Title: Developing deeper understanding of teacher education practice through accessing and responding to pre-service teacher engagement with their learning

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Abstract
In this research we examined the ways we accessed and responded to students’ engagement with a set of pedagogical principles of teacher education focused on meaningful physical education. The research was cross-cultural, taking place in universities in Canada and Ireland. Self-study of teacher education practice (S-STEP) methodology guided collection and analysis of the following data over one year: lesson planning and reflection documents, and critical friend and ‘meta-critical friend’ interactions. Findings indicate the value in teacher educators becoming more intentional and systematic in how they access student perspectives related to engagement with learning experiences of pedagogical innovations in pre-service teacher education, while also emphasizing the challenges in doing so. The concepts of reflection on- and in-action provided a framework for understanding how being more intentional about accessing student perspectives can be enacted in teacher education practice. Our experiences demonstrate how focusing on student engagement can support the professional learning of teacher educators through enabling a deeper understanding of the challenges faced in being responsive to students’ engagement with their learning.

Keywords: physical education; meaningful; reflection; reflective practice; self-study
Introduction

The pedagogical approach taken by a teacher educator plays a significant role in impacting the quality of experience and learning outcomes for pre-service teachers. Loughran (2006) identifies two concepts that must be considered in the development of a pedagogy of teacher education: (a) teaching about teaching and (b) learning about teaching. Teacher educators require deep knowledge of both concepts, which should be thought of as operating in a cyclical fashion with each informing the other. Therefore, it is essential that the way a teacher educator *teaches about teaching* is informed by a rich understanding of the ways in which pre-service teachers *learn about teaching*. In this research, we present findings from one part of a longitudinal research project conducted in Canada and Ireland that focuses on the development and articulation of pedagogical principles used by teacher educators to support pre-service teachers’ learning about meaningful physical education (henceforth referred to as LAMPE) (Ní Chróinín, et al., 2018).

Specifically, the purpose of this research is to examine how accessing and responding to students’ engagement with their learning about how to facilitate meaningful physical education experiences for pupils can inform teacher educators’ learning through a deeper understanding of innovative teacher education practices. We were particularly interested in better understanding how we interpreted pre-service teachers’ responses to adjust the design and delivery of several pedagogical principles for meaningful physical education that we enacted in our teacher education courses to better meet their needs. As with all self-study of teacher education practice (S-STEP) inquiries we acknowledge our responsibility to make our insights public, with hopes that they may inform more robust teacher education practices and inform the professional learning of teacher educators and their students (Vanassche and Kelchtermans, 2016).
We position our learning about students’ engagement as a crucial process that can enable a deeper understanding of how knowledge and understanding of teacher education practice develops (Loughran, 2007). However, while recognising the value in these processes, it can be challenging for teacher educators to ‘walk their talk’ in relation to accessing and responding to students’ perspectives. As Bullock (2009, p. 299) suggests:

Listening to teacher candidates involves not only soliciting their opinions on learning, but also trusting that they are able to perceive features of their learning that are not obvious to the teacher educator. This kind of trust requires a context of learning that acknowledges that pedagogy is a relationship between the teacher and learners.

In this research, we demonstrate how we tried to explicitly place the views of pre-service teachers in relation to engagement with their learning and our teaching as a primary filter for our pedagogical decision-making.

Learning about Meaningful Physical Education

Over the past several years we have been experimenting with LAMPE as an approach that focuses on allowing teacher educators to more intentionally and systematically support pre-service teachers’ learning about meaningful physical education (Ní Chróinín, et al., 2018). This approach has been proposed as a response to an overemphasis on utilitarian outcomes in physical education, such as those focused on weight loss and disease prevention, to the detriment of finding joy and personal meaning in movement and physical activity as more valuable outcomes of physical activity participation (Kretchmar, 2008). Meaningful experiences promote regular physical activity participation in a way that enriches our lives (Hawkins, 2008). As Kretchmar
(2006) suggests: ‘one of the greatest things about physical activity and play is that they make our lives go better, not just longer. It is the quality of life, the joy of being alive’ (p. 6). Based on an extensive review of the literature since 1987 (Beni et al., 2017), meaningful experiences in physical education are those of personal significance and typically involve the following are key features: social interaction, fun, challenge, motor competence, personally relevant learning, and delight.

Much of our work to date has focused on the development and articulation of LAMPE from our perspectives as the teacher educators who enacted the approach (Ní Chróinín, et al., 2015). Through this work, in Ní Chróinín, et al. (2018) we identified five pedagogical principles of LAMPE used in our roles as physical education teacher educators:

• Meaningful experiences should be explicitly prioritised in planning, teaching and assessing PETE experiences. The potential of particular experiences to foster meaningfulness thus informs physical education content selection, the design of learning experiences and the articulation of learning outcomes.

• Pedagogies that support meaningful experiences should be modelled by teacher educators and made a source of inquiry for pre-service teachers. For example, modelling of both teacher qualities and actions, such as being intentional in the development of relationships with students or using autonomy-supportive strategies (e.g., providing opportunities for students to have their voices heard or make choices about their learning), can promote meaningful experiences. Further, teacher educators’ articulation of the decisions of teaching can help pre-service teachers unpack and learn about the reasons underpinning particular pedagogical selections (Loughran, 2013).
• Pre-service teachers should be supported to engage with meaningful experiences as a learner and physical activity participant and as a teacher of peers and children.
• Learning activities should be framed using Beni et al. (2017) and Kretchmar’s (2006) features of meaningful school-based physical education (social interaction, fun, challenge, motor competence, personally relevant learning, and delight).
• Pre-service teachers should be supported to reflect on the meaningfulness of physical education experiences.

