The impact of initial teacher education on understandings of physical education: asking the right question

Déirdre Ní Chróinín, Mary Immaculate College, University of Limerick, Ireland
Maura Coulter, St Patrick's College, Dublin City University, Ireland

Abstract

Evaluation (Pawson and Tilley 1997, Pawson, 2006) of professional socialisation (Lawson, 1983, 1986) can provide insight on the impact of Physical Education Teacher Education (PETE). A large-scale (n=326) single question 'What is PE? qualitative methodology was used to access pre-service primary teachers' understandings of the nature and purpose of physical education. Data analysis involved word frequency queries and coding using a qualitative coding framework based on the dominant discourses of physical education (Green, 1998, 2008). Trustworthiness of the analysis was addressed using memos, coding checks and peer de-briefing. While responses at the beginning of the programme were dominated by sport and health discourses, an educational discourse grounded in the key messages of the primary physical education curriculum with emphasis on equality of opportunity emerged at the end of the programme. The complexity of addressing understandings in teacher education contexts is highlighted.

Key words: physical education; teacher education; physical culture; teacher socialisation; evaluation

Background

Evaluating Occupational Socialisation in Teacher Education

Teacher education has endured much criticism over the past five decades (Cochran-Smith, 2004a, 2004b; Coolahan, 2007). The teacher education community has responded to these criticisms by developing a research base to defend its impact on the professional learning of teachers and subsequently on the children they teach (Cochran- Smith & Zeichner, 2005; Darling-Hammond & Bransford, 2005). The physical education and physical education teacher education (PETE) communities have also developed a research base to describe the educational contribution of the subject (Ayers, 2008; Bailey, Armour, Kirk, Jess, Pickup & Sandford, 2009; Hardman, 2007, 2008; Kirk, MacDonald, & O' Sullivan, 2006; Lawson, 2009; Ward, 2009). This research suggests that teacher education in physical education can have an impact on pre-service teachers' knowledge and understanding of physical education which, in turn, should impact on teaching and learning in their classrooms.

Teacher occupational socialisation involves 'all kinds of socialisation that initially influence persons to enter the field of PE and that later are responsible for their perceptions and actions as teacher educators and teachers (Lawson, 1986: 107). Lawson (1983) distinguished between three distinct aspects of the socialisation process that impact on physical education teachers' practice and perspectives of their role: accultural socialisation refers to cumulative life experiences prior to initial teacher education, professional socialisation refers to the initial teacher education programme and organisational socialisation refers to socialisation into schools and throughout the teaching career. Research and evaluation of teacher education programmes (Cochran-Smith, Feiman-Nemser & McIntyre, 2008; Hagger & McIntyre, 2000; Levine, 2006) and PETE programmes (Metzler & Tjeerdsma Blankenship, 2008; Ward, 2009) provide guidance on the aspects of programmes that are effective in promoting teacher learning and development (Loewenberg Ball, Thames & Phelps, 2008; Shulman, 1998). Key components of teacher education programmes include the importance of theoretical foundations for learning, teaching practice and field based experiences in appropriate settings and pedagogically focused methods courses (Darling-Hammond & Bransford, 2005; Levine, 2006). These programme elements support the occupational socialisation of pre-service teachers and are reflected in the accreditation requirements of teacher education programmes within an Irish context (The Teaching Council, 2009).

Capel and Blair (2007) recognise the key role of knowledge in teacher socialisation and practice:

> The knowledge and beliefs trainee teachers bring with them to ITT about physical education and about teaching, the knowledge they (chose to) learn during their programme, and therefore the knowledge they have at the end of their programme, and how they then use that knowledge in school, is a result of both socialization prior to and during their programme and the way in which knowledge for teaching is conceptualized within any one ITT programme (Capel & Blair, 2007: 18).

The development of subject knowledge through methods courses and field experiences may support a shift in pre-service teachers' perceptions away from an emphasis on content towards an emphasis on facilitation of student learning (Herold & Waring, 2011). Xiang, Lowy & McBride, (2002) highlight the importance of field-based experiences in the development of pre-service teachers' physical education practices (Tsangaridou, 2008). Garrett and Wrench (2008) suggest that field experiences should be preceded by methods courses that include opportunities for pre-service teachers to interrogate their own prior experiences. It has been suggested that physical education field experiences may be more powerful than methods courses as a form of professional socialisation (Curtner-Smith, 2007; Curtner-Smith, Hastie, Kinchin, (2008).

