

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

Authors:

Tim Fletcher (Corresponding Author)
Department of Kinesiology, Brock University
1812 Sir Isaac Brock Way
St Catharines ON, L2S 3A1
Canada
P: +1 905 688 5550 x6358
E: tfletcher@brocku.ca

Déirdre Ní Chróinín
Department of Arts Education and Physical Education
Mary Immaculate College
South Circular Road
Limerick, Ireland
E: Deirdre.NiChroinin@mic.ul.ie

Mary O'Sullivan
Department of Physical Education and Sports Science
University of Limerick
Sreelane
Limerick, Ireland
E: Mary.OSullivan@ul.ie

Funding Details:

This research was supported by funding from the Irish Research Council and the Social Sciences and Humanities Research Council of Canada (Grant: IDG 430-2015-00490)

1 Title: Developing deep understandings of teacher education practice through accessing and
2 responding to pre-service teacher engagement with their learning

3

4

5 **Abstract**

6 In this research we examined the ways we accessed and responded to students' engagement with
7 a set of pedagogical principles of teacher education focused on meaningful physical education.

8 The research was cross-cultural, taking place in universities in Canada and Ireland. Self-study of
9 teacher education practice (S-STEP) methodology guided collection and analysis of the

10 following data over one year: lesson planning and reflection documents, and critical friend and

11 'meta-critical friend' interactions. Findings indicate the value in teacher educators becoming

12 more intentional and systematic in how they access student perspectives related to engagement

13 with learning experiences of pedagogical innovations in pre-service teacher education, while also

14 emphasizing the challenges in doing so. The concepts of reflection on- and in-action provided a

15 framework for understanding how being more intentional about accessing student perspectives

16 can be enacted in teacher education practice. Our experiences demonstrate how focusing on

17 student engagement can support the professional learning of teacher educators through enabling

18 a deeper understanding of the challenges faced in being responsive to students' engagement with

19 their learning.

20

21

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

23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44

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).

45 We position our learning about students' engagement as a crucial process that can enable
46 a deeper understanding of how knowledge and understanding of teacher education practice
47 develops (Loughran, 2007). However, while recognising the value in these processes, it can be
48 challenging for teacher educators to 'walk their talk' in relation to accessing and responding to
49 students' perspectives. As Bullock (2009, p. 299) suggests:

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

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

58

59 **Learning about Meaningful Physical Education**

60 Over the past several years we have been experimenting with LAMPE as an approach that
61 focuses on allowing teacher educators to more intentionally and systematically support pre-
62 service teachers' learning about meaningful physical education (Ní Chróinín, et al., 2018). This
63 approach has been proposed as a response to an overemphasis on utilitarian outcomes in physical
64 education, such as those focused on weight loss and disease prevention, to the detriment of
65 finding joy and personal meaning in movement and physical activity as more valuable outcomes
66 of physical activity participation (Kretchmar, 2008). Meaningful experiences promote regular
67 physical activity participation in a way that enriches our lives (Hawkins, 2008). As Kretchmar

68 (2006) suggests: ‘one of the greatest things about physical activity and play is that they make our
69 lives go better, not just longer. It is the quality of life, the joy of being alive’ (p. 6). Based on an
70 extensive review of the literature since 1987 (Beni et al., 2017), meaningful experiences in
71 physical education are those of personal significance and typically involve the following are key
72 features: social interaction, fun, challenge, motor competence, personally relevant learning, and
73 delight.

74 Much of our work to date has focused on the development and articulation of LAMPE
75 from our perspectives as the teacher educators who enacted the approach (Ní Chróinín, et al.,
76 2015). Through this work, in Ní Chróinín, et al. (2018) we identified five pedagogical principles
77 of LAMPE used in our roles as physical education teacher educators:

- 78 • Meaningful experiences should be explicitly prioritised in planning, teaching and
79 assessing PETE experiences. The potential of particular experiences to foster
80 meaningfulness thus informs physical education content selection, the design of learning
81 experiences and the articulation of learning outcomes.
- 82 • Pedagogies that support meaningful experiences should be modelled by teacher educators
83 and made a source of inquiry for pre-service teachers. For example, modelling of both
84 teacher qualities and actions, such as being intentional in the development of
85 relationships with students or using autonomy-supportive strategies (e.g., providing
86 opportunities for students to have their voices heard or make choices about their
87 learning), can promote meaningful experiences. Further, teacher educators’ articulation of
88 the decisions of teaching can help pre-service teachers unpack and learn about the reasons
89 underpinning particular pedagogical selections (Loughran, 2013).

- 90 • Pre-service teachers should be supported to engage with meaningful experiences as a
91 learner and physical activity participant *and* as a teacher of peers and children.
- 92 • Learning activities should be framed using Beni et al. (2017) and Kretchmar's (2006)
93 features of meaningful school-based physical education (social interaction, fun,
94 challenge, motor competence, personally relevant learning, and delight).
- 95 • Pre-service teachers should be supported to reflect on the meaningfulness of physical
96 education experiences.

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

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

106 INSERT TABLE 1 ABOUT HERE

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

112

113 **Student engagement**

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

136 who reflected a stable trajectory. With these ideas in mind, it is clear that engagement can serve
137 as a helpful tool to improve theoretical and practical understandings of the processes and
138 outcomes of teaching and learning (Harper and Quaye, 2009).

