (2009). District professional development models as a way to introduce primary-school teachers to natural science curriculum reforms in one district in South Africa. *Journal of Education for Teaching: International Research and Pedagogy, 35*(2), 169-182.

Bechtel, P. & O'Sullivan, M. (2006). Effective professional development - what we now know. *Journal of Teaching in Physical Education, 25*(4), 363-378.

Borko, H. (2004). Professional development and teacher learning: Mapping the terrain. *Educational Researcher, 33*(8), 3-15.

Burrows, L. (2009). Discursive dilemmas in New Zealand's Health and Physical Education curriculum. In M. DinanThompson (ed.). *Health and Physical Education: Contemporary Issues for Curriculum in Australia and New Zealand.* Melbourne: Oxford University Press, 147-164).

Carr, M., McGee, C., Jones, A., McKinley, E., Bell, B., Barr, H. et al. (2000). The *Effects of Curricula and Assessment on Pedagogical Approaches and on Educational Outcomes*. Wellington: Ministry of Education.

Charmaz, K. (2003). Grounded theory. In J. A. Smith (ed.). *Qualitative Psychology: A Practical Guide to Research Methods*. London: Sage, 81-110.

Cothran, D., McCaughtry, N., Kulinna, P. H. & Martin, J. (2006). Top-down public health curricular change: the experience of physical education teachers in the United States. *Journal of In-service Education, 32*(4), 533-547.

Darling-Hammond, L. & Bransford, J. (2005). *Preparing Teachers for a Changing World: What Teachers Should Learn and be Able to do*. San Francisco, CA: Jossey-Bass.

Davis, E. & Krajcik, J. (2005). Designing educative curriculum materials to promote teacher learning. *Educational Researcher, 34*(3), 3-14.

Garet, M. S., Porter, A. C., Desimone, L., Birman, B. F. & Yoon, K. S. (2001). What makes professional development effective? Results from a national sample of teachers. *American Educational Research Journal, 38*(4), 915-945.

Glaser, B. G., with the assistance of Judith Holton. (2004). Remodelling grounded theory. *Forum Qualitative Sozialforschung/Forum: Qualitative Social Research, 5*(2), Art. 4. Retrieved 26 September 2006 from http://www.qualitative-research.net/index.php/fqs/article/viewArticle/607/1315.

Guskey, T. (2003). What makes professional development effective? *Phi Delta Kappan,* June, 748-750.

Hardy, I. (2008). Competing priorities in professional development: An Australian study of teacher professional development and policy. *Asia-Pacific Journal of Teacher Education*, *36*(4), 277-290.

Holland, H. (2005). Teaching teachers: Professional development to improve student achievement. *Research Points, 3*(1), 1-4.

Kennedy, A. (2005). Models of continuing professional development: A framework for analysis. *Journal of In-Service Education, 31*(2), 235-250.

Killion, J. (2005-2006). Evaluating the impact of professional development in eight steps. *The Evaluation Exchange, 11*(4), 5.

Knafl, K. A. & Webster, D. C. (1988). Managing and analyzing qualitative data: A description of tasks, techniques and materials. *Western Journal of Nursing Research, 10*(2), 195-218.

Lanier, J. E. & Little, J. W. (1986). Research on teacher education. In M. C. Wittrock (ed.). *Handbook of Research on Teaching.* Third ed. New York: Macmillan, 527-569.

Lieberman, A. & Miller, L. (2008). *Teachers in Professional Communities*. New York: Teachers' College Press.

Martin, M., Wilkinson, J. E., McPhee, A., McQueen, I., McConnell, F. & Baron, S. (2006). Implementing critical skills in UK schools. *Journal of Education for Teaching: International Research and Pedagogy, 32*(4), 423-434.

Miles, M. L. & Huberman, A. M. (1994). *Qualitative Data Analysis*. Thousand Oaks, CA: Sage.

Ministry of Education, New Zealand (1999). *Health and Physical Education in the New Zealand Curriculum*. Wellington, New Zealand: Learning Media Limited.