As a result of our enactment of the five pedagogical principles of LAMPE described, students have demonstrated increased understanding of how and why to foster meaningful experiences for pupils and pronounced commitments to promoting these experiences when working with young people (Fletcher, et al., 2016; Ní Chróinín, et al., 2015; 2018).

In this particular study, we sought to build a bridge between the ways we enacted our teacher education practices using LAMPE and how our students experienced those practices, which can be inferred from accessing and responding to their engagement. The strategies we used to access student engagement provided in Table 1 helped us gain insight into their engagement with our practices that were informed by the pedagogical principles of LAMPE.

We maintain a focus on our professional learning in this paper, because at the time of data collection we were still very much coming to terms with what LAMPE involved and looked like for our teacher education practices. Paying greater attention to our students’ experiences provided us with a new lens to understand the ways in which our interpretations of our practices were reflected or distorted by the perspectives of our students.
Student engagement

Student engagement refers to the optimisation of overall student experience and learning relative to their investment of time, effort and resources (Trowler, 2010). Individual student engagement involves students being attentive to, interested in, and involved with their learning and requires active investment, feelings and sense-making processes that move beyond mere participation (Harper and Quaye, 2009). Engagement has long been identified as a main driver of learning and is linked to the acquisition of skills and attitudes needed for successful school participation and other outcomes beyond school (Mosher and MacGowan, 1985; Reschly and Christenson, 2012). Of note, Reschly and Christenson (2006) found that variables related to engagement in school (for example, interest in school, overall academic performance, absenteeism, curricular and extra-curricular involvement) predicted school dropout and completion rates. While some sources of engagement reside within the individual, there are also strong external influences present in educational contexts. In particular, educationally effective practices enacted by teachers inside and outside the classroom can lead to higher levels of engagement (Carini, Kuh, and Klein, 2006). For example, Turner, Christensen, Kackar-Cam, Trucano, and Fulmer (2014) studied teachers who exhibited varying levels of motivational support for students. Those teachers who provided opportunities for students to experience belongingness, competence, autonomy, and meaningfulness represented an ‘upward trajectory’ while those who did not represented a ‘stable trajectory’. Instructional strategies that supported upward trajectories included teachers being respectful and kind to students, providing formative feedback, providing opportunities for students to make decisions, and connecting learning with experiences outside of the classroom. Turner, et al. (2014) found that students were more engaged with teachers who exhibited levels of motivational support that reflected an upward trajectory compared with those
who reflected a stable trajectory. With these ideas in mind, it is clear that engagement can serve as a helpful tool to improve theoretical and practical understandings of the processes and outcomes of teaching and learning (Harper and Quaye, 2009).

While much of the engagement research has been aimed at gaining a perspective on life in schools, there has been a distinct absence of engagement research conducted with a view to capture life in universities/higher education (Alicea, Suarez-Orozco, Singh, Darbes, Abrica, 2016). As a surface level indicator of support for this claim, in the *Handbook of Research on Student Engagement* (Christenson, Reschly, and Wylie, 2012), none of the 39 chapters specifically address issues related to the study of student engagement in higher education. To stress the importance of considering student engagement in higher education, Kuh (2009) described its emergence as ‘an organizing construct for institutional assessment, accountability, and improvement efforts’ as one of the main storylines of higher education research in the first part of the 21st century (p. 5). There has been a widespread and increased focus on improving quality in teaching in higher education internationally (through, for example, creating specific units within universities dedicated to the development of teaching), suggesting that educational administrators attach greater import to improving university teaching in ways that increase student engagement (Biggs and Tang, 2011; Hénard and Roseveare, 2012). As has been found in school-based studies (e.g., Parsons, Malloy, Parson, Peters-Burton, and Burrowbridge, 2016), those higher education students who experience engagement measures such as ‘academic challenge, active and collaborative learning, student-faculty interaction and supportive campus environment’ are more likely to demonstrate several positive educational outcomes including persistence in tasks, critical thinking, and positive personal and social development (Kuh, 2015, p. xi). While there is some value in the ways student perspectives are accessed through...
satisfaction surveys in higher education, questions remain about how these data are responded to in substantive ways. As such, there may be potential to focus on how student perspectives of their engagement can inform the professional learning of higher education staff and faculty, such as teacher educators.

Within the higher education landscape, we are particularly concerned with deepening our understanding of student engagement in teacher education. There has been much written about the role teacher education plays in helping future teachers understand the importance of the engagement of pupils in schools (Darling-Hammond, 2006), however, little has been done to develop insights about ways in which teacher educators are responsive to the engagement of their students, namely pre-service teachers and/or undergraduate students. Accessing student perspectives to inform teacher educators’ learning about teacher education practice can provide a more nuanced consideration of the needs of pre-service teachers; however, this is not without its challenges. In particular, there are challenges in reconciling pre-service teachers’ perceived needs and interests with what teacher educators believe are of most value in learning to become teachers. For example, Loughran (2006) outlines that many pre-service teachers adopt a hunter-gatherer approach to seeking teaching tips and strategies, without a parallel concern for understanding the reasons why certain strategies work for certain students in certain situations. As a result, when teacher educators emphasise the need for beginning teachers to understand the complexities of teaching practice and develop an appreciation for the ways learning theories support pedagogical decision-making, pre-service teacher engagement may be influenced in either positive or negative ways.