139 While much of the engagement research has been aimed at gaining a perspective on life
140 in schools, there has been a distinct absence of engagement research conducted with a view to
141 capture life in universities/higher education (Alicea, Suarez-Orozco, Singh, Darbes, Abrica,
142 2016). As a surface level indicator of support for this claim, in the *Handbook of Research on*
143 *Student Engagement* (Christenson, Reschly, and Wylie, 2012), none of the 39 chapters
144 specifically address issues related to the study of student engagement in higher education. To
145 stress the importance of considering student engagement in higher education, Kuh (2009)
146 described its emergence as ‘an organizing construct for institutional assessment, accountability,
147 and improvement efforts’ as one of the main storylines of higher education research in the first
148 part of the 21st century (p. 5). There has been a widespread and increased focus on improving
149 quality in teaching in higher education internationally (through, for example, creating specific
150 units within universities dedicated to the development of teaching), suggesting that educational
151 administrators attach greater import to improving university teaching in ways that increase
152 student engagement (Biggs and Tang, 2011; Hénard and Roseveare, 2012). As has been found in
153 school-based studies (e.g., Parsons, Malloy, Parson, Peters-Burton, and Burrowbridge, 2016),
154 those higher education students who experience engagement measures such as ‘academic
155 challenge, active and collaborative learning, student-faculty interaction and supportive campus
156 environment’ are more likely to demonstrate several positive educational outcomes including
157 persistence in tasks, critical thinking, and positive personal and social development (Kuh, 2015,
158 p. xi). While there is some value in the ways student perspectives are accessed through

159 satisfaction surveys in higher education, questions remain about how these data are responded to
160 in substantive ways. As such, there may be potential to focus on how student perspectives of
161 their engagement can inform the professional learning of higher education staff and faculty, such
162 as teacher educators.

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

180 In their extensive review of engagement research across various educational contexts
181 (such as schools, communities, and higher education institutions), Lawson and Lawson (2013)

182 suggested that three assumptions predominate in traditional, social-psychological approaches to
183 this body of literature: (1) That engagement is flexible and can be improved or inhibited based
184 on, for example, interactions with peers or a teacher's pedagogical approach. (2) That
185 engagement represents a direct pathway to learning, producing potentially powerful learning
186 outcomes. (3) Studying engagement is different to studying motivation. In drawing from these
187 assumptions, most researchers rely on three main indicators of student engagement (Appleton,
188 Christenson, and Furlong, 2008; Fredricks, Blumenfeld, and Paris, 2004, pp. 62-63):

- 189 • *Behavioural engagement*: Evidenced by constructive engagement, attendance and
190 involvement, and the absence of disruptive or negative behaviour.
- 191 • *Emotional engagement*: Reflected in affective reactions to learning activities such as
192 interest, enjoyment and a sense of belonging to the learning environment (such as peers,
193 tasks, and spaces).
- 194 • *Cognitive engagement*: Supported by students' investment in their learning of key
195 concepts and ideas, and embracing of challenge in ways that go beyond minimum
196 requirements.

197 All three dimensions of student engagement were important considerations in this
198 research about students' responses to our pedagogies of teacher education that supported
199 students' learning about meaningful experiences in physical education; both in terms of what
200 they were learning as well as how they were learning. However, Lawson and Lawson (2013),
201 reminded researchers that student engagement does not often occur in the linear, predictable
202 manner suggested by traditional models of engagement research and as a result, 'the temporal
203 sequence of [engagement] constructs/events may be more dependent upon the particularities of
204 students' surrounding cultures, contexts, and ecologies' than is often given credit in quantitative

205 research (p. 434). For example, engagement does not necessarily lead to learning in a causal
206 way. Furthermore, in much of the work on student engagement, ‘students are often left out of the
207 discourse [...] and are traditionally objectified and omitted from this dialogue’ (Zyngier, 2008, p.
208 1766). Zyngier (2008) goes on to suggest that giving students opportunities to share their
209 perspectives offers a more authentic understanding of student engagement and helps shape more
210 sophisticated and responsive student-centred pedagogies enacted by teachers and teacher
211 educators.

212

213 **Methodology and Methods**

214 Collaborative S-STEP methodology helped us be more intentional in accessing and responding
215 to student engagement with their learning. S-STEP has been widely used as a form of
216 professional learning for teachers and teacher educators, with an overarching aim being to
217 improve understandings of professional practice (Petrarca and Bullock, 2014; Vanassche and
218 Kelchtermans, 2016). Not only did S-STEP provide a way for us to develop and experiment with
219 approaches that support our students’ learning, by making a commitment to share our findings
220 with other members of the teacher education community we hope to generate discussion and
221 debate in order to further develop teacher education practice beyond ourselves and our respective
222 programs. In this way, we position our S-STEP research as a means to support our own
223 professional learning as well as that of others in our discourse communities. Concerning the
224 writing style and use of voice, in the tradition of much other S-STEP research we use a
225 combination of first person plural (i.e., we/our) when referring to all three authors and third
226 person singular (i.e., Déirdre, Tim, Mary) when using the voices of or referring to individual
227 participants in the research.

