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Pedagogical principles of learning to teach meaningful physical education

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ABSTRACT

Background: Concerns that current forms of physical education teacher education (PETE) are not adequately providing teachers with the tools necessary for working with the realities and challenges of teaching physical education in contemporary schools has led some scholars to advocate for an approach that prioritises meaningfulness in physical education. There is, however, little empirical evidence of how future teachers might be taught to facilitate meaningful physical education experiences.

Purpose: This paper describes a pedagogical approach to PETE to support pre-service teachers (PSTs) in learning how to facilitate meaningful experiences in physical education. We aim to contribute new understanding through sharing pedagogical principles that support PSTs' 'Learning About Meaningful Physical Education' (LAMPE).

Participants and setting: The research team consisted of three physical education teacher educators: Tim and Déirdre who implemented LAMPE pedagogies and Mary who acted as meta-critical friend (pseudonyms used for the review process). Results from the LAMPE innovation reported here are taken from implementation across four semesters of two academic years 2013–2015. Déirdre implemented LAMPE in an introduction to teaching physical education course for pre-service generalist elementary teachers. Tim implemented the approach in an undergraduate developmental games course for future physical education teachers. A total of 106 PSTs participated in the research.

Data collection and analysis: Data included teacher educator reflections and non-participant observer data from 33 individual lessons, over 7 hours of transcribed teacher educator Skype conversations, 8 'turning point' documents, 15 sets of PST work samples, and transcripts of individual ($n=10$) and 9 focus group interviews ($n=18$ participants) with PSTs. Data were analysed inductively. Triangulation of multiple data sources and an expert member check supported trustworthiness of the LAMPE approach and data analysis.

Findings: We share five pedagogical principles that reflect how PSTs were supported to learn how to facilitate meaningful physical education experiences. Pedagogies included planning for, experiencing, teaching, analysing, and reflecting on meaningful participation. Implementing pedagogies aligned with these five pedagogical principles helped participants learn *why* meaningful participation

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should be prioritised as well as *how* to facilitate meaningful physical education experiences.

Conclusions: Pedagogical principles of LAMPE have been constructed from empirical evidence of both teacher educator and PST experiences that supported learning how to promote meaningful physical education. This research contributes new understanding of how to support PSTs in learning to teach with an emphasis on facilitating meaningful physical education experiences.

In this paper, we share five pedagogical principles guiding how to support pre-service teachers (PSTs) in their learning about how to facilitate meaningful physical education experiences. This research responds to three important gaps in the literature. Firstly, the development of these pedagogical principles gathered from both teacher educator and PST experiences responds directly to calls for empirically based research to better understand *how* future teachers learn to facilitate meaningful experiences in physical education (Kretchmar 2008; Blankenship and Ayers 2010; Beni, Fletcher, and Ní Chróinín, 2016). Secondly, these pedagogical principles represent an innovative way for physical education teacher educators to prepare teachers who will be better equipped to respond to the challenges of contemporary school-based physical education (Armour and Harris 2013). Thirdly, these five pedagogical principles provide direction on how future teachers learn to enact a wider vision for school-based physical education organised around meaningful experiences as a unifying concept (Siedentop and Locke 1997).

Teacher educators have been researching, reforming, and developing physical education teacher education (PETE) for over 50 years (Collier 2006). Despite their endeavours and claims about our increased understanding of PETE pedagogies, each generation is, in turn, critical of the resultant quality of school-based physical education enacted by graduates of PETE programmes. The shortcomings of school-based physical education are thus presented as a proxy for evidence of the deficiencies of PETE, indicating a gap between the preparation of teachers of physical education and the demands and realities of contemporary schools (Siedentop and Locke 1997; Armour and Harris 2013; O'Sullivan 2014). This is not a new problem. For example, 20 years ago, Siedentop and Locke (1997) argued for a 'dose of revolution for PETE' (28) to address this gap. They argued for PETE to attend to a singular focus, 'a particular kind of physical education, one that is coherent and collectively supported' (29). Therefore, a first step in identifying the content and pedagogies of PETE is to clearly articulate a version of physical education upon which there is some consensus to be delivered. While acknowledging that there are simply too many different types of schools, students, and cultures for only one version of physical education to dominate, we suggest that the promotion of meaningful experience could be a focus that many might find useful.

Recent evidence suggests that the current dominant version of physical education continues to have limited influence in young people's lives (Green 2014) and indicates a need for a different version of physical education that responds to and is meaningful and relevant to students. Influenced by this need, we draw from the work of physical education scholars who have argued in conceptual or philosophical terms for the adoption of an approach that prioritises meaningful participation in physical education (Kretchmar 2000, 2001, 2008; Rintala 2009; Blankenship and Ayers 2010; Thorburn and MacAllister 2013). In doing this we respond to Armour and Harris's (2013) call for innovative approaches to the professional learning of physical education teachers, including a radical shift in the pedagogies teacher educators use to teach future teachers for the realities of life in today's schools. Several recent responses to this call from the PETE community include initiatives such as case-based approaches (Armour 2014), models-based instruction (Gurvitch, Metzler, and Lund 2008; Cohen and Zach 2013), and activist or inquiry-oriented approaches (Oliver and Oesterreich 2013; Oliver et al. 2015; Enright et al., 2016). We propose to join these valuable innovations through our approach to PETE which explicitly prioritises the promotion of meaningful experiences in school-based physical education.

Across a two-year period, we gathered data from teacher educators and PSTs in two PETE programmes, one in Ireland and one in Canada. Our focus was on understanding PSTs' experiences of learning to teach a version of physical education with a priority on facilitating meaningful experiences. Constructed from this empirical evidence, we share five pedagogical principles that reflect this focus, which we have termed 'Learning About Meaningful Physical Education' (or LAMPE). Grounded in empirical data, these pedagogical principles contribute new understanding of how to support PSTs' learning to facilitate meaningful experiences in school-based physical education.