Understandings: the nature and purpose of physical education

In this study, physical education is framed as a social construct (Rovengo & Dolly, 2006) defined by what is done in its name (Kirk, 2010): an 'umbrella term' (Hardman, 2007: iii) for

a range of practices with no single defining 'timeless essence' (Green, 2008: 21). Therefore, examination of 'understandings' should be grounded in the policy and practice of physical education and should include consideration of the nature and purposes ('what' as well as 'why') of physical education. This includes the knowledge and content of the subject area (Capel & Katene, 2000; Shulman, 1986; Shulman, 1987; Siedentop, 2002; Tinning, 2002), teacher beliefs (Tsangaridou, 2006a, 2006b) and justifications for the subject on school curricula (Green, 1998, 2008; Kirk, 2010; Reid, 1996). Sport and health/ fitness ideologies have been identified as the most influential discourses in physical education (Green, 1998, 2008; Kirk, 1999; Lake, 2001; Penney, 1998; Penney & Evans, 1999). The content of physical education continues to be sport dominated (team games) and the rationale for these activities is linked to fitness/ health purposes from both teachers' and children's perspectives (Hardman, 2008; Jones & Cheetham, 2001; Macdonald, Rodger, Abbott, Ziviani, & Jones, 2005). A cautious approach should be taken to the application of findings from one context to another (for example Australia or the USA to Ireland), given that the socially constructed meanings and understandings of physical education can be context specific.

Primary Physical Education in Ireland

Sport and physical activity are an important part of young people's lives in Ireland (Collier, MacPhail, & O'Sullivan, 2007; De Róiste & Dinneen, 2005; Nic Gabhainn, Kelly, & Molcho, 2007; O'Sullivan, 2002). Physical education is one component of a wider physical culture that includes sport, health/physical activity (Kirk, 1999; Lake, 2001; Penney, 1998). The Primary Physical Education Curriculum (Government of Ireland, 1999a, 1999b) in Ireland outlines how physical education 'provides children with learning opportunities through the medium of movement and contributes to their overall development by helping them to lead 'full, active and healthy lives' (p.2). The curriculum is divided into six strands: athletics, dance, gymnastics, games, outdoor and adventure activities and aquatics. It is based on a set of key principles that emphasise the importance of all children experiencing a broad and balanced curriculum with opportunities for developing skills and understanding, as well as opportunities for achievement where emphasis is placed on the importance of enjoyment and play (Government of Ireland, 1999a). The curriculum recommendation is one hour of physical education per week but the reality falls far short of this expectation (Deenihan, 2005; Irish National Teachers Organisation, 2007; Woods, Tannehill, Quinlan, Moyna, & Walsh, 2010). Often taking place in a games-dominated environment (Fahey, Delaney, & Gannon, 2005; Woods et al. 2010), the quality and breadth of provision varies considerably (Houses of the Oireachtas, 2005; MacPhail, Halbert, McEvilly, Hutchinson, & MacDonncha, 2005) while some schools opt not to include physical education at all (MacPhail, O' Sullivan, & Halbert, 2008).

Sport and health continue to dominate physical education discourses of young people in Ireland (Coulter & Ní Chróinín, 2010) and elsewhere (Capel & Blair, 2007), particularly within a primary physical education context. School sport and physical education have been differentiated within an Irish context (Fahey, et al., 2005; MacPhail, et al., 2008) and are

distinguished within the primary physical education curriculum (1999) where sport is defined as 'formalised physical activity involving competition or challenges against oneself, others or the environment, with an emphasis on winning' (Government of Ireland, 1999a: 6). Physical education is contrasted with sport where emphasis is placed on 'the child's holistic development, stressing personal and social development, physical growth, and motor development'. Goal-setting, within the curriculum, focuses on individual improvement and 'not on winning or being the best' (Government of Ireland, 1999a: 6). This reflects attempts to define physical education in ways that distinguish it from sport and physical activity, but in reality the dominant discourses in physical education reflect 'support and close alignment to the hegemonic discourses of wider society' (Garrett & Wrench, 2007: 27).

Pre-service teachers' understandings of physical education

Individual teacher understandings of physical education are shaped by the historical, social and cultural context in which physical education takes place as well as prior experiences (Faulkner, Reeves, & Chedzoy, 2004; Garrett & Wrench, 2007; Matanin & Collier, 2003; Placek, et al., 1995). This understanding, grounded in their practical everyday experiences, provides a guide to action as well as a justification for teachers' actions (Amade-Escot, 2000; Faulkner, et al., 2004; Green, 1998; Tsangaridou, 2006a, 2006b). In teacher education contexts, understandings of physical education can be influenced by curriculum and policy documents, lived experiences of the participants, the teacher education programme itself as well as the wider social and cultural context. Physical education teacher education (PETE) programmes are expected to support pre-service teachers' development of knowledge and understandings of physical education, though this does not define the limits of their role in teacher development. Initial teacher education can play an important role in shaping teachers' beliefs about physical education (Curtner-Smith, 1998; Tsangaridou, 2008) where consideration of previous experiences gained through a long 'apprenticeship of observation (Lortie, 1975) is a significant part of professional socialisation. As pre-service teachers construct their understandings in PETE contexts, it is important to acknowledge, address and in some cases challenge current attitudes, beliefs and understandings to ensure that the messages of the teacher education programmes translate into teacher practices (Rovegno, 2003; Tsangaridou, 2006a, 2006b). Consideration of these beliefs in relation to future teacher action is particularly important in a primary physical education context (Ashy & Humphries, 2000; Carney & Chedzoy, 1998; Faucette, Nugent, Sallis, & McKenzie, 2002; Faulkner, Reeves, & Chedzoy, 2004; Morgan & Bourke, 2005, 2008; Morgan & Hansen, 2008; Randall, & Maeda, 2010).