228 Our research design was guided by LaBoskey's (2004) suggestions for quality in S-
229 STEP. Specifically, the inquiry: (a) was self-initiated and self-focused, (b) was improvement-
230 aimed, (c) was interactive at some stage of the research process, (d) generated multiple forms of
231 qualitative data, and (e) interpreted validity as a process based in trustworthiness. We pay
232 particular attention to the role of interactivity in our S-STEP design. S-STEP has been critiqued
233 for not paying closer attention to the interaction of students' perspectives with teacher educators'
234 practices (Fletcher et al. 2016; Loughran, 2007). This is not to suggest that teacher educators
235 who use S-STEP do not listen to their students as part of their teacher education practice, but
236 rather that there are relatively few examples of S-STEP research that includes explicit
237 acknowledgement of the ways students' perspectives shaped teacher education practices. Our
238 research attempts to address this shortcoming. We tried to position the information that we
239 solicited from students as a main driver in our pedagogical decision-making. However, this
240 attention provided challenging circumstances as we tried to balance the complexity of
241 considering multiple voices while acknowledging the distinct knowledge of teaching and teacher
242 education practice that teacher educators bring to their work (Zeichner, 1999).

243 **Context**

244 The research was cross-cultural, with participants based in three universities in two
245 countries. Tim teaches in an undergraduate physical education program at Brock University in
246 Canada and Déirdre teaches in a primary teacher education program at Mary Immaculate College
247 in Ireland. Both were directly involved in planning and teaching LAMPE, and it is their
248 experiences and practices that are the main sources of data collected in this study. The courses
249 that provide the context for this study were *Introduction to Teaching Physical Education* (taught
250 by Déirdre to prospective primary generalist teachers) and *Developmental Games* (taught by Tim

251 to prospective specialist physical education teachers and youth sport coaches). In this year of our
252 research, there were 28 students enrolled in Déirdre's course and 21 students enrolled in Tim's
253 course. Although there were slight differences in how we emphasised content in the respective
254 courses (e.g., Déirdre's courses had a broader focus on all aspects on physical education, while
255 Tim's focused specifically on games), there was a shared focus on positioning students
256 simultaneously as learners and future teachers/coaches. The Research Ethics Boards at
257 Universities 1 and 2 approved the research. Tim and Déirdre also served as critical friends to
258 each other, the purpose of which was to challenge assumptions, confront realities, and identify
259 new ways of thinking about pedagogy (Baskerville and Goldblatt, 2009). Vanassche and
260 Kelchtermans (2015) suggest that critical friendship provides a space for generating alternative
261 interpretations of practice-based situations and shared understandings of teacher education
262 practice. Mary is Professor in physical education at University 3 in C2 and acted as a 'meta-
263 critical friend' to Tim and Déirdre. We have described elsewhere (Fletcher, et al., 2016) the role
264 and characteristics of a meta-critical friend as someone who can interact and interpret from arm's
265 length, providing critique and support for understandings and enactment of teacher education
266 practices being explored, as well as for the S-STEP process itself. Mary's role in the process was
267 crucial in the research design – particularly in terms of suggesting and guiding our approaches to
268 student engagement -- and in the interpretation of outcomes and understandings of our teacher
269 education practices.

270

271 **Data sources and analysis**

272 Data gathering took place in the third year of what is currently a four-year project. In each of the
273 first three years of the project we applied a different focus to our S-STEP research. For example,

274 in the first two years, our overarching S-STEP research questions were: What are the
275 pedagogical principles of LAMPE? What are teacher educators' experiences of enacting the
276 pedagogical principles to help foster students' learning about meaningful physical education?
277 The analysis of data from those years provided us with a clearer understanding of pedagogical
278 principles that support students in learning about meaningful physical education. The next
279 logical phase in our S-STEP research has been to understand how *engaged* our students were
280 with the pedagogical principles we were enacting. We suggest that accessing their engagement
281 serves as a proxy for better understanding the effects our teacher education practices (particularly
282 the enactment of the pedagogical principles of LAMPE) are having on their learning. As
283 mentioned previously, we have gathered and analysed student data throughout the research but
284 address those analyses in other publications (Ní Chróinín, et al., 2018). While still using
285 collaborative S-STEP methodology, we thus concentrated on developing awareness of students'
286 engagement by committing to be more intentional in how we accessed (observed and listened to)
287 and responded to their engagement with our planning and enactment of the pedagogical
288 principles of LAMPE.

289 Dáire's practice was the focus of the collaborative S-STEP in the first semester of the
290 year (Sept.-Dec.). Within her enactment of the pedagogical principles of LAMPE, she
291 documented her experiences of accessing and responding to student engagement through written
292 reflections entered immediately after teaching classes. Using a reflection template that helped
293 maintain a focus on accessing and responding students' engagement, Dáire documented her
294 experiences weekly ($n = 6$). Prompts in the template asked Dáire to identify: (a) a critical
295 incident for interrogation, focusing on her thoughts and actions, (b) an explanation of how she
296 accessed students' engagement during the incident (and a summary of what their responses

297 were), and (c) how she responded to students' engagement as a result of accessing it in the
298 previous step. Déirdre then shared her reflections on the identified critical incident with Tim who
299 acted as a critical friend. Tim responded to Déirdre's reflections on the critical incident through
300 prompts such as: 'What resonated with my thinking about adapting [the pedagogical principles]
301 in response to student engagement was...' and 'The questions that it raised for me about
302 adapting in response to student engagement are...' Finally, Déirdre's response to Tim's reply
303 was guided by questions such as: 'What are you thinking now?' and 'What might you do
304 differently next time?' In semester two, Tim and Déirdre switched roles, and the process was
305 repeated. Tim shared seven reflections with Déirdre, which resulted in a total of 13 reflective
306 documents being generated across the year.