The multifaceted and ambiguous nature of the concept of 'meaning-making' inevitably yields a diversity of interpretations and perspectives. While acknowledging the complexity of how individuals make meaning, an interpretation that is well established in the physical education literature serves as the theoretical foundation for our approach (McCaughy and Rovegno, 2001; Brown 2008; Hawkins, 2008; Bulger and Housner 2009; Rintala 2009; Blankenship and Ayers 2010). Specifically, each of these authors proposes positioning the personal, affective and intrinsic meanings of learners at the core of curriculum development and pedagogical enactment. Following Kretchmar (2001), and building on the work of Metheny (1968) and Polanyi and Prosch (1975), we particularly focused on meaningful experiences as opposed to other types of meaning; meaningful experiences are those interpreted by the participant as holding personal significance. Metheny (1968, 5) outlines that something becomes personally meaningful:

[as] we seize upon it, take it into ourselves, and become involved with it. This feeling of involvement is a symptom of what the idea means to us, or how we find it meaningful or significant.

The personal significance attributed to an experience and its value in meeting an individual's identified goals colours how meaningfulness is ascribed (Chen 1998). As Beane (1990, 9) explains: 'It is exactly the affective dimension that brings learning out of mere passivity and accumulation toward full active participation and meaningful outcome'. Individual meaning interpretations are also influenced by social and institutional dimensions which allow for commonalities across meaningful experiences among participants (Quennerstedt, Öhman, and Öhman 2011). Supporting meaningful participation in physical education therefore requires attention to individual and collective goals for participation (Chen 1998), affective elements of experience, and the role of reflection on experience (Metheny 1968; Kretchmar 2000; Nilges 2004; Brown 2008).

We are not the first to propose a curricular approach that emphasises meaningfulness in physical education. For example, Jewett, Bain, and Ennis (1995) proposed a personal meaning model for school-based physical education, yet take-up by the physical education community was hampered by challenges in translating the model into practice and aligning teachers' intended goals with participants' interpretations of physical education experiences (Chen 1998). Using that work as a foundation, we turned to Kretchmar's (2000, 2001, 2006, 2008) work as a starting point for our exploration of what might capture both subjective and shared interpretations of meaningful physical education in practical terms that could be used by teachers. Kretchmar (2001, 2006) identified the following features of physical education experiences that made them more meaningful for children as follows:

- (1) Social interaction, emphasising shared positive participation with others;
- (2) Challenge, involving engagement in activities that are 'just-right' (not too easy, not too difficult);
- (3) Increased motor competence, including opportunities for learning and improved skilfulness in an activity;
- (4) Fun, encompassing immediate enjoyment in the moment;
- (5) Delight, experiencing more sustained pleasure or joy as a result of significant engagement and commitment.

According to Kretchmar (2006), children are more likely to ascribe meaningfulness to physical education experiences when one or more of these features above are present. The grounding of

these features in the experiences of children, as opposed to interpretations of the teacher, addresses important concerns about whose meaning is being prioritised (Chen 1998). We acknowledge that ascribing meaningfulness is an individual process based on a range of factors.

Using Kretchmar's (2006) features of meaningful physical education as a guide allows meaningfulness to be the explicit priority in teacher's pedagogical decision-making. This will not negate the presence of a teacher's interpretation of what is meaningful but rather promote the teacher's engagement with promoting experiences that the students find meaningful. A recent review of 50 peer-reviewed articles on what young people find meaningful in physical education and youth sport (Beni, Fletcher, and Ní Chróinín, 2016) showed support for four of the five components described by Kretchmar (2001, 2006). There were strong arguments for the ways these components worked together to create a meaningful physical education experience (e.g. an experience is often made fun due to positive social interactions or the level of challenge). However, there was little evidence supporting delight as a key component, perhaps due to the sustained nature of delight (and lack of longitudinal studies focused on young people's meaningful experiences) as well as the difficulty children may have in articulating what delight means. Furthermore, there was evidence that learning experiences that are personally relevant to young people (i.e. those where they can see application and transfer beyond what they are learning in school) can promote meaningfulness in physical education (Beni, Fletcher, and Ní Chróinín, 2016). We adopted Kretchmar's (2001, 2006) features as an initial framework to direct our focus on meaningful experiences. At first glance, these features might be read as reductive or narrowly constructed but we argue that their value resides in how they have originated from the experiences of young learners. Furthermore, we suggest that adopting these features to represent meaningful experiences is a point of departure that allows for expansion of the framework and other representations of meaningful experiences in the future.

Despite the ongoing and compelling theoretical arguments put forward by scholars about the value of emphasising personal meaningfulness for learners, there is a lack of empirical evidence supporting pedagogies that clearly and practically guide *how* future teachers might learn to facilitate meaningful physical education experiences for their pupils (a Jewett, Bain, and Ennis 1995; Kretchmar 2008; Blankenship and Ayers 2010). This may be because some of what is described as representing a meaningful experience for young learners can be claimed as part of most teachers' or teacher educators' everyday practice. We thus anticipate that many teacher educators include the goal of promoting meaningful experiences as an element of their PETE practice and that pedagogies we use may appear familiar and representative of 'good teaching' to some readers whose primary work involves teaching teachers. However, the urgency for this research is built upon Loughran's (2013) suggestion that much of 'good teaching' looks easy to the observer (including PSTs) because 'the thinking that underpins practice is rarely made explicit for others' (119).

What students do see, without much effort, are the superficial aspects of the delivery of information. They see these without seeing beneath the surface to the complex thinking and the wealth of experience so crucial in shaping pedagogically meaningful learning experiences. (Loughran and Russell 2007, 218)

Thus, a main distinguishing feature of the LAMPE approach from general 'good teaching', and what makes our work innovative, is the way that the positioning of meaningful school-based physical education experience is articulated and made explicit by teacher educators as the *prioritised filter* for decision-making in relation to supporting PST learning. We were not focused on meaningful PETE experiences for our PSTs (though we hoped for this outcome) but rather on their learning how to facilitate meaningful school-based physical education.