In their extensive review of engagement research across various educational contexts (such as schools, communities, and higher education institutions), Lawson and Lawson (2013)
suggested that three assumptions predominate in traditional, social-psychological approaches to this body of literature: (1) That engagement is flexible and can be improved or inhibited based on, for example, interactions with peers or a teacher’s pedagogical approach. (2) That engagement represents a direct pathway to learning, producing potentially powerful learning outcomes. (3) Studying engagement is different to studying motivation. In drawing from these assumptions, most researchers rely on three main indicators of student engagement (Appleton, Christenson, and Furlong, 2008; Fredricks, Blumenfeld, and Paris, 2004, pp. 62-63):

- *Behavioural engagement*: Evidenced by constructive engagement, attendance and involvement, and the absence of disruptive or negative behaviour.

- *Emotional engagement*: Reflected in affective reactions to learning activities such as interest, enjoyment and a sense of belonging to the learning environment (such as peers, tasks, and spaces).

- *Cognitive engagement*: Supported by students’ investment in their learning of key concepts and ideas, and embracing of challenge in ways that go beyond minimum requirements.

All three dimensions of student engagement were important considerations in this research about students’ responses to our pedagogies of teacher education that supported students’ learning about meaningful experiences in physical education; both in terms of what they were learning as well as how they were learning. However, Lawson and Lawson (2013), reminded researchers that student engagement does not often occur in the linear, predictable manner suggested by traditional models of engagement research and as a result, ‘the temporal sequence of [engagement] constructs/events may be more dependent upon the particularities of students’ surrounding cultures, contexts, and ecologies’ than is often given credit in quantitative
research (p. 434). For example, engagement does not necessarily lead to learning in a causal way. Furthermore, in much of the work on student engagement, ‘students are often left out of the discourse […] and are traditionally objectified and omitted from this dialogue’ (Zyngier, 2008, p. 1766). Zyngier (2008) goes on to suggest that giving students opportunities to share their perspectives offers a more authentic understanding of student engagement and helps shape more sophisticated and responsive student-centred pedagogies enacted by teachers and teacher educators.

**Methodology and Methods**

Collaborative S-STEP methodology helped us be more intentional in accessing and responding to student engagement with their learning. S-STEP has been widely used as a form of professional learning for teachers and teacher educators, with an overarching aim being to improve understandings of professional practice (Petrarca and Bullock, 2014; Vanassche and Kelchtermans, 2016). Not only did S-STEP provide a way for us to develop and experiment with approaches that support our students’ learning, by making a commitment to share our findings with other members of the teacher education community we hope to generate discussion and debate in order to further develop teacher education practice beyond ourselves and our respective programs. In this way, we position our S-STEP research as a means to support our own professional learning as well as that of others in our discourse communities. Concerning the writing style and use of voice, in the tradition of much other S-STEP research we use a combination of first person plural (i.e., we/our) when referring to all three authors and third person singular (i.e., Déirdre, Tim, Mary) when using the voices of or referring to individual participants in the research.
Our research design was guided by LaBoskey’s (2004) suggestions for quality in S-STEP. Specifically, the inquiry: (a) was self-initiated and self-focused, (b) was improvement-aimed, (c) was interactive at some stage of the research process, (d) generated multiple forms of qualitative data, and (e) interpreted validity as a process based in trustworthiness. We pay particular attention to the role of interactivity in our S-STEP design. S-STEP has been critiqued for not paying closer attention to the interaction of students’ perspectives with teacher educators’ practices (Fletcher et al. 2016; Loughran, 2007). This is not to suggest that teacher educators who use S-STEP do not listen to their students as part of their teacher education practice, but rather that there are relatively few examples of S-STEP research that includes explicit acknowledgment of the ways students’ perspectives shaped teacher education practices. Our research attempts to address this shortcoming. We tried to position the information that we solicited from students as a main driver in our pedagogical decision-making. However, this attention provided challenging circumstances as we tried to balance the complexity of considering multiple voices while acknowledging the distinct knowledge of teaching and teacher education practice that teacher educators bring to their work (Zeichner, 1999).

**Context**

The research was cross-cultural, with participants based in three universities in two countries. Tim teaches in an undergraduate physical education program at Brock University in Canada and Déirdre teaches in a primary teacher education program at Mary Immaculate College in Ireland. Both were directly involved in planning and teaching LAMPE, and it is their experiences and practices that are the main sources of data collected in this study. The courses that provide the context for this study were *Introduction to Teaching Physical Education* (taught by Déirdre to prospective primary generalist teachers) and *Developmental Games* (taught by Tim...
to prospective specialist physical education teachers and youth sport coaches). In this year of our research, there were 28 students enrolled in Déirdre’s course and 21 students enrolled in Tim’s course. Although there were slight differences in how we emphasised content in the respective courses (e.g., Déirdre’s courses had a broader focus on all aspects on physical education, while Tim’s focused specifically on games), there was a shared focus on positioning students simultaneously as learners and future teachers/coaches. The Research Ethics Boards at Universities 1 and 2 approved the research. Tim and Déirdre also served as critical friends to each other, the purpose of which was to challenge assumptions, confront realities, and identify new ways of thinking about pedagogy (Baskerville and Goldblatt, 2009). Vanassche and Kelchtermans (2015) suggest that critical friendship provides a space for generating alternative interpretations of practice-based situations and shared understandings of teacher education practice. Mary is Professor in physical education at University 3 in C2 and acted as a ‘meta-critical friend’ to Tim and Déirdre. We have described elsewhere (Fletcher, et al., 2016) the role and characteristics of a meta-critical friend as someone who can interact and interpret from arm’s length, providing critique and support for understandings and enactment of teacher education practices being explored, as well as for the S-STEP process itself. Mary’s role in the process was crucial in the research design – particularly in terms of suggesting and guiding our approaches to student engagement -- and in the interpretation of outcomes and understandings of our teacher education practices.