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

316 Kosnik's (2001) and Tripp's (2012) work on critical incident reflections guided our
317 analysis. Tripp (2012) describes critical incidents as occasions that are quickly recalled and
318 recorded; but this efficiency should not give way to the need to generate rich and focused data.
319 First, Déirdre and Tim independently engaged in inductive coding of the weekly reflection

320 documents where a critical incident was identified ($n = 13$), non-participant observations ($n = 9$),
321 end-of-semester reflections ($n = 4$) and transcripts of 3-way Skype conversations ($n = 2$). These
322 materials were searched for moments where Déirdre and Tim demonstrated ways they accessed
323 and responded to students' engagement with the pedagogical principles of LAMPE, and any
324 insights gleaned or changes they made to their respective understandings of teacher education
325 practice or LAMPE as a result.

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

340

341

Results

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

350

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

353 Our collaborative S-STEP prompted a more nuanced attention to how we accessed and
354 responded to student engagement with the pedagogical principles of LAMPE. The focus of our
355 inquiry 'caused a renewed and explicit attention to this concept [of student engagement] that, in
356 the past, has occurred mostly by chance' (Tim, Semester 2 Final Reflection). Our analysis led us
357 to identify several critical incidents that made us aware of the lack of attention to student
358 engagement previously, both in how we had enacted the pedagogical principles of LAMPE over
359 the previous two years, and in our teacher education practice more generally. For example, Tim
360 noted the previous lack of intentionality in his consideration of student engagement: 'I became
361 aware that most of my approaches to accessing student engagement had been implicit, informal,
362 and relied too heavily on my own lopsided interpretation' (Tim, Semester 2 Final Reflection).
363 Specifically, Tim felt he relied too much on his own observations of students' body language as
364 a main indicator of their engagement, which may be interpreted as attending to emotional

365 engagement but on a superficial level (Appleton, et al., 2008; Furlong, et al., 2004). Tim
366 acknowledged rarely seeking to access a deeper and more sophisticated understanding of the
367 students' experiences or a sense of their cognitive engagement through, for example, pointed
368 conversations with students about their learning or by examining their verbal or written
369 reflections. Similarly, in one journal entry Déirdre also acknowledged a previous reliance on
370 superficial interpretations of students' emotional engagement, writing:

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

377 Through our inquiry we disrupted our previous practices and came to acknowledge that
378 our assumptions and approaches were no longer sufficient to make well-informed judgements on
379 student engagement. This heightened awareness prompted us to not only develop strategies for
380 our teaching practice that we felt may engage students – apparent in planning, instruction and
381 activity set-up – but also to develop strategies that would help us to *access* students' perspectives
382 on their engagement with pedagogical principles of LAMPE. Of this heightened awareness of the
383 need to develop strategies to access student engagement, Déirdre wrote the following early in her
384 teaching term: '...I also learned quickly that I needed to plan in advance HOW I would access
385 student perspectives in relation to their engagement and learning' (Déirdre, Semester 2 Final
386 Reflection). We came to view such approaches to accessing students' perspectives as similar to
387 the types of formative assessment practices we typically encourage our students to adopt when

388 working with young people, yet may often fail to do ourselves. We therefore adopted a more
389 systematic approach to accessing student perspectives using a variety of mechanisms to capture
390 the behavioural, emotional and cognitive dimensions of engagement (Appleton, et al., 2008),
391 which were presented earlier in Table 1. As shown in Table 1, some of those intentionally
392 planned methods to access students' perspectives on their engagement with the pedagogical
393 principles of LAMPE included focused observations of students' peer teaching; planned
394 questions of individual students; individual and group written reflections, and exit slips and small
395 class assignments.

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

409 Students like to be in control – autonomy and choice and important task elements
410 for them. Interestingly one of the students wrote: 'Creating the game made it

411 meaningful because we were in control of all the different elements. Although it
412 probably didn't look like we were enjoying ourselves we actually were, it was
413 challenging to be original and creative...' ... Student engagement cannot be
414 assumed based on observation alone. We need to constantly ask students for
415 feedback on their levels of engagement but also the aspects they found
416 engaging... Observation and questioning gives me a sense of their learning but I
417 found written pieces best to get a sense of their experiences. (Déirdre, Week 8
418 Reflection).

419 Our understanding and interpretations of student engagement were reframed as a result of this
420 explicit attention to listening to students and seeking details about their experiences.