Following a two-year collaborative process of planning, implementing, analysing, reflecting on, receiving feedback from PST's and peers on, modifying, and refining our pedagogies, we have arrived at the point when we are ready to share LAMPE with confidence in the coherence and consistency of our approach. Here we share five pedagogical principles of LAMPE that provide new insight on how to support PSTs learning in PETE to facilitate meaningful participation in school-based physical education.

Methodology

We used collaborative self-study of teacher education practice (S-STEP) methodology to identify pedagogical approaches that enabled PSTs' learning about meaningful physical education (LaBoskey 2004; Ní Chróinín, Fletcher, and O'Sullivan 2015). Specifically, we engaged in a systematic, cyclical process of developing, implementing, and reflecting on the effectiveness of LAMPE pedagogical strategies enacted by Déirdre and Tim. The research design reflects LaBoskey's (2004) five characteristics of quality in S-STEP as it:

- (a) Was *self-initiated and self-focused*: we shared a collective desire to identify ways to teach teachers about facilitating meaningful experiences;
- (b) Was *improvement-aimed*;
- (c) Was *interactive* in terms of its process as we relied on interactions with each other, PSTs and readings to better understand our individual and collective experiences of the pedagogies developed;
- (d) Employed *multiple qualitative methods* including focus groups, interviews and written reflections;
- (e) Involved sharing detail of our research processes to enhance trustworthiness of our findings.

In the following sections, we detail the two contexts in which our collaborative self-study was carried out, and outline the methods used to collect and analyse data.

Context and participants

The research team consisted of three teacher educators: Tim and Déirdre who implemented LAMPE, and Mary who acted as advisor or 'meta-critical friend' (Fletcher, Ní Chróinín, and O'Sullivan 2016). LAMPE data that informs this particular study were generated across four semesters of two academic years 2013–2015. Déirdre, a physical education teacher educator at the elementary level for over 12 years, implemented LAMPE in the autumn semester of each year (September–December) in an introduction to teaching physical education course for generalist elementary teachers in Ireland. Tim, a physical education teacher educator with experience of PETE at both the high school and elementary levels implemented the approach in the winter semester (January–April) through a developmental games course for future teachers in Canada. PSTs who were students in our classes ($n = 106$) participated in the research. Mary, an experienced physical education teacher educator and researcher acted as a 'meta-critical friend' throughout the entire process. Ethical approval for the research was granted by the relevant committees of both Tim and Déirdre's institutions.

Data collection

During each semester, the approach to data collection was similar, with two main data sets: one focused on the teacher educators' views and experiences, and one focused on the PSTs' experiences.

Teacher educator data were drawn from several sources. For each lesson, data sources included teacher educator planning and guided reflection documents and non-participant observations. For example, in each autumn semester, when Déirdre implemented LAMPE, she shared her written plans and guided reflections with Tim, who acted as a critical friend by responding in writing, probing ideas and asking questions. Déirdre responded to Tim's comments in a final reflection on the lesson. In each winter semester, the teacher educators switched roles and followed the same data collection process described above; Tim taught using a LAMPE approach, sending his plans and reflections to Déirdre, who acted as critical friend. Tim and Déirdre also conversed on Skype and in person to discuss their progress. These conversations were recorded and transcribed as supporting data.

In each semester, both Déirdre and Tim developed ‘turning points’ (Bullock and Ritter 2011), which have the following characteristics: there is an affective element to the data, the data frame a problem of practice, the author of the data is implicitly or explicitly asking for advice from a critical friend, and, there is time to take action on the problem. Each turning point was constructed from analysis of multiple teacher educator data sources and represented facets of Tim’s and Déirdre’s experiences of implementing LAMPE and their learning through critical reflection on those experiences. Turning points were further interrogated and consolidated by Tim and Déirdre in conversation before sharing with Mary for further discussion.

Mary acted as the third participant in this three-way critical friendship. The term ‘meta-critical friend’ used to describe her role was coined by a discussant at an international conference where this work was presented (Fletcher, Ní Chróinín, and O’Sullivan 2016). We embraced this term as it effectively represented Mary’s role in the process. At the end of each semester, Mary read the turning points prepared by Déirdre and Tim and provided written feedback to them (what we have termed counterpoints). All three met in person or through Skype at the end of each semester to discuss the data, the turning points, and counterpoints. Mary was not involved in planning or observing the lessons. However, at our end of semester meetings, she was involved in shaping how the next phase of study progressed, based on interrogation of the data. During this self-study, Mary played three specific roles: as a connector of ideas, an interrogator of ideas, and a mediator of ideas (see Ní Chróinín, O’Sullivan, and Fletcher 2016 for details of this process). Tim and Déirdre then conferred to summarise developments, identify future directions in developing LAMPE, and complete an end-of-year reflection. This was reviewed by and discussed with Mary in terms of the focus for the next phase of the project.

The approach in Year 2 replicated Year 1: Déirdre and Tim taught the same courses to new cohorts of PSTs. During Year 2 we refined LAMPE pedagogies identified in Year 1. Inevitably, our respective approaches were not exactly the same as we were teaching in different contexts (primary/post-primary PETE) and the foci of the courses we taught was different. Also, our approaches were coloured by our own personal teacher education philosophies and strengths, as well as by evolving understandings of LAMPE. For example, Tim’s approach in the winter semester was informed by what he learned from acting as a critical friend to Déirdre in the previous semester.

