Seeing is Believing: Primary Generalist Pre-Service Teachers' Observations of Physical Education Lessons in Ireland and Switzerland.

Primary generalist pre-service teachers (PSTs) rarely have opportunity to observe teachers teaching authentic physical education lessons let alone reflect with the teachers, their lecturer or their peers following the lesson. Observation of, and reflection on, quality lessons can have a powerful influence on shaping the PSTs' soon-to-be-teachers' professional identities and can also help them to develop reflective and critical thinking skills. A qualitative framework utilising critical incidents, described as 'events identified by student teachers as significant in making progress toward becoming a better teacher' (Schempp, 1985: p.159) guided the PSTs' observations in this study. One primary physical education initial teacher educator (PEITE) and four PSTs, from Ireland, participated in the study and data comprised of a planning discussion, 40 critical incident observations of ten lessons in two European countries and two reflective discussions. Each set of observations was followed by a group discussion to provide opportunity for reflection-on-action (Schön, 1983). Examination of the data showed that PSTs extended their understanding of professional practice in: questioning and demonstrating; inclusion; organisation and management; and feedback and were surprised that practice in both countries was more similar than different. Critical incidents were a useful method of focusing reflections for the PSTs and the opportunity to engage in the process of observing, and reflecting on, quality lessons impacted the PSTs' perceptions towards becoming better teachers.

Introduction

A common theme in the existing literature on pre-service teacher education is that new teachers perceive field experiences, including student teaching, to be the most influential part of their preparation (Guyton and McIntyre, 1990; Hollins and Guzman, 2005; Wilson et al., 2001). Yet, pre-service and newly qualified teachers have the tendency to model their practice on their previous school-based physical education experiences (Curtner-Smith et al., 2008), or the experiences they may have had while on school placement where physical education may not have been supported (Richards, Housner and Templin, 2018). The challenges in gaining experience can be related to pre-service teachers' (PSTs) perceptions and attitudes of physical education and ultimately to their confidence in teaching physical education. Morgan and Hansen (2007) stated that primary generalist teachers wanted greater exposure to physical education teaching. However, providing opportunities for PSTs to observe physical education lessons which can challenge and improve their teaching practices in physical education (Richards et al., 2013), while ensuring that these observations do not mirror traditional practice is important in teacher education programmes but can be problematic. The primary generalist teacher in Ireland teaches all subject areas including physical education to children aged between four and thirteen. It is recommended that children receive 60 minutes of physical education each week (DES, 1999). With the prevalence of external providers in Irish schools, it is becoming more difficult for PSTs to observe or teach physical education while on school placement, a deficit also reported in countries such as England (Ward and Griggs, 2011) and Australia (Morgan and Hansen, 2008). The indirect method of observing others teaching has been found to stimulate teachers' awareness of the classroom and school events and to be beneficial in helping teachers to be more analytical and reflective (Freiberg and Waxman, 1990; Teitelbaum and Britzman, 1991). Tsangaridou (2005) acknowledged the limitations of professional

experience placements and suggested that teacher educators should supervise PSTs during these placements and provide them with opportunities to reflect critically on teaching physical education. Giving PSTs opportunities to speak about, share, discuss and reflect on pedagogical issues during and after professional experience placements, as well as asking PSTs to observe and discuss teaching experiences that occur during their teacher education programme may help improve their physical education teaching practices. According to the Irish Teaching Council (2011) PSTs 'should be afforded opportunities for critical analysis of the experience, as well as observation of, and conversations with, experienced teachers' (p.15).

Teacher education programmes have increasingly focused on reflection as an important aspect of teacher formation (Parkay, 2000; Yost and Sentner, 2000). The general concept of teacher reflection dates back to John Dewey's (1933) encouragement for teachers to examine the underlying rationale for their choices when teaching. He identified three attributes of reflective teachers: open-mindedness, responsibility, and wholeheartedness. Dewey (1933) advocated the use of reflective thinking in initial teacher education, a habit he felt should be emphasised for addressing the challenges of teaching, as it suspends conclusions and stimulates inquiry for evidence of the most effective approach. Schön's (1983) writings related to 'reflection-on-action' provide the theoretical basis and guide for understanding how the process of reflection might contribute to professional learning. Reflection-on-action happens *after* the experience, when time is taken to interrogate what happened, and its significance relative to past experience. Through reviewing and seeing experiences anew, what Schön (1983) referred to as 'reframing', the reflection-on-action process can support increased understanding and potentially create new knowledge and understandings of professional practice. According to Grimmet (1989) and Francis (1997), reflection should lead to a new understanding of: (i) action situations; (ii) self as a teacher; (iii) taken-for-

granted assumptions about teaching; and also, it should lead to commitment and skill to take informed action. Reflection is therefore an important competence in ensuring teacher educators are equipped to respond to the evolving needs, demands, and expectations of teaching (Kostner et al., 2005; Loughran, 2014). Both policy makers and researchers (Loughran, 2014) recognise reflection as a key professional development activity for teacher educators to influence their practice (Darling-Hammond and McLaughlin, 2011; Korthagen and Lunenberg, 2004) and by extension teacher quality (Goodwin and Kosnick, 2013). This research drew on experiential learning theory (Kolb, 1984) to position reflection-on-action as an important component of the professional learning process. Kolb's learning cycle involves four stages as follows:

- Begin with a *concrete experience*, doing as opposed to reading or watching.