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

432 Engagement with self-study processes (weekly reflection and critical friend
433 engagements with Tim) prompted a more in-depth exploration that highlighted my

434 approach previously was based on observations and informal questioning and
435 discussion rather than intentionally planned [methods] to get student data.
436 (Déirdre, Semester 2 Final Reflection)

437 Taken together, Déirdre and Tim become more conscious of the need to develop concrete
438 strategies to access students' perspectives on their engagement with the pedagogical principles of
439 LAMPE and adapt their practices in response to that engagement. As the data showed, we came
440 to recognise that *students'* perspectives of their engagement with learning about the principles of
441 LAMPE provided deeper insights than *our* perspectives of their engagement, particularly when it
442 came to identifying and understanding their engagement on a cognitive level, which can be used
443 to infer their learning about teaching (as shown in Déirdre's example) (Reschly and Christenson,
444 2012). This carries significant implications for teacher educators' capacities to plan, enact, and
445 assess modules and individual lessons that can have positive influences on students' engagement
446 with their learning how to teach.

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

455 This was brought to light in our final 3-way Skype conversation with Mary, who pointed
456 out the multiple ways student engagement can be conceptualized, particularly when democratic

457 ideas related to student voice are considered. Mary commented: ‘It is one thing to access their
458 opinions, but acting on their opinion or acting on their views can be done in multiple kinds of
459 ways and I think sometimes we only see it in one particular way’. Although this conversation led
460 Déirdre and Tim to recognise value in their approaches to student engagement, both felt it was
461 somewhat limited in the ways it gave students opportunities to, for example, design their learning
462 or identify strategies for assessment of their learning.

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

467

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

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

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

480 subsequent adjustment of their pedagogical approaches as the learning modules progressed.

481 Déirdre stated:

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

485 For example, based on her students' written responses to several experiences in class, Déirdre
486 identified that her students liked to be creative and appreciated opportunities to have autonomy
487 and make choices in the ways they experienced different tasks (Déirdre, Week 8 Reflection).
488 This supports perspectives offered by Turner, et al. (2014) in relation autonomy and 'upward
489 trajectories' of motivation.

490 Responding to student engagement resulted in better alignment of students' needs and
491 expectations – determined by more intentionally accessing students' perspectives – with how
492 Déirdre and Tim planned and enacted LAMPE. Déirdre consistently used reflection on-action
493 (informed by reflective journal entries) to assess her planning and enactment of the pedagogical
494 principles of LAMPE based on students' responses to her questions, observations, and other
495 inquiries gathered through analysis of their reflective journals. This occurred on a lesson-to-
496 lesson basis as well as at the culmination of the teaching module. For example, after each lesson
497 her reflection on that lesson (based on her accessing information students along with data
498 generated by her and shared with Tim) would shape the planning and enactment decisions she
499 made in subsequent lessons. In one reflection generated toward the end of the first term,
500 Déirdre's analysis of students' reflections on their experiences of LAMPE led her to make the
501 following statement:

502 [Their final overall reflection responses were] encouraging as they demonstrate an
503 understanding of meaningful PE. Their responses also suggest that they were
504 engaged during the module. Their responses give the headline information about
505 the HOW of their learning; learning was organised around the 4 curriculum
506 models and opportunities to be a participant, teach peers and children and adapt
507 activities with peers'. (Déirdre, Week 9 Reflection).

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

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

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

521 Thus, her prioritisation of certain methods of accessing student engagement (end-of-class
522 reflections or exit slips) led her to rely heavily on reflection on-action at the expense of reflection
523 in-action. As critical friend, Tim responded: 'This is interesting because I think I was doing the
524 opposite'. Many of Tim's end of class reflections documented how he used students'

525 perspectives on their engagement to guide how he reflected in-action, refining and adapting his
526 approach *in situ*. In his final reflection Tim noted:

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

529 To illustrate this point, we share one critical incident where Tim shared with Déirdre a
530 discussion he had with students, and how he was able to access and respond to their engagement
531 with the pedagogical principles of LAMPE by reflecting in-action and making decisions while he
532 was teaching. Tim observed students participating in a physical-activity task and actively paid
533 attention to the students’ conversation with each other to gauge levels of engagement. He noted:
534 ‘During the first two innings [of a Danish Longball game] I overheard a couple of students
535 saying: “this is boring” or “I’m confused” or “I have no idea what is going on”.’ (Tim, Week 5
536 Reflection). He then used such feedback to encourage students to confer with each other for two
537 minutes to facilitate how they might adjust task requirements to better match their needs. In his
538 journal he noted the reason for doing this was based on social interaction as a feature of a
539 meaningful physical education experience (Kretchmar, 2006; Beni et al., 2017):

540 Prior to setting the 2 min. time limit and putting boundaries on the conferring of
541 rules, I was very close to calling the groups in and stating my interpretation of the
542 rules but I held back from doing this as I thought about the [feature] of social
543 interaction. They were interacting – a lot – but in a way that is quite different to
544 how social interaction has been framed in my previous LAMPE reflections.

545 Today, social interaction involved negotiation, listening, leading, conflict
546 resolution (sometimes), and to a certain extent, empathy.