Ministry of Education, New Zealand (2005a). *Physical Activity Initiative: Professional Development Guidelines*. Wellington: The Ministry of Education.

Ministry of Education, New Zealand (2005b). *Physical Activity Initiative Output C11: Waikato*. Wellington: The Ministry of Education.

Ministry of Education, New Zealand (2005c). *Physical Activity Initiative: Model 2 - Whole School, Action Reflection*. Wellington: The Ministry of Education.

Ministry of Education, New Zealand (2005d). The physical activity initiative. *Sharpening the Focus, 1-4*. Wellington: The Ministry of Education.

Ministry of Education, New Zealand (2007). *The New Zealand Curriculum*. Wellington: Learning Media.

Ministry of Education, New Zealand (2008). *Ki te Aoturoa: Improving Inservice Teacher*

Educator Learning and Practice. Wellington: Learning Media.
Ministry of Education & Learning Media. (2003a). *Health and Physical Education: The Curriculum in Action: Moving in Context - Years 1-6*. Wellington, N.Z.: Learning Media.
Ministry of Education & Learning Media. (2003b). *Health and Physical Education: The Curriculum in Action: Moving in Context - Years 7-8*. Wellington, N.Z.: Learning Media.
Muhr, T. (1991). A prototype for the support of text interpretation. *Qualitative Sociology, 14*(4), 349-371.
O'Sullivan, M. & Deglau, D. (2006). Principles of professional development. *Journal of Teaching in Physical Education, 25*, 441-449.
Petrie, K., Jones, A. & McKim, A. (2007). *Effective Professional Learning in Physical Activity.* Wellington, New Zealand: Ministry of Education.
Remillard, J. T. (2000). Can curriculum materials support teachers' learning? Two fourth-grade teachers' use of a new mathematics text. *Elementary School Journal, 100*(4), 331.
Richardson, V. (2003). The dilemmas of professional development. *Phi Delta Kappan, 84*, 401-406.
Richardson, V. & Placier, P. (2001). Teacher change. In V. Richardson (ed.). *Handbook of Research on Teaching* Fourth ed. Washington, DC: American Educational Research Association, 905-947.
Roux, C. l. & Ferreira, J. G. (2005). Enhancing environmental education teaching skills through in-service education and training. *Journal of Education for Teaching: International Research and Pedagogy, 31*(1), 3-14.
Schneider, R. & Krajcik, J. (2002). Supporting science teacher learning: The role of educative curriculum materials. *Journal of Science Teacher Education, 13*(3), 221-245.
Solomon, J. & Tresman, S. (1999). A model for continued professional development: knowledge, belief and action. *Journal of In-Service Education, 25*(2), 307-319.
Strauss, A. & Corbin, J. (1990). *Basics of Qualitative Research*. Newbury Park, CA: Sage.
Stuart, C. & Thurlow, D. (2000). Making it their own: Preservice teachers' experiences, beliefs, and classroom practices. *Journal of Teacher Education, 51*(2), 113-121.
Timperley, H. (2009). *Teacher Professional Learning and Development*. Geneva: International Academy of Education.
Timperley, H., Wilson, A., Barrar, H. & Fung, I. (2007). Teacher professional learning and development: Best evidence synthesis iteration. Wellington: Ministry of Education, New Zealand. Retrieved 13 September 2008 from http://www.educationcounts.govt.nz/publications/series/2515/15341.
Ward, P. (2009). Content matters: Knowledge that alters teaching. In L.D. Housner, M. Metzler, P. Schempp & T. Templin (eds). *Historic Traditions and Future Directions of Research on Teaching and Teacher Education in Physical Education.* West Virginia: Fitness Information Technology. 345-356.
Wylie, C. (2007). A snapshot of New Zealand primary schools in 2007: some key findings from the NZCER national survey. Retrieved 10 October 2008 from http://www.nzcer.org.nz/pdfs/15870.pdf