The purpose of collecting PST data was to serve as a reference point for the teacher educator-generated data at the end of each year. PST data helped to triangulate and add trustworthiness to the teacher educator-generated data. PST data could be categorised as informal and formal. Informal PST data could be considered anecdotal data, in that we used conversations with and artefacts from our students to inform our implementation, reflection, and analysis of LAMPE pedagogies on a day-to-day basis. Formal PST data sources for both years included work samples from individual and group tasks completed during lessons and (sometimes anonymous, sometimes identifiable) reflections focused on their experiences of LAMPE. Focus group interviews were conducted by a research assistant with Déirdre’s PSTs at two separate points during both academic years (Year 1, $n = 8$; Year 2, $n = 6$). Tim’s students completed both individual interviews (Year 1, $n = 7$; Year 2, $n = 3$) and one focus group interview (Year 1, $n = 4$) on their experiences of LAMPE and learning to teach PE. Research assistants not affiliated with the courses in any way acted as gatekeepers in ensuring that all PST data were anonymised so we could not know which PSTs participated in the research (thus reducing but not eliminating power dynamics). Because the focus of this paper is on our implementation of the data (as teacher educators), the PST data reported here are by way of sharing the students’ voices in regards to how they understood and valued the pedagogies we were providing them. This is not to diminish the importance of the PST data; we intend to fully report on their perspectives in future work.

When combined, the data gathered for analysis included teacher educator plans and guided reflections and non-participant observer data for 33 lessons, over 7 hours of transcribed Skype conversations between teacher educators, 8 ‘turning point’ documents, 15 sets of PST student work samples, and transcripts from 10 individual and 9 focus group interviews involving 18 PSTs.

Data analysis

Teacher educator data were the first data set analysed each year. First, through reading, re-reading, and coding, we identified the features of our pedagogical approaches and the evidence we shared in support of these pedagogies and their relationship to LAMPE. We formally analysed teacher educator data at the end of each academic term (i.e. in December and April, respectively). Through this process we compiled and agreed to a working database of LAMPE pedagogies. Second, at the end of each academic year (typically in May), we returned to all the primary data sources, including PSTs' data, coalescing teacher educator- and student-generated data, and seeking evidence of the effectiveness of these pedagogies in supporting PSTs' learning about meaningful physical education. An analysis of Year 1 data informed development of Year 2 pedagogical approaches. Some pedagogies were implemented consistently across the four semesters, others were adapted and revised in Year 2. We followed the same steps in the analysis of Year 2 data. Finally, a set of pedagogical principles that represented the LAMPE approach supported by empirical evidence was agreed upon from both years of the project.

Reliability and trustworthiness

We drew significantly on the writings of Kretchmar (2000, 2006, 2008) and others (Brown 2008; Blankenship and Ayers 2010) to make judgements about developing and implementing LAMPE. We also conducted an 'expert' member check (Braun and Clarke 2013) at the end of Year 1, where we shared the draft framework with four physical education scholars based on their publications on teaching for meaningful experiences. Their responses provided direction for further developing the framework in Year 2. For example, one scholar prompted us to reconsider how we positioned the role of competition as an element of challenge, which we subsequently did. Results of data analysis were shared with Mary who provided feedback and insights, serving as a further check of our claims. Triangulation of multiple data sources allowed for consideration of LAMPE from different perspectives and ensured both teacher educator and PST experiences of pedagogies were considered.

Findings and discussion

In this section, we identify and describe five pedagogical principles of LAMPE that are representative of the range of individual pedagogies and learning strategies we employed and articulated to support PST learning about the value of meaningful participation and how to facilitate meaningful school-based physical education experiences for their pupils. We draw on both PST and teacher educator data to illustrate the enactment of each principle. Over the past two years, we have employed a wide variety of individual pedagogies and ideas from the wider physical education literature. As an example, we have taught using curriculum models (such as Sport Education and Teaching Games for Understanding) and explored pedagogical cases. We share examples of, rather than provide an exhaustive list of, individual pedagogies to illustrate each principle. We show how each principle is aligned with the features of meaningful physical education experiences (Kretchmar 2001, 2006; Beni, Fletcher, and Ní Chróinín, 2016) to ensure continuity between the version of physical education promoted in PETE and school-based physical education. Our intent in sharing our experiences and presenting these principles is that they can provide a guiding framework for the articulation of teacher educators' pedagogical decision-making and, in the process, enable them to enact a coherent approach in PETE to supporting PST learning to facilitate meaningful physical education experiences.

Explicitly prioritise meaningful participation

The promotion of meaningful physical education experiences was the prioritised lens for all decisions in relation to our teaching. We made this primacy explicit to the PSTs in each class in

the sharing of learning outcomes, presentation, and review of learning activities, as well as overall evaluation of learning. Metheny's (1968) overview of her pedagogical approach provided direction in highlighting the importance of starting with student's personal experiences and providing a wide range of experiences in movement and in interpreting the meaning of those experiences. Navigating the restrictions and limitations of our courses (introductory pedagogical strategies and developmental games), we planned for our PSTs to learn how to 'shamelessly and enthusiastically try to foster physical activity experiences that are special, memorable, and personal' (Kretchmar 2008, 167) by enhancing social interaction, challenge, motor learning, fun, personally relevant learning, and delight (Kretchmar 2001, 2006; Beni, Fletcher, and Ní Chróinín, 2016). We infused engagement with meaningfulness of experiences across all learning outcomes alongside the cognitive, affective and psychomotor domains. Tim explained:

It's trying to instil them with a philosophy or ... I guess a guiding set of principles that they can take with them ... [H]opefully ... it lasts with them long enough that they can [...] investigate things on their own to be able to work out the micro themselves throughout the next few years of their careers. (Tim, Skype #2, Sem 1, Year 1)

We consistently used specific language from Kretchmar's (2001, 2006) features to provide PSTs with an explicit structure to better understand what a meaningful approach entailed, and how they might support children to have meaningful experiences in physical education. In addition to sharing our decision-making 'in the moments' of our teacher education practice, PSTs also made sense of theoretical ideas related to meaningful participation through assigned readings (e.g. Kretchmar 2001, 2008) and by considering examples of meaningful physical activity participation (for example, by reflecting on their own experiences or those of others). The prioritisation of meaningful experiences was also evident in the emphasis of physical education content in our lessons. Through LAMPE, we began to make decisions about both content selection and the design of learning experiences based on their potential to foster meaningful experiences. We emphasised the importance of developmentally and culturally appropriate activities that aligned with the interest of participants in ways that helped them make connections beyond the physical education setting.