Competing discourses of physical education and translation of these understandings into practice have been explored previously in primary physical education contexts. Garrett & Wrench (2007) highlighted the competing discourses of pre-service primary teachers' conceptions of sport and physical education through a discourse analysis of subjectivities and personal experience and resultant identities. In a follow-up study Garrett & Wrench (2008) found that interrogation of understandings and beliefs through the teacher education

programme supported pre-service teachers to make changes in their practice. They noted that some participants' 'sporting discourses in physical education were firmly entrenched and served to limit their engagement with alternative' (p. 39). There is a danger that the dominance of sport or health messages, grounded in pre-service teachers' lived experiences, can overshadow the core messages of physical education in a primary context.

Macdonald, Kirk, & Braiuka (1999) explored the representation of physical culture in the experiences of future teachers of physical education moving from school physical education to human movement studies at university level. They highlighted gaps in meaning-making between the participants' reality of university level courses and their expectations which were based on their own school experiences. They describe students experiencing 'multiple and potentially contradictory messages during the course of their education in secondary and tertiary institutions' (Macdonald et al., 1999: 47). Their study raises questions about what version of physical education is privileged in school and university settings and what the connections between these sites should be to enhance future delivery of physical education. Both pre-service teacher education programmes in this study were aligned with the core values and principles of the Primary Physical Education Curriculum (Government of Ireland, 1999a) to ensure a consistency of message. Both teacher education programmes in this study placed physical education within the context of wider physical culture, challenged aspects of this culture and framed experiences within the programme to reinforce key messages from the curriculum. This was intended to ensure that pre-service teachers completed their teacher education programme with a clear understanding of physical education that supported development of practice aligned with the key messages of primary physical education. This should support teachers to filter the competing discourses they will encounter in schools and wider physical culture and deliver physical education grounded in an educational discourse. We suggest that without a clear understanding of physical education, future action may be diluted and confused by the competing sport and health discourses in schools.

Evaluation and Initial Teacher Education

It is important to examine how initial teacher education shapes teacher development. Evaluation theory proposes that change can be explained in terms of causes (generative mechanisms and the outcomes of those mechanisms) within a particular context (Pawson & Tilley, 1997; Pawson, 2006). This allows the evaluator to firstly answer the question: has the intervention worked? However, secondly, and more importantly, it supports consideration of how and why the intervention had the potential to cause (desired) changes (Tilley, 2000). Qualitative evaluation recognises the importance of context and the various perspectives of stakeholders (Bryman, 2008; Green, 2000) where the complex nature of the real world is acknowledged (Robson, 2002). Qualitative evaluation can inform the development of policy and practice (Kazi, 2003, Pawson & Tilley, 1997; Pawson, 2006) and serve as a guide to practice where understanding can be applied in other contexts in an informed and critical

manner (Mark, 2005). The principles of evaluation theory can be applied in educational contexts for regulatory and developmental purposes.

In Ireland, professional knowledge is recognised as the basis for teaching and learning and teacher education programmes are expected to show evidence of their role in teacher learning and development (The Teaching Council, 2007; 2009). Within an Irish context it is suggested that significant gaps in policy continue to restrict the impact of teacher education (Harford, 2010). The impact of the physical education component of an initial teacher education programme in shifting pre-service teachers' understandings of physical education to align with key curriculum messages through professional socialisation (field placements and methods courses) was explored. It is important to capture pre-service teachers' understandings as they form a basis for action in their future teaching. In this study the teacher education programme, in particular the physical education component, was the intervention operating at individual, inter-personal, institutional and infra-structural levels (Pawson, 2006). Exploration of pre-service primary teachers' shifting understandings of physical education from the beginning to the end of the physical education component of their teacher education programme may provide evidence of learning in PETE contexts supporting clear identification of whether a change has occurred (outcomes) and what constitutes that change. The relationship between pre-service teachers' understandings of physical education, physical education discourses and wider physical culture was considered. Messages that persisted were considered to highlight the importance of challenging sport and health discourses to make room for new emphasis within pre-service teachers' understandings. It is important to consider participants' values, as well as causes, in programme evaluation (Dahler–Larsen, 2001). Though the change cannot be fully explained, we can point to aspects of the programme (mechanisms and context) that were designed to support the desired changes. This may serve to affirm certain aspects of the programme that may be applied in other contexts.