Data sources and analysis

Data gathering took place in the third year of what is currently a four-year project. In each of the first three years of the project we applied a different focus to our S-STEP research. For example,
in the first two years, our overarching S-STEP research questions were: What are the pedagogical principles of LAMPE? What are teacher educators’ experiences of enacting the pedagogical principles to help foster students’ learning about meaningful physical education? The analysis of data from those years provided us with a clearer understanding of pedagogical principles that support students in learning about meaningful physical education. The next logical phase in our S-STEP research has been to understand how engaged our students were with the pedagogical principles we were enacting. We suggest that accessing their engagement serves as a proxy for better understanding the effects our teacher education practices (particularly the enactment of the pedagogical principles of LAMPE) are having on their learning. As mentioned previously, we have gathered and analysed student data throughout the research but address those analyses in other publications (Ní Chróinín, et al., 2018). While still using collaborative S-STEP methodology, we thus concentrated on developing awareness of students’ engagement by committing to be more intentional in how we accessed (observed and listened to) and responded to their engagement with our planning and enactment of the pedagogical principles of LAMPE.

Déirdre’s practice was the focus of the collaborative S-STEP in the first semester of the year (Sept.-Dec.). Within her enactment of the pedagogical principles of LAMPE, she documented her experiences of accessing and responding to student engagement through written reflections entered immediately after teaching classes. Using a reflection template that helped maintain a focus on accessing and responding students’ engagement, Déirdre documented her experiences weekly ($n = 6$). Prompts in the template asked Déirdre to identify: (a) a critical incident for interrogation, focusing on her thoughts and actions, (b) an explanation of how she accessed students’ engagement during the incident (and a summary of what their responses
were), and (c) how she responded to students’ engagement as a result of accessing it in the previous step. Déirdre then shared her reflections on the identified critical incident with Tim who acted as a critical friend. Tim responded to Déirdre’s reflections on the critical incident through prompts such as: ‘What resonated with my thinking about adapting [the pedagogical principles] in response to student engagement was…’ and ‘The questions that it raised for me about adapting in response to student engagement are…’ Finally, Déirdre’s response to Tim’s reply was guided by questions such as: ‘What are you thinking now?’ and ‘What might you do differently next time?’ In semester two, Tim and Déirdre switched roles, and the process was repeated. Tim shared seven reflections with Déirdre, which resulted in a total of 13 reflective documents being generated across the year.

At the end of both semesters Tim and Déirdre each wrote a final reflection about their overall experience of accessing and responding to students’ engagement with the pedagogical principles of LAMPE, which led to four documents being generated (one each from Tim and Déirdre in the first and second semesters). As meta-critical friend, Mary then responded to the final reflections in writing, followed by a 3-way recorded Skype conversation where we discussed issues generated through our reflections. In addition to the reflective data, research assistants completed non-participant observations (n = 9) that showed the extent to which Déirdre’s and Tim’s claims about the actions they took during their classes were supported by an external observer.

Kosnik’s (2001) and Tripp’s (2012) work on critical incident reflections guided our analysis. Tripp (2012) describes critical incidents as occasions that are quickly recalled and recorded; but this efficiency should not give way to the need to generate rich and focused data. First, Déirdre and Tim independently engaged in inductive coding of the weekly reflection
documents where a critical incident was identified \((n = 13)\), non-participant observations \((n = 9)\), end-of-semester reflections \((n = 4)\) and transcripts of 3-way Skype conversations \((n = 2)\). These materials were searched for moments where Déirdre and Tim demonstrated ways they accessed and responded to students’ engagement with the pedagogical principles of LAMPE, and any insights gleaned or changes they made to their respective understandings of teacher education practice or LAMPE as a result.

Following identification of 11 salient critical incidents where new or insightful understandings of teacher education practice were generated, Déirdre and Tim independently answered several prompts related to the research questions, such as: ‘My key learning about (a) accessing and (b) responding to student engagement in their learning about meaningful physical education has been… The ways I learned or became aware of this was through…’ Prior to completing these prompts, Déirdre and Tim agreed that responses had to be grounded in the data, relying on excerpts and/or quotes to support claims made. Trustworthiness was strengthened through triangulation of all data sources. For example, corroborating data for claims made by a teacher educator was sought in non-participant observer notes, which were guided by the features of meaningful experiences. From the 11 salient critical incidents, two main themes were constructed through discussion between Déirdre and Tim, which were then shared and discussed with Mary until agreement was reached. We then returned to the data seeking disconfirming excerpts, where data served to thrust doubt upon a claim or perceived understanding (Creswell and Miller, 2000).

Results
There were two main findings related to how we accessed and responded to students’ engagement with the pedagogical principles of LAMPE: (a) Intentionally accessing and responding to student engagement helps inform teacher educators’ learning about teacher education practice, (b) our attention to student engagement guided our reflection on- and in-action. Through these processes, S-STEP methodology and the role of critical friendship enabled a deeper understanding and greater appreciation of student engagement, and had a positive influence on our professional learning by providing us with a mechanism to articulate how our knowledge of teaching teachers is constructed.