547 Of another situation he wrote: ‘I asked after three rounds if the last round was
548 challenging enough (indicated by thumbs up or down). Most of the class said no and so I asked if
549 they would like another round where groups made their own rules to make the level of challenge
550 “just right”.’ (Tim, Week 1 Reflection). These examples show how Tim actively accessed
551 student engagement and used his interpretations of the features of a meaningful experience, in
552 this case the level of challenge, to inform his ‘in the moment’ decision-making. By making space
553 for students to adjust the task they were completing he fostered a type of feedback system from
554 students about their engagement that supported his reflection-in-action, and aligned with his
555 belief system about what should be emphasised in PETE practice.

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

563 The professional learning benefits of this research are evident in the improved
564 understanding generated about the pedagogical principles of LAMPE and increased knowledge
565 about teacher education practice in general. In the final recorded Skype call, both Déirdre and
566 Tim identified how and what they learned from their focused examination of student engagement
567 and how that will influence their future pedagogical practices in specific ways. Déirdre
568 considered how this approach might be sustained and developed, stating: ‘I will consciously pay
569 attention to accessing student perspectives in structured and systematic ways. The big question I

570 am left with is how to embed this consistently into my approach as a teacher educator'. In turn,
571 Tim asserted he would: 'Make a concerted effort to use reflection on-action to help guide future
572 pedagogical decisions, particularly related to planning activities and course experiences, and ... I
573 would strongly emphasize that multiple sources of data are necessary to make any legitimate
574 claims about responding to student engagement – and these sources should be made up of both
575 teacher educator and student data'.

576

577

Discussion

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

590 The behavioural, emotional, and cognitive elements of student engagement (Appleton, et
591 al., 2008) were not evident separately within our study of student engagement; at different times
592 the 'trigger' for the critical incident was related to one or the other of these elements. That is, no

593 one element was dominant and we found that it is important to be mindful of all three in
594 interpreting student engagement. In fact, we highlight that consideration of one alone (for
595 example, observing students sitting down and looking demotivated) could lead to misreading the
596 situation and that it is only in communicating with the students themselves that a clearer picture
597 is enabled. We also recognise that we did not achieve the level of sophistication of student
598 engagement we hoped for at the start of our inquiry. Though we became aware of the need for a
599 more holistic and intentional approach to considering student engagement, it remains an
600 incomplete, problematic, and complex part of our respective teacher education practices.
601 Embedding awareness of student engagement into our practice was clearly hard work, and while
602 we made progress we remain challenged to do this more consistently and with more depth.

603 Accessing student perspectives both within individual lessons and across the module
604 significantly guided our decisions and enactment of the pedagogical principles of LAMPE in the
605 moment and after lessons through reflection on- and in-action (Schön, 1983). Although Déirdre
606 and Tim lent more heavily on reflection on-action and in-action respectively, there was value in
607 both approaches. Specifically, reflecting on-action provided Déirdre with a frame to consider the
608 ways students engaged with the pedagogical principles of LAMPE, which led to more reflexive
609 decisions about planning of lessons she was teaching, and also about how she would better
610 access student engagement in future lessons. Alternatively, reflecting in-action was used
611 consistently by Tim to better understand students' engagement with the pedagogical principles of
612 LAMPE – in particular, the features of a meaningful experience (Kretchmar, 2006; Beni et al.,
613 2017) – from moment-to-moment in the classes he taught, and guided how he responded in the
614 'action-present' (Schön, 1983). The heightened awareness promoted a greater responsiveness in
615 our practice in ways that aligned more closely with student engagement than we had in the past.

616 In this way our research supports findings elsewhere that a focus on understanding and being
617 responsive to the quality and meaning of students' engagement can improve theoretical and
618 practical understandings of the processes and outcomes of teaching and learning in higher
619 education (Harper and Quaye, 2009). More specifically, we also build on work that shows how
620 reflection on- and in-action can help teacher educators learn from experience and integrate this
621 learning within their practices (Loughran, 2007).

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

636 The outcomes of this research have led us to be more intentional in seeking authentic and
637 rich ways to access students' perspectives of their learning about teaching and to not be satisfied
638 with a sole reliance on our superficial observations of students' behavioural, emotional and

639 cognitive engagement – particularly through ‘reading’ body language or questions to check for
640 understanding as we had mostly done in the past. In particular, we found that asking pointed
641 questions about students’ experiences and well-designed reflective prompts that can be
642 responded to in student reflective journals or exit slips can provide richer insights into students’
643 engagement, particularly from a cognitive perspective. Moreover, like Ní Chróinín, et al. (2016),
644 we developed further understanding of the importance of seeking multiple perspectives on
645 teacher education practice in S-STEP research, such as those from teacher educators, their
646 critical friends, and their students. However, this also presented several tensions in how different
647 perspectives are considered in this type of research. For instance, because Déirdre and Tim’s data
648 were analysed (in a preliminary sense) as they were gathered, often those data sources were
649 privileged in terms of how they informed understandings of teacher education practice. This
650 means that teacher educators may sometimes struggle to reconcile student data that are gathered
651 and analysed much later but which present perspectives that stand in contrast to those of the
652 teacher educators. This then requires teacher educator-researchers to be mindful of how the
653 ‘volume’ of their voices are set (i.e., the teacher educator whose practice is being studied and
654 critical friend/s) relative to the students’ voices.