Methodology:

Research Design

This longitudinal cohort study is framed within a sociological interpretive orientation using a quasi-experimental evaluation design exploring pre-service teachers' understandings of nature and purpose of physical education from the beginning to the end of the physical education component of their teacher education programme. This study did not provide a control group. The value of this large-scale research as a source of evidence of the impact (what works, for whom, in what contexts?) of teacher education was examined. This methodology was chosen as it allowed access to participants' understandings, to capture the impact of the teacher education programme. However, it does not allow us to fully explain this impact. The limitation of this methodology within evaluation theory is recognised. Pawson (2002) emphasises the value of using multiple data sources and triangulation of data

suggesting that any evaluation will 'capture only a partial account of the efficacy of an intervention'.

Research context and participants
The participants in this study were generalist pre-service primary teachers (n=331, age range from 17- 39, 83% female) undertaking a 3-year Bachelor of Education (B.Ed) degree. As the participants in this study were primary teachers rather than specialist post-primary (secondary) teachers, it was assumed that these students were oriented to teaching (Lawson, 1983, Curtner-Smith, 2001). This study was situated within the two largest primary teacher education programmes in Ireland, each of which graduate over four hundred generalist primary teachers every year. Both of these primary teacher education programmes were based on core principles including 1) an acknowledgement that knowledge is a fundamental component of teacher education, 2) the exploration and development of teacher identity, 3) the development of critical reflection and reflective practice, 4) an appreciation and exploration of the role and contribution of the teacher to society, locally, nationally and globally and 5) the recognition, appreciation and accommodation of the impact of a diverse society and of diverse social and educational needs. Both programmes fell largely into Cochran-Smith & Lytle's (1999) conception of 'knowledge for practice' where teacher learning was framed as 'knowing more'. From this perspective the beginning teachers 'implement, translate, use, adapt, and put into practice what they have learned' (O' Sullivan, 2003: 275). The programme included foundation studies in the philosophy, sociology and psychology of education, pedagogical studies in all curriculum areas and sequential teaching practice placements. At the end of the 3-year B.Ed programme, beginning teachers were qualified to teach all curricular areas, including physical education.

It is suggested that initial teacher education programmes with clear and consistent messages delivered by a team of physical education personnel with an agreed professional ideology can support professional socialisation in a way that negates any negative impact from accultural socialisation and provides a strong enough base to challenge school cultures (Lawson, 1983, Curtner-Smith, 1997, 1998, 2001). The physical education component of the primary teacher education programmes was delivered by PETE personnel with expertise in primary physical education. Both programmes were aligned with the key messages of the primary physical education curriculum. The guiding principles of both programmes emphasised the importance of providing students with a positive experience of physical education, supporting them to advocate for primary physical education and equipping them to deliver similar positive experiences to children in their classes in the future. Each college's programme involved between thirty six and forty eight hours of contact time in groups of approximately twenty five to thirty students. Previous experiences, attitudes and beliefs were acknowledged and addressed from the first day of the programmes. Most physical education classes involved an applied approach where core ideas and concepts in teaching physical education (Graham, 2001) were presented with consideration of content knowledge and pedagogical content knowledge. Issues such as safety, assessment, inclusion, differentiation and integration with other curricular areas were considered. Most classes involved some

practical physical activity engagement across the six strands of the curriculum. Sample activities were modelled by the teacher educators and then applied in small group tasks and in peer teaching. Small group discussion feedback and reflection provided opportunities to challenge the assumptions and messages of the dominant physical culture in Ireland. This allowed students to redefine their understandings and frame these understandings within the core messages of primary physical education. For example students were prompted to share and consider the breadth of their own physical education experiences in relation to the curriculum recommendations. This may support recognition of the value of a broad and balanced experience and a resolution to create these learning experiences for the children in their classrooms (Ní Chróinín, Bowles & Murtagh, 2009). All students were required to teach physical education on successive school placements. These experiences were also interrogated within the programme to allow pre-service teachers to reconcile their understandings and their experiences in ways that reinforced their understandings of physical education as distinct from sport and health messages they may have encountered in schools. It is important to note that both programmes recognised and facilitated sporting culture in schools also by providing opportunities for students to gain certification in coaching school sport. These courses were ratified by the Irish Sports Council and taken on a voluntary basis outside of the taught physical education programme.