**Intentionally accessing and responding to student engagement helps inform teacher educators’ learning about teacher education practice**

Our collaborative S-STEP prompted a more nuanced attention to how we accessed and responded to student engagement with the pedagogical principles of LAMPE. The focus of our inquiry ‘caused a renewed and explicit attention to this concept [of student engagement] that, in the past, has occurred mostly by chance’ (Tim, Semester 2 Final Reflection). Our analysis led us to identify several critical incidents that made us aware of the lack of attention to student engagement previously, both in how we had enacted the pedagogical principles of LAMPE over the previous two years, and in our teacher education practice more generally. For example, Tim noted the previous lack of intentionality in his consideration of student engagement: ‘I became aware that most of my approaches to accessing student engagement had been implicit, informal, and relied too heavily on my own lopsided interpretation’ (Tim, Semester 2 Final Reflection). Specifically, Tim felt he relied too much on his own observations of students’ body language as a main indicator of their engagement, which may be interpreted as attending to emotional
engagement but on a superficial level (Appleton, et al., 2008; Furlong, et al., 2004). Tim acknowledged rarely seeking to access a deeper and more sophisticated understanding of the students’ experiences or a sense of their cognitive engagement through, for example, pointed conversations with students about their learning or by examining their verbal or written reflections. Similarly, in one journal entry Déirdre also acknowledged a previous reliance on superficial interpretations of students’ emotional engagement, writing:

This reminds me that while smiling and laughing can be indicators of enjoyment they are not always indicators of meaningful engagement. Student engagement cannot be assumed based on observation alone. We need to constantly ask students for feedback on their levels of engagement but also the aspects they found engaging – and then challenge these responses sometimes (Déirdre, Week 8 Reflection).

Through our inquiry we disrupted our previous practices and came to acknowledge that our assumptions and approaches were no longer sufficient to make well-informed judgements on student engagement. This heightened awareness prompted us to not only develop strategies for our teaching practice that we felt may engage students – apparent in planning, instruction and activity set-up – but also to develop strategies that would help us to access students’ perspectives on their engagement with pedagogical principles of LAMPE. Of this heightened awareness of the need to develop strategies to access student engagement, Déirdre wrote the following early in her teaching term: ‘…I also learned quickly that I needed to plan in advance HOW I would access student perspectives in relation to their engagement and learning’ (Déirdre, Semester 2 Final Reflection). We came to view such approaches to accessing students’ perspectives as similar to the types of formative assessment practices we typically encourage our students to adopt when
working with young people, yet may often fail to do ourselves. We therefore adopted a more
systematic approach to accessing student perspectives using a variety of mechanisms to capture
the behavioural, emotional and cognitive dimensions of engagement (Appleton, et al., 2008),
which were presented earlier in Table 1. As shown in Table 1, some of those intentionally
planned methods to access students’ perspectives on their engagement with the pedagogical
principles of LAMPE included focused observations of students’ peer teaching; planned
questions of individual students; individual and group written reflections, and exit slips and small
class assignments.

The data highlighted the value of using a variety of the sources to gain multifaceted
insights on student engagement. For example, Déirdre described one occasion where students
were asked to modify games created by their peers. The modifications were to be based on the
features of meaningful experiences (Beni et al., 2017). For example, making the playing
boundaries smaller might enhance the level of challenge or using a different skill could develop
motor competence (e.g., ‘now instead of using your feet to do a football pass, now pick the ball
up and use a chest pass’). Déirdre circulated around the class, observing: ‘There was a lot of on
task student interaction, idea sharing and experimenting with ideas to find the best fit for the
group’. Although these considerations of engagement from behavioural and emotional
perspectives provide some insight into the students’ experiences, again they relied mostly on
Déirdre’s perspective. Analysis of written feedback from students (in exit slips and written
reflections) provided deeper perspectives about students’ cognitive engagement. Déirdre wrote in
her reflection:

Students like to be in control – autonomy and choice and important task elements
for them. Interestingly one of the students wrote: ‘Creating the game made it
meaningful because we were in control of all the different elements. Although it
probably didn’t look like we were enjoying ourselves we actually were, it was
challenging to be original and creative…’ … Student engagement cannot be
assumed based on observation alone. We need to constantly ask students for
feedback on their levels of engagement but also the aspects they found
engaging… Observation and questioning gives me a sense of their learning but I
found written pieces best to get a sense of their experiences. (Déirdre, Week 8
Reflection).

Our understanding and interpretations of student engagement were reframed as a result of this
explicit attention to listening to students and seeking details about their experiences.
A specific implication for the enactment of LAMPE was our coming to understand the
ways taking on the role of facilitator can play an important role in fostering students’ sense of
autonomy in learning tasks related to meaningful physical education – meaningfulness is
subjective and experienced in different ways, and students recognised the need to be flexible in
modifying experiences based on the needs of learners they will be working with. In a broader
sense, we learned about the importance of triangulating teacher educators’ interpretations of
student engagement with the students’ own interpretations, through giving them opportunities to
share details about their experiences in various ways. Our observations gave us an idea of the
extent of their engagement, but more explicitly listening to students – through conversations or
written feedback – provided details about why they were engaged and what aspects of a task or
lesson made it engaging. As Déirdre stated in one summative reflection:

Engagement with self-study processes (weekly reflection and critical friend
engagements with Tim) prompted a more in-depth exploration that highlighted my
approach previously was based on observations and informal questioning and discussion rather than intentionally planned [methods] to get student data.