Our approach aided the PSTs in positioning meaningful participation as the preferred foundation for their teaching and learning in physical education. Shannon (Interview, Year 2, Canada) explained:

... making it meaningful for my students would be a big goal that I have coming away from this class ... finding ways to try to do my best to make it a meaningful experience for everyone I teach.

PSTs' perspectives on their learning supported the effectiveness of LAMPE as represented through the following PST responses: 'now I would look at [physical education] differently' (Ben, Year 2, Canada); 'I would be more inclined to do [physical education] as we learned in college' (PST 1, FG1, Year 1, Ireland); 'I think that really has affected me in the ways that I will teach [physical education]' (PST 3, FG1, Year 1, Ireland); 'This makes way more sense. I don't know why we didn't play like that' (Jessica, FG1, Year 1, Canada); 'It definitely changed my way of thinking about teaching' (Laura, FG1, Year 1, Canada). These data provide strong evidence that LAMPE facilitated PSTs' overall learning about why and how they might foster meaningful experiences in physical education.

Model pedagogies that support meaningful participation

Our approach paid attention to and promoted a particular quality of relationship between the teacher educators and PSTs, and facilitated student choice and decision-making in relation to PSTs' learning. Through opening up spaces to analyse learner experiences, we created a learning climate and shaped experiences that encouraged the PSTs to subscribe to meaningful physical education as a frame for their future teaching. We modelled being 'intentional and ever-present' in creating an open and supportive learning environment. Being 'intentional' required an articulation of why and how our approach to teaching and learning was guided by an emphasis on meaningful participation, and being consistent in implementing this approach. Being 'ever-present' required

consistency in the language we used: our tone, style of presentation, and body language. We also modelled teacher qualities that complimented meaningful participation, including relational time with and self-reflection time for participants (Hellison 2011). We demonstrated the value we placed on relationships through building rapport with our students (Crisfield, Cabral, and Carpenter 1996). The PSTs corroborated, referring to the role of relationships between teacher educators and PSTs in learning about meaningful physical education:

I remember at the start even she was very encouraging and she would always say like ‘Oh, that was very good, no matter what you did, whether it was the written tasks or just the teaching – she was always very positive and that helped. It opened our eyes. That’s how we were taught to do it ... so we were kind of, I suppose, modelling it. (PST 2, FG1, Year 1, Ireland)

Tim modelled a flexible learning environment where he involved PSTs in decision-making around games they were playing. The PSTs valued how Tim gave them ‘the opportunity to make those choices and feel like we had some control in what we’re learning’ (Shannon, Year 2, Canada) and how he facilitated their learning: ‘He’s not telling you that’s the way you have to think; he gives you the opportunities to interpret it yourself with guidance’ (Ben, Year 2, Canada). We sometimes contrasted meaningful physical education to other approaches. For example, we designed tasks to help PSTs experience the contrast between appropriate and inappropriate levels of challenge. On another occasion we taught the same content twice: once with an emphasis on competition between participants and then repeated with a focus on self-referenced goals. Involvement in both experiences as learners and engaging in discussion afterwards helped PSTs understand the merits of each approach, while also understanding their drawbacks.

Our modelling of meaningful physical education also provided opportunities for us to ‘teach about teaching’ (Loughran 2006), to articulate our decision-making and encourage interrogation of our decisions and actions. The PSTs valued this pedagogical strategy for their learning about teaching physical education in general, as well as learning how to foster meaningful physical education experiences:

I liked the way Tim would stop and say ‘What am I doing here?’ ... Teaching us how he’s actually teaching when he’s teaching us ... he’s telling us how he’s teaching and I really liked that because then I can get an idea of what works and doesn’t work. (Shannon, Year 2, Canada)

The PSTs emphasised that Tim’s attention to articulating the decisions of his teaching was one of the most important factors in shaping their learning:

... the content is self-explanatory but the way that he implements it in the class, just the little things, and him explaining why he’s doing the little things is really helpful and I never thought of that. It doesn’t click until he actually brings attention to it. (Laura, FG1, Year 1, Canada)

Facilitation of PST decision-making and discussing our pedagogical practices supported PSTs’ learning about meaningful physical education and informed their own practice. These data illustrate the influence of modelling a positive approach in a flexible learning environment as part of LAMPE. Next we share how we extended opportunities for PSTs to experience features of meaningful participation from both a learner’s and a teacher’s perspective.

Support engagement with features of meaningful participation as a learner and as a teacher

Opportunities for PSTs to engage with Kretchmar’s (2001, 2006) features of meaningful physical education as both a learner and as a teacher, and to make connections between these roles, were central to their learning about how to facilitate meaningful physical education. Kretchmar (2008, 163–164) reminds us that ‘joy specifically, and meaning in general, are most easily nurtured in connection with things that are already important, familiar, and understood’. With this in mind, we provided opportunities for PSTs to engage in personally meaningful experiences in our classes.

Déirdre explained in an early reflection: ‘I aim that PSTs might “feel” these concepts for themselves through some of the programme experiences we set up’ (Déirdre, Reflection 4, Year 1). We designed physical activity-based experiences in our classes that aligned with Kretchmar’s (2006) features of meaningful physical education, with the intent that PSTs would engage with them as learners. PSTs appreciated participating as learners noting: ‘It puts you in the shoes of the child’ (PST E, FG2, Year 2, Ireland).