Data collection and analysis

At the beginning (Time 1= T1) and at the end (Time 2= T2) of the physical education component of their programme, students wrote their response to the open-ended question 'what is physical education?' (Pike, 2006; Coulter & Ní Chróinín, 2010) on a one-page template which asked for some biographical details (age and gender) and then invited them to respond in their preferred format (e.g. bullet points, prose). The data collection was administered by PETE lecturers and administrators. Emphasis was placed on the importance of participants giving their own perspective and participants were assured that there was no one 'right' answer. Participants were assured of the anonymity of their writings. Lecturers separated themselves from the space once the task had been explained. The 10-minute writing task was completed in the location where the first and final lecture/seminar of their programme took place. For some groups this was in a sports hall and for others, a classroom. The limitations of a one-off written response within a limited time frame are recognised where development of ideas was not possible. However, it is suggested that the large number of responses provided valuable insight into pre-service teachers' understandings of physical education.

All responses were transcribed and organised within nVivo 8. Data analysis involved an initial word frequency query (Bryman, 2008) which generated a list of words and the number of times they occur. This allowed for comparisons between T1 and T2 responses (Table 1). This table illustrates the change in frequency of certain words in participants' responses where the arrows point to the trends showing the decrease from T1 to T2 in the frequency of words such as 'exercise' and the increase in the frequency of words such as 'skill' and 'fun/enjoy'.

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Table 1: Sample word frequency query T1 – T2

The word frequency search alone cannot provide insight into the participants' understandings as the context for the use of each word is absent. For example the word 'play' (104 references) was present in a number of contexts including 'playing games', 'fair play', 'playing to your strengths'. This example highlights the importance of moving beyond word frequency queries to contextualise participants' understandings of physical education.

The top-ranked words in the word frequency query from T1 and T2 were then auto-coded to a category based on the dominant discourses of physical education (sport and health) (Green, 1998). For example, words such as 'exercise' and 'active' were automatically placed in the category called 'health'. A category was also created for the emerging discourse based on the language of primary physical education including words such as 'curriculum' and 'strand'. All entries within each category were then checked to ensure that each entry was coded to an appropriate category based on the context in which it was used. The key ideas within each category and the relationship between categories were examined and recorded using memos to support the construction of themes using the constant comparative method (Lincoln & Guba, 1985). The context of each response was carefully examined to ensure that the intended meaning was understood and interpreted correctly to allow for illustration of the pre-service teachers' understandings of physical education. These illustrations allow for multiple perspectives, diverse quotations and specific evidence. Finally, the key themes that emerged were described, interpreted and considered within the wider discourses of sport, health and physical activity and examined in relation to the key messages of the primary physical education curriculum.

Trustworthiness
The researchers in this study were also the designers and deliverers of the PETE component of the initial teacher education programme in this 'backyard research' (Creswell, 2009). We were also part of the same wider physical culture in Ireland as the participants. We initially recognised our position inside the research, considering how we would answer the question ourselves. We recognised the importance of the participants' context when analysing and interpreting the meaning within the written texts. Trustworthiness of the data analysis and findings was addressed using a peer de-briefer who reviewed all materials to address issues of bias. Researchers coded and memoed individually and coded together as well as reviewing and extending each others memos. This supported construction of an argument based on discussion and engagement with the texts and key messages within the data that was balanced, robust and made sense (Richards, 2005). A coding journal (qualitative codebook) tracked each step of the analysis process to allow each researcher to continually reflect on the data (Creswell, 2009), ask analytical questions and track interaction with the data analysis

process. The large number of sources involved in this study allowed for identification of patterns and relationships between concepts supporting the trustworthiness of the findings.

Findings and Discussion

The pre-service teachers' understandings of physical education at the beginning of the programme (T1) represent their cumulative experiences of physical education in school sport and physical activity messages in wider physical culture. Participants' writings (T1) reflected a range of experiences of physical education from very positive to negative and from broad to narrow experiences. For example some participants had a very positive experience while only ever playing one team game throughout their primary years. For others, physical education was a treat they experienced once or twice a year. Only three participants made reference to the possibility of physical education being a negative experience. Many participants emphasised the opportunity in physical education to learn social skills and made connections between learning in physical education and wider life experiences:

> 'It's supposed to be fun, a time to connect with people outside of a classroom environment. It's a different type of learning. You learn how to win and how to lose and how to accept losing which is very important because to carry a chip on your shoulder for your whole life destroys a person. In PE you learn how to share responsibility, jobs, you learn how to make out strategies and how to achieve your goals. PE is where you can unwind and let go and essentially just be yourself' (T1-Sean).

Sport and team games dominated the content of their physical education experiences and framed their understandings:

> 'It is a group activity involving class groups from schools, which teaches people to perform and participate in various sporting and athletic games. It also involves teaching students about their physical health and fitness. It is important in schools, as it is extremely necessary for the body and mind of young people. As a student, I learned and took part in many games such as football, basketball, hurling, hockey, handball, athletics and dance' (T1 – Phillip).