(Déirdre, Semester 2 Final Reflection)

Taken together, Déirdre and Tim become more conscious of the need to develop concrete strategies to access students’ perspectives on their engagement with the pedagogical principles of LAMPE and adapt their practices in response to that engagement. As the data showed, we came to recognise that students’ perspectives of their engagement with learning about the principles of LAMPE provided deeper insights than our perspectives of their engagement, particularly when it came to identifying and understanding their engagement on a cognitive level, which can be used to infer their learning about teaching (as shown in Déirdre’s example) (Reschly and Christenson, 2012). This carries significant implications for teacher educators’ capacities to plan, enact, and assess modules and individual lessons that can have positive influences on students’ engagement with their learning how to teach.

While we became more aware of different ways to interpret engagement (i.e., considering engagement in terms of behavioural, emotional, or cognitive dimensions), we faced several challenges in consistently embedding that awareness in our practices and how we went about accessing the different dimensions of engagement. Our data showed the development of deeper insights particularly in terms of expanding beyond superficial notions of emotional engagement; however, we still struggled to access students’ perspectives about their learning – or cognitive engagement – with the consistency and intentionality needed to obtain the degree of richness we hoped for at the outset of our inquiry.

This was brought to light in our final 3-way Skype conversation with Mary, who pointed out the multiple ways student engagement can be conceptualized, particularly when democratic
ideas related to student voice are considered. Mary commented: ‘It is one thing to access their opinions, but acting on their opinion or acting on their views can be done in multiple kinds of ways and I think sometimes we only see it in one particular way’. Although this conversation led Déirdre and Tim to recognise value in their approaches to student engagement, both felt it was somewhat limited in the ways it gave students opportunities to, for example, design their learning or identify strategies for assessment of their learning.

Despite some of these shortcomings in our approach and the admitted difficulties we sometimes faced in transforming our practice, in the next section we describe how our focus on accessing and responding to student engagement had a particularly strong influence on how we reflected on- and in- our practice and the decisions we made moment-to-moment and day-to-day.

Accessing and responding to student engagement framed our reflection on- and in-action

Through the inquiry we developed a heightened awareness of how we used reflection on- and in-action (Schön, 1983) as it related to student engagement with the pedagogical principles of LAMPE. We did not rely on Schön’s concepts as a starting point for our inquiry but through our inductive analysis they offer a valuable frame to help us make better sense of how we planned, responded to, and addressed issues both in the moment and after, as we enacted the LAMPE.

Reflection-on-action helped Déirdre and Tim think more systematically through previous experiences to design future lesson tasks, identify specific strategies and activities to address gaps in students’ learning, reinforce particular concepts, and consider ways to access student engagement. Throughout the inquiry, accessing students’ perspectives of their engagement with LAMPE through gathering, for example, exit slips and engaging in deliberate discussion with students about their learning (see Table 1) supported Déirdre and Tim’s reflection on-action and
subsequent adjustment of their pedagogical approaches as the learning modules progressed.

Déirdre stated:

The feedback from students gave me insight on the effectiveness of the pedagogies [of LAMPE], helped me to adjust activities/the emphasis within an activity in planning future lectures (Déirdre, Semester 1 Final Reflection).

For example, based on her students’ written responses to several experiences in class, Déirdre identified that her students liked to be creative and appreciated opportunities to have autonomy and make choices in the ways they experienced different tasks (Déirdre, Week 8 Reflection).

This supports perspectives offered by Turner, et al. (2014) in relation autonomy and ‘upward trajectories’ of motivation.

Responding to student engagement resulted in better alignment of students’ needs and expectations – determined by more intentionally accessing students’ perspectives – with how Déirdre and Tim planned and enacted LAMPE. Déirdre consistently used reflection on-action (informed by reflective journal entries) to assess her planning and enactment of the pedagogical principles of LAMPE based on students’ responses to her questions, observations, and other inquiries gathered through analysis of their reflective journals. This occurred on a lesson-to-lesson basis as well as at the culmination of the teaching module. For example, after each lesson her reflection on that lesson (based on her accessing information students along with data generated by her and shared with Tim) would shape the planning and enactment decisions she made in subsequent lessons. In one reflection generated toward the end of the first term, Déirdre’s analysis of students’ reflections on their experiences of LAMPE led her to make the following statement:
Their final overall reflection responses were encouraging as they demonstrate an understanding of meaningful PE. Their responses also suggest that they were engaged during the module. Their responses give the headline information about the HOW of their learning; learning was organised around the 4 curriculum models and opportunities to be a participant, teach peers and children and adapt activities with peers’. (Déirdre, Week 9 Reflection).

Through being intentional about accessing students’ cognitive engagement (inferred by their understanding) with the pedagogical principles of LAMPE, we became more confident in making claims about the strengths and weaknesses of our approaches. Specifically, Déirdre’s enactment of the LAMPE led to students demonstrating an understanding of meaningful physical education in their coursework.

Our analysis allowed us to see the ways in which being intentional about accessing and responding to student engagement was shaping how we reflected on-action, however, it also led Déirdre to identify a gap in her approach:

What I am missing, however, are specific examples of how I adapted/responded ‘in the moment’. It seems I primarily used our focus on student engagement and the feedback on student engagement to plan future lectures/overall approaches rather than responding ‘in the moment’. I think this was influenced by my prioritisation of written end-of-lecture reflections.