We also provided opportunities for PSTs to use and engage with pedagogies that promoted Kretchmar’s (2001, 2006) features of meaningful physical education as prospective teachers through planning and implementing activities for peers. PSTs appreciated opportunities to be positioned in the teacher role:

Teaching the activities gave you an idea of what it is like to teach them. You see the experiences as a learner and as a teacher so I thought that was good. (PST I, FG3, Year 2, Ireland)

During peer teaching of these activities, we encouraged PSTs to articulate their teaching intentions to us and to each other. For example, PSTs were encouraged to create a catchphrase that represented their approach to meaningful participation, such as ‘Let your heartbeat be upbeat’ (Déirdre Reflection 9, Year 1). Opportunities to test out ideas with peers were particularly valued by PSTs in making sense of the pedagogies of meaningful physical education:

... if you are peer teaching in PE and you look around and they are just doing it, you are like: ‘Okay, this isn’t right’. But if you look around and they look like they are enjoying it you are like: ‘Okay, I have made it a fun activity and it’s right and it’s suiting them, it’s not just what’s down on a page’. (PST F, FG2, Year 2, Ireland)

In the example above, the PST shows how fun and challenge guided their decisions about the effectiveness of activities taught. PSTs explained how these opportunities to engage as a teacher with the features that facilitated meaningful physical education experiences (such as ‘just-right’ challenge) allowed them to practice adapting their approaches: ‘You can adjust it to make sure everyone gets a fair go and everyone is developing at their own level. That very much helped me personally’ (PST J, FG3, Year 2, Ireland). Also, in preparation for teaching physical education in school placements, PSTs developed a guide for teaching by identifying actions they might use and strategies they might implement to promote meaningful participation. The guide sheets they produced showed the extent to which they understood pedagogies geared towards meaningful participation and gave them explicit direction to consider in fostering meaningful participation in their teaching. Their understanding of meaningful physical education, grounded in Kretchmar’s (2006) features and evident in the guides PSTs produced, was developed across a range of learning experiences, which we describe in the following section.

Frame learning activities using features of meaningful participation

By framing learning activities using features of meaningful participation we facilitated multiple and varied opportunities for explicit engagement with meaningful physical education in concrete and accessible ways. For example, PSTs analysed activities and in some cases reframed the activities to prioritise the focus on meaningful participation (Kretchmar 2006). Below we share examples of how we supported engagement with each of the features of meaningful experiences.

Social interaction

In addition to developing positive relationships between teacher educators and PSTs, social interaction was explicit in our use of small-group work as a primary vehicle for learning. Through small groups, we consciously created opportunities for friendship development and showed the value of social interaction (Fletcher and Baker 2015). For example, in the first class of the term, Tim used questioning to emphasise the role of relationships in the learning process:

Tim asks students to raise their hand if they feel they have made a new friend ... Tim asks students to recognize someone else who made a positive contribution to their experience in [class]. A couple students offered examples and the rest of the class clapped. (Observation 1, Year 1, Canada)

PSTs valued the emphasis on social interaction Tim modelled. Tyler appreciated ‘the team building instead of just working on the individual. Having us in a group setting’ (Tyler, FG1, Year 1, Canada). Déirdre’s PSTs also acknowledged the value of small group learning:

... you get the ideas of other people and then there is your ideas and you are kind of bouncing ideas off each other. You can see what works and what mightn’t work and the feedback of other people, it’s not just your opinion. (PST F, FG2, Year 2, Ireland)

Placing social interaction as a priority in learning required us to rethink our approach to some content activities. For example, where previously we would have encouraged PSTs to devise strategies to decrease/eliminate time PSTs were inactive, we now positioned these moments of waiting as important social interaction opportunities. Tim explained:

My message to them (explicitly) was to not dismiss the ‘inaction’ of target and striking/fielding games, because it is often the interaction that comes as a result of participation that makes playing them so appealing. (Tim, Reflection 3, Year 1)

Prioritising social interaction resulted in a greater emphasis on small group learning and a reframing of some content activities to reflect this value on social interaction.

Challenge

PSTs experienced ‘just-right’ physical activity-based challenges in class. For example, we emphasised the importance of providing participants with choices about how they made movement meaningful (Bulger and Housner 2009). Specific strategies included teaching by invitation and intra-task variation. PSTs were prompted to apply Kretchmar’s (2006) features of meaningful participation in designing ‘just-right’ challenges. For example, Déirdre’s PSTs designed ‘just-right’ developmentally appropriate tasks for a designated skill and later explored how to adapt the activities to make them harder or easier with built-in choice. PSTs commented that these activities were:

... helpful because when you first read the activity you think: ‘Oh, this is going to suit everyone’ but then you actually do it and realise some people have a higher skill compared to some people have a lower skill. (PST F, FG2, Year 2, Ireland)

We positioned competition as an important element of ‘just-right’ challenge. For example, Déirdre encouraged PSTs to interrogate potential issues with approaches to competition, such as elimination games. She challenged them to devise strategies to avoid the negative elements of competition and create a positive, inclusive environment. PSTs also reported enjoying the challenge of learning an activity that was novel to them (such as Sepak Takraw). Again, there were direct connections between these experiences and the emphasis PSTs placed on inclusive practices:

I can see how it’s very important to learn how to adapt games and sports in that way for people who don’t like to play those sports or don’t have the opportunity (Ben, Year 2, Canada)

It is clear from the PSTs’ explanations of meaningful physical education that they viewed the development of ‘just-right’ challenge as a cornerstone of learning and assessment in physical education.