These texts reflected the dominance of sport and health discourses where health discourses (exercising and getting fit) framed the purposes and sport (social learning through team games) shaped the nature and content of physical education (Coulter & Ní Chróinín, 2010).

There was a significant shift in understandings of physical education in the pre-service teachers' writings at the end of the physical education component of their programme (T2). This shift was recognised by some of the participants themselves: 'Last year I would have

said that P.E. was simply picking two teams and having a football, hockey or basketball match' (T2- William). While sport and health discourses were still evident in the pre-service teachers' writings, a third consistent and coherent discourse emerged. This was grounded in the language of the primary school curriculum (e.g. curriculum (T2- 113)) and strand (T2 - 107), and aligned with the key curriculum messages (e.g. fun (T2- 219)). Garret & Wrench (2008) also found that their students displayed this combination of persistent and newly emerging discourses at the end of a physical education programme. Participants' T2 writings were more varied and complex and demonstrated more sophisticated thinking that moved beyond instrumental and narrow sporting discourses of physical education. Participants' writings were more extensive at the end of their programme; their responses were more detailed and included more value statements/ qualifiers. For example:

> Physical education, contrary to widespread thought, is not merely a 30 or 40 minute weekly slot in the timetable where children are marched outside or to a hall and instructed to 'run about' or engage in team sports. Rather, the PE programme which we explored during the course focuses on promoting a broad-ranging approach incorporating varied strands (gymnastics, aquatics, outdoor and adventure, dance, games and athletics). Within each of these areas, children are encouraged to participate fully (to the best of their ability). Through these stimulating, enjoyable activities in the different areas, children are given the opportunity to be equipped with necessary skills. Their level of physical activity is increased and children are motivated (T2 – Susan).

This indicated a deeper understanding where participants made a case for a certain kind of physical education that recognised and challenged wider school cultures. The key themes that were constructed from the data are presented below within the coding framework of sport and health as the dominant discourses of physical education (Green, 1998) along with the third discourse around the key messages of the curriculum.

Sport: At the conclusion of the programme (T2), sport (T1 - 254, T2 - 156) discourses were still significant in participants' writings at the conclusion of their physical education programme. However, games no longer featured as the main, or only, content of physical education. Participants emphasised the importance of learning the skills (T1 - 106, T2 - 206) required for games as well as other activities. Skill development, linked to successful sport participation was given more emphasis at the end of the programme which represents a significant shift in thinking:

> 'I think physical education is helping children to develop skills and their abilities to participate in different aspects of sport' (T2 – Jane).

At the beginning of the programme, participants cited the learning of social skills in physical education more frequently and considered it more important than physical skill learning. This

would seem to reflect a change from participants referencing their own experiences of physical education before the programme to considering the needs of primary school age children after the programme:

> '...provides children with the opportunity to learn, practice and develop skills in a number of areas (T2- Sarah).

This suggests that within both programmes physical skill development is a dominant message that is being communicated consistently: '*Much of the course particularly athletics is based on technique*' (T2 – Conor). While physical skill learning is one of the core aims of the primary school curriculum the value of this shift in emphasis away from social skill learning is open to debate. In particular, consideration needs to be given whether this emphasis was intended by the teacher educators and how this change was promoted.

'Play', one of the key messages of the curriculum, based on the idea of play as valued human practice for children (Ingham, 2004) is largely absent from the participants' writings. It seems that the emphasis on developmental skill learning has displaced 'play' from understandings of physical education. This is reflected in the challenge outlined by Kretchmar (2008) 'to find ways to prioritize a life-enhancing brand of physical education over its utilitarian counterpart but then to compromise in a manner that promotes health for those who will always need to be talked into moving' (Kretchmar, 2008: 169). It is also worth noting the absence of performative and competitive discourses at both T1 and T2 where competition was not seen as an important part of physical education. This finding stands in contrast to findings elsewhere in Europe (Hardman, 2007, 2008). This reflects the wider sporting physical culture in Ireland where the social value of sport is recognised and performative discourses are deemphasised (Fahey & Delaney, 2005). The continuing presence of sport discourses in participants' writings is unsurprising given the role of sport discourses in school physical education contexts as a direct reflection of wider physical culture. It is encouraging however, that sport has shifted from the centre of participants' discourses to allow room for a stronger physical education discourse to emerge.

Health/ physical activity: Participants' writings no longer framed the main purposes of physical education within health discourses which were less prevalent and less emphasised at the end of the programme. Words associated with health discourses (e.g. exercise and fitness) appeared less in T2 writings (Table 1) and were frequently qualified by other areas:

> 'It's not just about sport (hurling etc.) but a means of keeping healthy, fit, energised and way of expressing yourself and having fun. It allows us as adults as well as young children to work together on something in school that isn't considered work as such. But not only is it physical, but it also mentally helps you develop and be healthy' (T2- Lisa).