Thus, her prioritisation of certain methods of accessing student engagement (end-of-class reflections or exit slips) led her to rely heavily on reflection on-action at the expense of reflection in-action. As critical friend, Tim responded: ‘This is interesting because I think I was doing the opposite’. Many of Tim’s end of class reflections documented how he used students’
perspectives on their engagement to guide how he reflected in-action, refining and adapting his approach *in situ*. In his final reflection Tim noted:

I seemed to use my accessing and [responding] to student engagement to make micro decisions ‘in the moment’. (Tim, Semester 2 Final Reflection).

To illustrate this point, we share one critical incident where Tim shared with Déirdre a discussion he had with students, and how he was able to access and respond to their engagement with the pedagogical principles of LAMPE by reflecting in-action and making decisions while he was teaching. Tim observed students participating in a physical-activity task and actively paid attention to the students’ conversation with each other to gauge levels of engagement. He noted:

‘During the first two innings [of a Danish Longball game] I overheard a couple of students saying: “this is boring” or “I’m confused” or “I have no idea what is going on”.’ (Tim, Week 5 Reflection). He then used such feedback to encourage students to confer with each other for two minutes to facilitate how they might adjust task requirements to better match their needs. In his journal he noted the reason for doing this was based on social interaction as a feature of a meaningful physical education experience (Kretchmar, 2006; Beni et al., 2017):

Prior to setting the 2 min. time limit and putting boundaries on the conferring of rules, I was very close to calling the groups in and stating my interpretation of the rules but I held back from doing this as I thought about the [feature] of social interaction. They were interacting – a lot – but in a way that is quite different to how social interaction has been framed in my previous LAMPE reflections. Today, social interaction involved negotiation, listening, leading, conflict resolution (sometimes), and to a certain extent, empathy.
Of another situation he wrote: ‘I asked after three rounds if the last round was challenging enough (indicated by thumbs up or down). Most of the class said no and so I asked if they would like another round where groups made their own rules to make the level of challenge “just right”.’ (Tim, Week 1 Reflection). These examples show how Tim actively accessed student engagement and used his interpretations of the features of a meaningful experience, in this case the level of challenge, to inform his ‘in the moment’ decision-making. By making space for students to adjust the task they were completing he fostered a type of feedback system from students about their engagement that supported his reflection-in-action, and aligned with his belief system about what should be emphasised in PETE practice.

These data illustrate how reflection-in-action combined with reflection-on-action can provide a comprehensive mechanism to support teacher educators in adapting pedagogical approaches and addressing issues of students’ engagement with those approaches. Déirdre used students’ engagement with LAMPE to primarily shape how she reflected on-action lesson-to-lesson, while Tim mainly relied on this to shape how he reflected in-action moment-to-moment. What we both came to realise was that one approach was not better than the other and we should have been more consistent in using both approaches to reflecting.

The professional learning benefits of this research are evident in the improved understanding generated about the pedagogical principles of LAMPE and increased knowledge about teacher education practice in general. In the final recorded Skype call, both Déirdre and Tim identified how and what they learned from their focused examination of student engagement and how that will influence their future pedagogical practices in specific ways. Déirdre considered how this approach might be sustained and developed, stating: ‘I will consciously pay attention to accessing student perspectives in structured and systematic ways. The big question I
am left with is how to embed this consistently into my approach as a teacher educator’. In turn, Tim asserted he would: ‘Make a concerted effort to use reflection on-action to help guide future pedagogical decisions, particularly related to planning activities and course experiences, and … I would strongly emphasize that multiple sources of data are necessary to make any legitimate claims about responding to student engagement – and these sources should be made up of both teacher educator and student data’.

Discussion

This research demonstrates the value to teacher educators that comes from intentionally accessing and responding to students’ on-going engagement with teacher educators’ practices that influence experiences of learning to teach. Along with several challenges experienced – particularly reconciling students’ perspectives of their engagement with our own perspectives of their engagement -- we highlight the importance of teacher educators intentionally and systematically seeking input from students related to their experiences of and engagement with teacher education practices, in this case, those that are represented by the pedagogical principles of LAMPE. This focus can lead to richer, more complex understandings of teacher education practice and inform teacher educators’ professional learning. We identified several strategies to access students’ engagement with the pedagogical approaches of LAMPE including observations of students’ peer teaching; planned questions of individual students; individual and group written reflections, and exit slips and small class assignments.

The behavioural, emotional, and cognitive elements of student engagement (Appleton, et al., 2008) were not evident separately within our study of student engagement; at different times the ‘trigger’ for the critical incident was related to one or the other of these elements. That is, no
one element was dominant and we found that it is important to be mindful of all three in interpreting student engagement. In fact, we highlight that consideration of one alone (for example, observing students sitting down and looking demotivated) could lead to misreading the situation and that it is only in communicating with the students themselves that a clearer picture is enabled. We also recognise that we did not achieve the level of sophistication of student engagement we hoped for at the start of our inquiry. Though we became aware of the need for a more holistic and intentional approach to considering student engagement, it remains an incomplete, problematic, and complex part of our respective teacher education practices. Embedding awareness of student engagement into our practice was clearly hard work, and while we made progress we remain challenged to do this more consistently and with more depth.