655 While we made some progress in how we became more intentional about seeking and
656 incorporating students’ perspectives, we are cautious in claiming to have captured rich instances
657 that reflect students’ voices. Our approach was more reactive than proactive. For example, as
658 Marypointed out, we did not definitively engage learners in the design of the teacher education
659 curriculum or in identifying outcomes they wished to achieve and the processes through which
660 they would achieve them (Seale, 2016). As a consequence, there is potential to incorporate
661 contemporary conceptualisations of student voice to better understand the influence of the

662 pedagogical principles of LAMPE that allow for better representations of democratic processes
663 in teacher education, such as those shown in the work of Brubaker (2015), Enright, et al. (2016),
664 and Oliver and Oesterreich (2013).

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

674

675
676
677
678
679
680
681
682
683
684
685
686
687
688
689
690
691
692
693
694
695
696
697

References

Alicea, S., Suárez-Orozco, C., Singh, S., Darbes, T., and Abrica, E. J. (2016). Observing classroom engagement in community college: A systematic approach. *Educational Evaluation and Policy Analysis*, 38, 757-782.

Appleton, J.J., Christenson, S.L., and Furlong, M.J. (2008). Student engagement with school: Critical conceptual and methodological issues of the construct. *Psychology in the Schools*, 45, 369-386.

Baskerville, D., and Goldblatt, H. (2009). Learning to be a critical friend: From professional indifference through challenge to unguarded conversations. *Cambridge Journal of Education*, 39, 205-221.

Beni, S., Fletcher, T., & Ní Chróinín, D. (2017). Meaningful experiences in physical education and youth sport: A review of the literature. *Quest*, 69, 291-312.

Biggs, J. B., and Tang, C. (2011). *Teaching for quality learning at university: What the student does*. 4th ed. Maidenhead, UK: McGraw-Hill Education.

Brubaker, N. D. (2015). Critical moments in negotiating authority: Grading, accountability, and teacher education. *Teaching Education*, 26, 222-246.

Bullock, S. M. (2009). Learning to think like a teacher educator: making the substantive and syntactic structures of teaching explicit through self- study. *Teachers and Teaching*, 15, 291-304.

Canning, J. (2016). Conceptualising student voice in UK higher education: four theoretical lenses. *Teaching in Higher Education*. 1-13.

Carini, R. M., Kuh, G. D., and Klein, S. P. (2006). Student engagement and student learning: Testing the linkages. *Research in Higher Education*, 47, 1-32.

698 Christenson, S. L., Reschly, A. L., and Wylie, C. (Eds.). (2012). *Handbook of research on*
699 *student engagement*. Dordrecht, The Netherlands: Springer.

700 Creswell, J. W., and Miller, D. L. (2000). Determining validity in qualitative inquiry. *Theory into*
701 *Practice*, 39, 124-130.

702 Darling-Hammond, L. (2006). *Powerful teacher education: Lessons from exemplary programs*.
703 San Francisco: Jossey Bass.

704 Enright, E., Coll, L., Ní Chróinín, D., and Fitzpatrick, M. (2016). Student voice as risky praxis:
705 Democratising physical education teacher education. *Physical Education and Sport*
706 *Pedagogy*, 1-14.

707 Fletcher, T., Ní Chróinín, D., & O’Sullivan, M. (2016). A layered approach to critical friendship
708 and its role in supporting pedagogical innovation in teacher education. *Studying Teacher*
709 *Education*, 12, 302-319.

710 Fredricks, J.A., Blumenfeld, P.C. and Paris, A.H. (2004) School engagement: Potential of the
711 concept, state of the evidence. *Review of Educational Research*. 74, 59–109.

712 Harper, S.R., and Quaye, S.J. (2009). Beyond sameness, with engagement and outcomes for all.
713 In: S. R. Harper, and S. J. Quaye (Eds.). *Student engagement in higher education*: . (pp. 1-
714 15). New York, NY: Routledge.

715 Hénard, F., and Roseveare, D. (2012). Fostering quality teaching in higher education: Policies
716 and practices – An IMHE Guide for Higher Education Institutions. Paris, France:
717 Organisation for Economic Co-operation and Development. Retrieved 20th March, 2018
718 from: <http://www.oecd.org/education/imhe/QT%20policies%20and%20practices.pdf>

719 Kosnik, C. (2001). The effects of an inquiry-oriented teacher education program on a faculty
720 member: Some critical incidents and my journey. *Reflective Practice*, 2(1), 65-80.

721 Kretchmar, R. S. (2006). Ten more reasons for quality physical education. *Journal of Physical*
722 *Education, Recreation and Dance*, 77(9), 6-9.

723 Kretchmar, R. S. (2008). The increasing utility of elementary school physical education: A
724 mixed blessing and unique challenge. *The Elementary School Journal*, 108, 161-170.

725 Kuh, G. D. (2009). The national survey of student engagement: Conceptual and empirical
726 foundations. *New Directions for Institutional Research*, 141, 5-20.

727 Kuh, G. D. (2015). Foreword. In S. J. Quaye and S. R. Harper (Eds.). *Student engagement in*
728 *higher education: Theoretical perspective and practical approaches for diverse*
729 *populations*. 2nd ed. (pp. ix-xiii). New York, NY: Routledge.