In T2 writings, physical education participation was linked to inclusive exercise with emphasis on including 'everyone despite their fitness levels' (T2- Sophie). This reflected a movement away from a single instrumental purpose to a more complex understanding of the purposes of physical education linked to opportunity and choice, and, directly aligned with the key messages of the primary school physical education curriculum. This reflected a more balanced approach to physical activity promotion and engagement through physical education (Gard & Wright, 2001). References to obesity had almost completely disappeared at T2. The word 'body' (T2-86 references) was more likely to be linked to exploration or movement potential than fitness and health:

> 'Physical Education is learning how to use our bodies for physical activity. It is about undertaking a variety of different activities so that we can use every part of our body and muscles in different ways' (T2 – Keara).

This suggests that both physical education programmes were successful in removing obesity discourses from the participants' understandings of physical education despite the continuing dominance of obesity discourses in wider physical culture. This is particularly encouraging as it suggests that physical education programmes do have the capacity to change understandings in ways that run counter to messages in wider physical culture.

Emergence of an 'educational' primary physical education discourse

At the beginning of the programme, the purposes of physical education were framed as instrumental, with physical education acting as a vehicle to improve health and fitness. As physical education had no educational value, it was viewed as a non-academic subject that provided a break from other aspects of school life:

> 'It is something which allows us to escape from the classroom and experience something different. A subject that gives us a break from the "norm". A breath of fresh air which keeps us motivated during other boring classroom subjects during the day' (T2 – Elaine).

At the end of the programme, physical education was recognised as an important integral part of the school curriculum that was still considered to be a fun, active subject that involved teaching and learning. Participants' writings at the end of the programme revealed the emergence of an educational discourse, in addition to sport and health that was not present at T1. At T2, it is evident that participants had found a new vocabulary grounded in the central tenets of the primary school curriculum (T2 -113 references) to articulate their understandings of physical education.

At the beginning of the programme, there was little evidence of the six core areas of the curriculum though some specific activities were mentioned (e.g. basketball – 35 references,

football – 30 references). At T2, participants emphasised the importance of including a wider range of activities for children within physical education: all six strands (107 references) of the primary curriculum were present in participants' writings (games - 242 references, dance - 142 references, athletics - 120 references, gymnastics - 114 references, aquatics - 103 references, outdoor and adventure - 72 references). Some participants emphasised the importance of giving a broad experience and related it back to their own experiences: 'I didn't realise that dance was a part of the curriculum so I got a major shock when we had a PE lesson based on dance' (T2 - Ellen). It is worth noting that the outdoor and adventure activities strand was mentioned less than the other strands. The reason for this is not clear. These results illustrated that the participants' understandings at T2 included a broader and more balanced view of the nature and content of physical education. In addition, participants' emphasis on the importance of a wide range of experiences directly reflected the core recommendations of the primary physical education curriculum and provided participants with a wider frame of reference than those offered by current dominant physical and sporting culture:

> 'a subject which allows children to look at different games + experience the joys of playing sports/ various activities' (T2- Gillian).

The coding framework included a category to consider persistent messages (how do they still think this?) and new ideas (where did this come from?) that did not align with the key messages. While there was some evidence of participants still interpreting physical education as a 'break' (T2- 8 references) for the most part these ideas were eliminated from their writings. This category also allowed us to consider what might be absent in participants' writings. While participants' writings were framed by key messages of the curriculum, the pedagogy of physical education and their role as a teacher was largely absent. Words such as planning and assessment rarely appeared as their writings were framed by the pupils' experiences. This directly reflects the child-centred nature of the curriculum (Government of Ireland, 1999a) and the question that was asked. Perhaps if the question had asked 'What does a teacher of physical education need to know?' the responses may have been more focused on the teacher role.

The most notable feature of participants' writings at the end of the programme was a clear positioning of physical education in relation to some of the central tenets of the primary school curriculum. This may be summarised as 'the provision of inclusive opportunities for success and for learning of physical and social skills through a variety of fun activities' (T2 – Orla). This advocacy emphasised the importance of every child being included and given opportunities to experience and learn about a variety of physical activities at a level that is appropriate for the individual child. Participants' writings were consistently framed by these qualifiers:

'Through PE in the Irish school, children of all colour, size, sporting background participate' (T2 – Molly).

'It provides for both female and male preferences' (T2 – Carol).

'It especially gives the less academic children a chance to shine and succeed, which might not always be possible in the classroom' (T2 – Carron).

'Nobody should ever be 'out' of a game' (T2 – Emily).

'Allow to include the children with special needs + enable them to become involved like everyone else' (T2 – Emer).

Some key messages seemed to have become a mantra for the participants': PE is a...