Learning

Kretchmar’s (2006) original framing of learning as part of meaningful physical education was defined in terms of motor skills and improved skilfulness in physical activity. However, we presented a broader interpretation of learning to PSTs, which they articulated in their understanding of meaningful experiences and their goals as future teachers:

I think it's physical, social, cognitive. I really can see how I've experienced all of that ... Now having learned it here I see it. For me as a physical educator that's a huge thing, wanting to make sure I'm intentionally developing all of those aspects in my students ... Seeing the fact that it has the potential to go way beyond physical teaching skills and things like that, incorporating the social and cognitive development ... that's kind of something I've wanted to do but maybe didn't know how. (Shannon, Year 2, Canada)

Goal-setting was used as a strategy to emphasise learning across domains and prompt PSTs to promote success in terms of self-improvement rather than through comparison to others. PSTs reflected this in their understandings of meaningful physical education:

... it's really about improving for yourself. You want to be able to reach a goal: set a goal and reach a goal and do it at your own pace ... You're your own unique baseline and you improve and work up from there. I really want to bring that into the classroom. (Ben, Year 2, Canada)

We followed recommendations from the literature (Kretchmar 2008; Blankenship and Ayers 2010) to develop ways of assessing joy of movement, personal meaning, and identity. This included sharing a range of possible assessment strategies to access the meaningfulness of experiences, including personal interviews (Nilges 2004), draw and write, mapping, journals, storytelling, think-aloud, vignettes (Yungblut, Schinke, and McGannon 2012), and discussion circles (Brown 2008). We emphasised paying special attention to understanding children's feelings and attitudes. For example, Déirdre supported PSTs to develop strategies to assess their affective experiences of a learning task. PSTs then shared how they might assess meaningful participation:

... discuss at the end the lesson with them whether they think they like the lesson or they'd want to do something else or what they found good and what they found bad; their own input on it. (PST 6, FG2, Year 1, Ireland)

Below, we describe how we facilitated PSTs' learning about how to create fun experiences in physical education.

Fun

Building on their own experiences within LAMPE, PSTs consistently emphasised the importance of facilitating learning experiences that are fun. For example, 'the main key focus here is to make people to want to participate and the games really get everyone geared towards having fun ... and making friends' (Laura, FG1, Year 1, Canada). Designing activities that interested PSTs and being responsive to children's ideas were the main strategies we proposed to promote fun experiences for children. We presented fun as a necessary but not sufficient features of meaningful participation, making clear that enjoyment had potential to motivate participants. PST responses to our asking: 'What made class fun?' demonstrated how they connected fun with the other features of meaningful participation. For example, they identified 'just-right' experiences and being with friends as making an activity fun. Learning tasks also prompted PSTs to consider activities that may not be fun for some. For example, Tim used a 'Hall of Shame' activity so PSTs might consider the impact of certain games on children's physical activity experiences:

Students are encouraged to think about why these games might be detrimental to children's development (e.g. potential to embarrass, injury, elimination, low participation, overemphasis on fun) and I hope that by doing so, they are able to see these games as NOT promoting joy or meaning. (Tim, Planning and Reflection 4, Year 1)

PSTs consistently emphasised that it was important to them to create fun experiences to enhance children's learning in physical education through the selection of content activities as well as the learning atmosphere created. Their rationale was: 'if people enjoy what they are doing and they are happy doing it, they are going to do it more often' (Laura, FG1, Year 1, Canada). Their identification of fun as a vehicle for learning, rather than as an end in itself, aligned with what we had advocated in LAMPE. While creating and promoting fun as a feature of meaningful participation in physical education was straightforward for us, the final feature, delight, presented a more difficult challenge.

Delight

Both Tim and Déirdre encountered difficulty in facilitating learning experiences for PSTs that illustrated delight. Delight is linked to the development of personal playgrounds that result ‘from patient, extended encounters with movement’ (Kretchmar 2000, 22) and that extend beyond the novelty and achievement of isolated participation. We were conscious that our ability to truly provide a structure for the development of PSTs’ ‘personal playgrounds’ (where delight resides) was limited by both time and the scope of our courses. To help PSTs learn about delight, we therefore leaned on PSTs’ prior physical activity experiences in search of delightful experiences. We also worked with PSTs to design and experience physical activities that they identified as meaningful. We hoped such experiences would increase the commitment of future teachers who may not have previously had meaningful physical activity experiences themselves (particularly for elementary generalists, for example, Faulkner and Reeves 2000) to embrace meaningfulness as the organising frame for their future physical education practice.

The importance of making connections between school-based physical education and out of school physical activity experiences was emphasised in developing children’s sustained engagement in physical activity. The PSTs echoed the value of making these connections: ‘providing students with an authentic experience ... is what is going to create meaning for them and to really see how it’s relevant to transfer to other aspects of life is meaningful as well’ (Ben, Year 2, Canada). The future development of case studies that illustrate meaningful and meaningless physical education experiences is one way to support PSTs’ learning about delightful physical education. Next, we describe our approach to supporting reflection as a core element of making sense of and ascribing meaningfulness to physical education experiences.

Support reflection on meaningfulness of physical education experiences

Opportunities to reflect on experiences can enhance the personal meaning of physical education (Brown 2008). Having PSTs reflect on past and present activity experiences was a key strategy to promote their learning about meaningful physical education (Metheny 1968). For example, Déirdre’s PSTs created a timeline of their own participation (O’Sullivan, Tannehill, and Hinchion 2008) that highlighted critical incidents and key supports on their personal physical activity journey. Analysis of these moments unearthed their significance in shaping engagement in a particular activity as well as how they might approach teaching that activity now:

... You look at the way you thought PE was being taught in primary school. You actually think: ‘Was my teacher good? What would I do now? What would you change and go back and tell them how to teach a lesson?’ (PST E, FG2, Year 2, Ireland)

Meaningful participation was also a focus of discussions following lesson activities and tasks. This was accomplished through questioning, written reflections and wikis. Brown (2008) suggests that teachers can illustrate that they value the meaning of activities by the questions they ask. Tim specifically planned questions for activity reviews that emphasised participants’ meaningful participation:

What made aspects of this lesson meaningful (and joyful) to you today? ... Would the activity have been as meaningful if we had just moved on to the next without discussing? What does that say about how and why teachers need to make learning situations explicit to students? (Tim, Planning and Reflection 2, Year 1)

These activities helped PSTs interrogate specific aspects of the features of meaningful participation, such as analysing the aspects of an experience that made it fun or challenging. For example, one PST said: ‘They were really helpful, it made you think about how you thought and how you learned, kind of for your own personal opinion without being judged’ (PST F, FG2, Year 2, Canada). Such activities provided PSTs with a vocabulary related to their meaningful participation, which is important in supporting future teachers to articulate the kinds of concepts and meanings that are developed within meaningful physical education and to enable them to communicate their approach with

their own pupils (Metheny 1968). Identifying aspects of participation that were personally meaningful helped PSTs make sense of features of meaningful participation in relation to their own experiences and in the process come to value and emphasise these features in their teaching of physical education. Ben shared:

I'm a lot more critical now ... I never even gave it a second thought when it was going on but now that I'm thinking about it, I feel bad for the people who were really struggling in those situations – one small tweak and everything would be great for them. (Ben, Year 2, Canada)

Through reflection on their own participation, the value of reflection activities as an important pedagogy of meaningful physical education was made explicit.