   Accessing student perspectives both within individual lessons and across the module significantly guided our decisions and enactment of the pedagogical principles of LAMPE in the moment and after lessons through reflection on- and in-action (Schön, 1983). Although Déirdre and Tim lent more heavily on reflection on-action and in-action respectively, there was value in both approaches. Specifically, reflecting on-action provided Déirdre with a frame to consider the ways students engaged with the pedagogical principles of LAMPE, which led to more reflexive decisions about planning of lessons she was teaching, and also about how she would better access student engagement in future lessons. Alternatively, reflecting in-action was used consistently by Tim to better understand students’ engagement with the pedagogical principles of LAMPE – in particular, the features of a meaningful experience (Kretchmar, 2006; Beni et al., 2017) – from moment-to-moment in the classes he taught, and guided how he responded in the ‘action-present’ (Schön, 1983). The heightened awareness promoted a greater responsiveness in our practice in ways that aligned more closely with student engagement than we had in the past.
In this way our research supports findings elsewhere that a focus on understanding and being responsive to the quality and meaning of students’ engagement can improve theoretical and practical understandings of the processes and outcomes of teaching and learning in higher education (Harper and Quaye, 2009). More specifically, we also build on work that shows how reflection on- and in-action can help teacher educators learn from experience and integrate this learning within their practices (Loughran, 2007).

Despite being relatively experienced teacher educators who claim to enact student-centred approaches in our teacher education practice, this research challenged us to renew our commitment to focusing on the quality of students’ learning that came as a result of our practice. Like Bullock (2009), we did this by deliberately students’ perspectives and taking those perspectives seriously. With this in mind, our findings point to ways teacher educators can embed accessing and responding to student engagement as an intentional and systematic part of their practice. However, due to the small-scale nature of this work, further research might consider what similar approaches look like with multiple cohorts of students on the same course across time. It may also be worthwhile to further unpack the distinction between accessing and responding to student engagement on micro and macro levels. How students respond to their learning in the moment and after (for example, one to several years after their teacher education program) can produce very different outcomes. This is because individual students and groups of students may have different needs and how we access and respond to these needs may require different approaches.

The outcomes of this research have led us to be more intentional in seeking authentic and rich ways to access students’ perspectives of their learning about teaching and to not be satisfied with a sole reliance on our superficial observations of students’ behavioural, emotional and
cognitive engagement – particularly through ‘reading’ body language or questions to check for understanding as we had mostly done in the past. In particular, we found that asking pointed questions about students’ experiences and well-designed reflective prompts that can be responded to in student reflective journals or exit slips can provide richer insights into students’ engagement, particularly from a cognitive perspective. Moreover, like Ní Chróinín, et al. (2016), we developed further understanding of the importance of seeking multiple perspectives on teacher education practice in S-STEP research, such as those from teacher educators, their critical friends, and their students. However, this also presented several tensions in how different perspectives are considered in this type of research. For instance, because Déirdre and Tim’s data were analysed (in a preliminary sense) as they were gathered, often those data sources were privileged in terms of how they informed understandings of teacher education practice. This means that teacher educators may sometimes struggle to reconcile student data that are gathered and analysed much later but which present perspectives that stand in contrast to those of the teacher educators. This then requires teacher educator-researchers to be mindful of how the ‘volume’ of their voices are set (i.e., the teacher educator whose practice is being studied and critical friend/s) relative to the students’ voices.

While we made some progress in how we became more intentional about seeking and incorporating students’ perspectives, we are cautious in claiming to have captured rich instances that reflect students’ voices. Our approach was more reactive than proactive. For example, as Mary pointed out, we did not definitively engage learners in the design of the teacher education curriculum or in identifying outcomes they wished to achieve and the processes through which they would achieve them (Seale, 2016). As a consequence, there is potential to incorporate contemporary conceptualisations of student voice to better understand the influence of the
pedagogical principles of LAMPE that allow for better representations of democratic processes in teacher education, such as those shown in the work of Brubaker (2015), Enright, et al. (2016), and Oliver and Oesterreich (2013).

This research has highlighted both the challenges and benefits of more intentionally considering student perspectives of their engagement. Importantly, accessing and responding to student engagement with the pedagogical principles of LAMPE allowed us greater depth and clarity in articulating how our knowledge of teaching teachers is constructed, and sharing that knowledge with our students. By illustrating ways teacher educators can pay attention to accessing and responding to student engagement in individual tasks and lessons, and across units or modules, these findings provide important direction on how teacher educators can learn about and develop their practice in ways that more intentionally incorporate students’ experiences of learning to teach.
References


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Table 1: Strategies used to respond to students' engagement with pedagogical principles of LAMPE

<table>
<thead>
<tr>
<th>Principles of LAMPE</th>
<th>Strategy</th>
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<tbody>
<tr>
<td>Explicitly prioritize meaningful participation in teaching physical education courses</td>
<td>Model pedagogies that promote meaningful participation as a learner and as a future teacher</td>
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<tr>
<td></td>
<td>Support engagement with meaningful participation as a learner and as a future teacher</td>
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<td></td>
<td>Frame learning activities using features of meaningful participation</td>
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<tr>
<td></td>
<td>Support reflection on the meaningfulness of physical education and youth sport experiences</td>
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<td></td>
<td>Observing students' adaptations and use of pedagogies we had modeled in practice</td>
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<td></td>
<td>Asking intentionally planned questions of students to help us understand their experience of learning as well as to check for understanding their experience of learning</td>
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<td></td>
<td>Gathering students' individual written reflections, exit slips and small group assignments</td>
</tr>
<tr>
<td></td>
<td>Gathering group-based written reflections, and small group and whole group class discussions</td>
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Note: The table above outlines various strategies used to respond to students' engagement with pedagogical principles of LAMPE.