'Requirement in national schools not optional should be fun, not a punishment. Smaller games are more enjoyable, **group weak with weak and strong with strong** to achieve maximum from class'. (emphasis added) (T2 – Richard).

This alignment between the key messages of the curriculum, the key messages of the physical education component of their teacher education programme and participants' writings provides evidence of the impact of the teacher education programme on teacher learning (Capel & Blair, 2007) in a way that moves beyond instrumental justifications to reflect the possible recognition of the potential of physical activity as a valued human practice (Green, 1998): 'To me physical education is the form of education whereby the possibilities of the human body to bring recreation and interest to our lives of humans are explored' (T2 – James). Where physical education is recognised as socially constructed and an aspect of wider physical culture, it is important to consider the link between understandings of physical education and wider physical culture (Kirk, 1999). The absence of obesity in T2 writings highlights that the focus on counteracting messages received from wider physical culture can result in unplanned outcomes. It is also important to keep open the opportunities for wider physical culture to impact on and shape future physical education practices.

Evaluation: the impact of the programme

The teacher education programmes were both successful in communicating a consistent message to the pre-service teachers. The findings of this study suggest that the teacher education programmes promoted a deeper understanding of physical education and resulted in participants making a case for a certain kind of physical education. This implies that the programme impacted on the pre-service teachers' understandings in intended ways that will support children to lead 'full, active and healthy lives' (Government of Ireland, 1999a: 2).

This is reassuring for the teacher educators involved and supports reflection on practices. Qualitative evaluation theory challenges us to move beyond showing evidence of change to trying to explain the change that has occurred (Tilley and Pawson, 1997; Pawson, 2006). Given that the desired change occurred in this study it is important to consider the context and mechanisms that promoted this change. The importance of alignment between the principles underpinning the programme and participants' experiences is emphasised. Participants' professional socialisation was supported through development of content and pedagogical content knowledge and experience of models of inclusive practices aligned with the programme principles. Pre-service teachers were provided with opportunities to apply their developing understandings in school contexts. Theye were challenged to critically reflect on their developing understanding through their methods courses (Loughran, 2006) and their school experiences (Garrett & Wrench, 2008). However, the evidence of an unintended overemphasis on physical skill development and the absence of play from participants' writings prompts review of how these elements are framed within the programme. The link between the mechanisms, context and outcomes of teacher education, using a process oriented multiple methods approach (Doyle, 1997) grounded in evaluation theory is recommended as an area meriting further investigation to better understand what works for whom and in what circumstances (Tilley, 2000).

This study reinforces the value of the teacher education programmes in shaping new understandings and counteracting normative discourses. However, while these understandings are aligned with physical education discourses at the end of the programme, this does not necessarily guarantee future delivery of physical education based on these understandings. It is probable that the resilience of these key messages will be tested as these teachers move into school contexts where physical education continues to be shaped by sport and health discourses. It is recommended that the translation of these understandings into future teacher practices merits future investigation. While participants' understandings of physical education at the end of the programme are aligned with core curriculum messages, it is important to recognise that these messages are not consistently present within current practices in primary physical education in Ireland; a climate which continues to be dominated by sport and health discourses (Fahey, et al., 2005; Woods et al., 2010). This creates a challenge for these pre-service teachers as they enter and are assimilated into school cultures (Macdonald, et al., 1999). There is a concern that their changed understandings are so removed from the current realities of school physical education that when they enter school contexts, these new understandings will be abandoned to be replaced by the dominant physical culture in schools. The resilience of their understandings to current school physical education practices (organisational socialisation) and the possibility of these teachers recreating and shaping wider school physical education practices in ways that align more strongly with the key messages of the curriculum require further investigation. While it is acknowledged that changing beliefs and practices requires engagement on multiple levels that include schools and teachers (Capel & Blair, 2007; Placek, et al., 1995), it is argued that changing pre-service teachers' understandings presents a viable starting point for wider system change (Garrett & Wrench, 2007; Garrett & Wrench, 2008; Rovegno, 2003).

Conclusion

This study provides qualitative evidence of the impact of professional socialisation through teacher education on pre-service teachers' understandings by demonstrating emergence of a third discourse that is grounded in the key messages of the primary school physical education curriculum in Ireland. Evaluation of the impact of the initial teacher education programme shows that while sport and health discourses persisted, these pre-service teachers are able to clearly articulate and argue for a particular kind of physical education grounded in educational discourses. Above all, this study highlights the importance of professional socialisation through the physical education component of the teacher education programme delivering a clear and consistent message to support development of pre-service teachers' understandings.

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Table 1

T1		T2	
Word	Frequency	Word	Frequency
Exercise	245	skills	271
Sports	166	fun/ enjoy	219
Healthy	142	games	242
Games	132	exercise	145
Sport	131	sports	129
body	129	healthy	114
fun/ enjoy	149	body	78
Skills	119		