Conclusion and future directions

A commitment to promoting meaningful experience as a priority concept for school-based physical education requires understanding how to facilitate meaningful physical education in schools as well as providing direction on how teacher educators can support PSTs' learning to teach meaningful physical education in their PETE programmes. Kretchmar (2000, 19) observed that few teachers are skilled at enabling children to find meaning in physical education, 'and almost nobody in professional preparation programs is being trained to do it well'. Although these comments were made more than 15 years ago, there has been little response to Kretchmar's (2000) critique. To this end, one of the main contributions of this research is its provision of direction, both grounded in empirical evidence and aligned with well-established theoretical positioning, on how teacher educators can articulate their thinking explicitly to PSTs in order to support future teachers' learning to promote meaningful experiences in physical education. Implementation of individual teacher education pedagogies reflective of these five pedagogical principles of LAMPE resulted in PSTs in our classes both valuing meaningful experience as an overarching concept for their teaching and learning how to facilitate meaningful school-based physical education experiences. Hence, these principles merit consideration from teacher educators interested in promoting learning about meaningful physical education, particularly given their potential to support teacher educator decision-making from within a unified frame. We are mindful that our findings are based on the practices of two teacher educators and the students enrolled in two courses or modules within two PETE programmes. We caution that our own learning curve over the two years of implementing LAMPE has been steep and that we do not claim to have all the answers. Rather, we share our initial learning to extend the conversation started by Kretchmar (2008), Blankenship and Ayers (2010) and others by providing some preliminary directions on how to support PSTs in learning about meaningful physical education.

Our experiences indicate the value of making the prioritisation of meaningful experience explicit through modelling and discussion, engaging with meaningful experiences as both a teacher and learner as well as reflecting on those experiences. Furthermore, we articulated to PSTs the thinking underpinning our decision-making, thus providing a window allowing them to see and inquire into what lies within (arguably) 'good teaching' (Loughran 2013). In addition, pedagogical decision-making based on these five principles supported a coherent approach to our PETE practice (Fletcher, Ní Chróinín, and O'Sullivan 2016) that promoted a unifying and consistent message about a version of physical education organised around meaningful experiences. Identification of these principles is, therefore, an important step in promoting a version of school-based physical education that prioritises meaningful experiences for participants. In prioritising meaningful experience we do not claim a superiority of this approach over others, and we are also aware that the prioritisation of meaningful experiences in school-based physical education and PETE may not be possible, or desirable, in all contexts. We are not on an evangelistic mission to provide the solution for all the 'problems' of physical education but rather seek to better understand how the prioritisation of meaningful experiences might enhance the quality of young people's physical education experiences. In doing so we contribute to PETE research on practices that address the challenges of teaching in contemporary schools (Armour and Harris

2013). There is a small but growing research base about how to support teaching future teachers to enact innovative or activist approaches to teaching physical education. To this end, our work stands alongside that of Oliver and Oesterreich (2013), Oliver et al. (2015), and Enright et al. (2016) (as three examples) by seeking to teach PSTs in ways that are responsive to their needs as learners as well as the needs of the pupils they will be working with in schools.

We particularly highlight the value of following Siedentop and Locke's (1997) call for better alignment of a particular vision for school-based physical education and PETE. Kretchmar's (2001, 2006) features of meaningful experiences in school-based physical education provided a useful framework that guided the development, implementation, and articulation of aligned PETE pedagogies in our courses. The ideas, situations, and experiences embedded in the features – fun, challenge, learning and social interaction – were accessible to PSTs in ways that allowed them to commit to creating learning environments and facilitating learning in their future teaching aligned with these features. In sharing our work, we have pinpointed some of the challenges faced by teacher educators in developing physical education courses framed by these features of meaningful experience. For example, experiencing the feature of delight demanded sustained engagement that was particularly challenging for us to facilitate in supporting the PSTs' learning within a single module. This serves to remind us that the time it takes for PSTs to grapple with and understand their experiences of learning about learning and learning about teaching can be an obstacle to 'taking up' new concepts and practices in deep ways. The likelihood of new approaches such as LAMPE being taken up by students may be increased when it is practiced in more courses, such that it reflects a coherent vision and set of practices across a teacher education programme (Darling-Hammond 2006).

In order for more robust understandings and interpretations of pedagogies aligned with LAMPE to be developed, future work should focus on ways in which the pedagogical principles that represent LAMPE are enacted across contexts; that is, how LAMPE works in more courses, nested in different programmes, and taught by a diverse group of teacher educators. Our research thus serves as a catalyst for physical education teacher educators who value and are invested in prioritising meaningful experiences to experiment with and share their experiences of enacting pedagogies of teacher education (like LAMPE). This may lead to a richer discussion to enable more nuanced perspectives of PETE pedagogies across multiple contexts. We are continuing to implement and research LAMPE in our PETE programmes. In time, we hope to extend our research to explore meaningful physical education in school settings. This will enable more compelling claims to be made about the extent to which LAMPE helps build teacher educators' and PSTs' pedagogical capacities and strengthens an evidence base for PETE practices that facilitate future teachers' learning about how to facilitate meaningful experiences and promoting such experiences in school-based physical education.

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