730 LaBoskey, V. K. (2004). The methodology of self-study and its theoretical underpinnings. In J. J.
731 Loughran, M. L. Hamilton, V. K. LaBoskey, and T. Russell (Eds.). *International*
732 *handbook of self-study of teaching and teacher education practices* (pp. 817-869):
733 Dordrecht, The Netherlands: Springer.

734 Lawson, M. A., and Lawson, H. A. (2013). New conceptual frameworks for student engagement
735 research, policy, and practice. *Review of Educational Research*, 83, 432-479.

736 Loughran, J. (2006). *Developing a pedagogy of teacher education*. London, UK: Routledge.

737 Loughran, J. (2007). Researching teacher education practices. *Journal of Teacher Education*, 58,
738 12-20.

739 Loughran, J. (2013). Pedagogy: Making sense of the complex relationship between teaching and
740 learning. *Curriculum Inquiry*, 43(1), 118-141.

741 Mosher, R., and McGowan, B. (1985). Assessing student engagement in secondary schools:
742 Alternative conceptions, strategies of assessing, and instruments. University of

743 Wisconsin, Research and Development Center. (ERIC Document Reproduction Service
744 No. ED 272812).

745 Ní Chróinín, D., Fletcher, T., & O’Sullivan, M. (2018). Pedagogical principles of learning to
746 teach meaningful physical education. *Physical Education and Sport Pedagogy*, 23, 117-
747 133.

748 Ní Chróinín, D., Fletcher, T., & O’Sullivan, M. (2015). Using self-study to explore the processes
749 of pedagogical innovation in physical education teacher education. *Asia-Pacific Journal*
750 *of Health, Sport and Physical Education*, 6, 273-286.

751 Oliver, K. L., and Oesterreich, H. A. (2013). Student-centred inquiry as curriculum as a model
752 for field-based teacher education. *Journal of Curriculum Studies*, 45(3), 394-417.

753 Parsons, S., A., Malloy, J. A., Parsons, A. W., Peters-Burton, E. E., and Burrowbridge, S. C.
754 (2016). Sixth-grade students’ engagement in academic tasks. *Journal of Educational*
755 *Research*, DOI: 10.1080/00220671.2016.1246408.

756 Petrarca, D., and Bullock, S. M. (2014). Tensions between theory and practice: interrogating our
757 pedagogy through collaborative self-study. *Professional Development in Education*, 40,
758 265-281.

759 Reschly, A. L., and Christenson, S. L. (2006). Prediction of dropout among students with mild
760 disabilities: A case for the inclusion of student engagement variables. *Remedial and*
761 *Special Education*, 27, 276-292.

762 Reschly, A. L., and Christenson, S. L. (2012). Jingle, jangle, and conceptual haziness: Evolution
763 and future directions of the engagement construct. In S. L. Christenson, A. L. Reschly,
764 and C. Wylie (Eds.). *Handbook of research on student engagement*. (pp. 3-20).
765 Dordrecht, The Netherlands: Springer.

766 Schön, D. A. (1983). *The reflective practitioner: How professionals think in action*. New York:
767 Basic books.

768 Tripp, D. (2012). *Critical incidents in teaching: Developing professional judgement*. 2nd ed.
769 Abingdon, UK: Routledge.

770 Trowler, V. (2010). Student engagement literature review. *The Higher Education Academy*, 11,
771 1-15.

772 Turner, J. C., Christensen, A., Kackar-Cam, H. Z., Trucano, M., and Fulmer, S. M. (2014).
773 Enhancing students' engagement report of a 3-year intervention with middle school
774 teachers. *American Educational Research Journal*, 51, 1195-1226.

775 Vanassche, E., and Kelchtermans, G. (2015). The state of the art in self-study of teacher
776 education practices: A systematic literature review. *Journal of Curriculum Studies*, 47(4),
777 508-528.

778 Vanassche, E., and Kelchtermans, G. (2016). Facilitating self-study of teacher education
779 practices: toward a pedagogy of teacher educator professional development. *Professional*
780 *Development in Education*, 42(1), 100-122.

781 Zeichner, K. M. (1999). The new scholarship of teacher education. *Educational Researcher*,
782 28(9), 4-15.

783 Zyngier, D. (2008). (Re)conceptualising student engagement: Doing education not doing time.
784 *Teaching and Teacher Education*, 24, 1765-1776.

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

Principles of LAMPE	Explicitly prioritize meaningful participation in teaching physical education teacher education courses	Model pedagogies that promote meaningful participation	Support engagement with meaningful participation as a learner <i>and</i> as a future teacher	Frame learning activities using features of meaningful participation	Support reflection on the meaningfulness of physical education and youth sport experiences
Strategy					
Observing students' adaptations and use of pedagogies we had modelled to promote meaningful participation in peer teaching and practicum	X	X	X	X	
Asking intentionally planned questions of students to help us understand their experience of learning as well as to check for their understanding of concepts taught	X		X	X	X
Gathering students' individual written reflections, through exit slips and small class assignments	X				X
Gathering group-based written reflections, and small-group and whole-group class discussions where there was a focus on their experience of learning	X		X	X	X