- Step back from activity to engage in *reflective observation*. Here participants describe and review their experience.

- Make sense of the experience, interpreting and making connections to knowledge supports a process of *abstract conceptualisation* where understandings can be reframed.

- Finally, consider new actions and ways to implement new understandings in their context to lead back to *active experimentation* with these new understandings.

The objective of this study is to explore how primary generalist PSTs' teaching of physical education (active experimentation) could be informed, through observation (concrete experience), reflection (reflective observation) and discussion (abstract conceptualisation) of others' teaching practices in a variety of settings.

One way of focussing reflection-on-action is to observe teaching and identify particular events or critical incidents. Crisp et al. (2005) state that educators have used

critical incidents as a method to prompt learning and the method generally requires the PST to describe an incident, reflect on it and identify the learning that has resulted from the experience. As explained by Griffin (2003), 'a critical incident provides a deeper and more profound level of reflection' (p. 208). This is as a result of not only describing the incident in detail, but also, analysing and reflecting on the incident. Based on the findings of Griffin (2003) it can be argued that using critical incidents can increase the ability of PSTs to reflect. Subsequently the use of critical incidents seems to help concrete thinkers to look further than themselves and 'the immediate situation to larger, contextual issues' (p.218). According to Schempp (1985) critical incidents are 'events identified by student teachers as significant in making progress toward becoming better teachers' (p.159). These events are viewed as the most important in helping a teacher develop themselves in their profession.

In the present study, Kolb's (1984) learning cycle is utilised to guide the study's methodology to gain knowledge about how PSTs might use their observations of critical incidents and reflections-on-action to inform their future teaching.

Methods

The purpose of the study was to explore Irish primary generalist PSTs' (N=4) learning following observations of, and reflections on, physical education lessons in Ireland and Switzerland. A key emphasis was reflecting how critical incidents led to new understandings for the PSTs during the provision of quality physical education and consideration of how the PSTs might implement this in their future teaching contexts. Exploring learning from observation of critical incidents during physical education lessons was the theme of an exchange programme involving pre-service teachers (PSTs) and physical education initial teacher educators (PEITE) from Ireland and Switzerland as part of Projets d'Equipe d'Ensignants-Chercheurs et d'etudiants en Reseaux Sociaux (PEERS). PEERS is a PST and

teacher educator social network project funded by the Swiss Government with the aim of encouraging international mobility of both teacher educators and PSTs to improve education and research. The purpose of PEERS projects can include encouraging communication, critical thinking, decision making, ICT skills, comparing practices, rethinking the way of teaching as well as including research projects and accessing international mobility opportunities for PSTs. The PEERS project at the centre of this study was a short term exchange project where each group spent one week in the other's country, hosted by the local group, and experienced local physical education practices and culture. This study focuses on the Irish primary generalist PSTs' experiences.

Prior to the study, the PSTs undertook 80 days of school placement, over three years, in a variety of settings where they taught all subjects from the Primary Curriculum (DES, 1999) including physical education. A key aim of the PSTs' teacher education programme is to generate reflective teachers who are able to enhance their self-awareness and learn from their own experience (Tsangaridou and Polemitou, 2015). The PSTs had undertaken modules in preparation for school placement which were underpinned by a reflective practice module which included a number of reflective activities. In addition to the general school placements the PSTs in this study had undertaken a school experience one day a week for four weeks which focussed on teaching physical education as part of a physical education specialism module. The PSTs completed a reflective diary during this experience and therefore were familiar with observation of lessons guided by a reflection template and had reflected on practice with a PEITE and their peers.

Participants and context

The participants in this study were four Irish, final-year undergraduates undertaking a B.Ed. in Primary Teaching (3 females;1 male). The opportunity for four participants to take

part in the PEERS project was offered to the 25 final year students undertaking a specialism in physical education and these four PSTs applied to take part. The specialism in primary physical education, involves five physical education related modules (120 contact hours) for these 25 PSTs in addition to the two physical education modules (48 contact hours) undertaken by all PSTs, as part of their degree programme.

The Irish and Swiss PEITEs were responsible for the PEERS project programme and planning. As part of the project experience the two PEITEs arranged physical education lessons with schools and teachers in their respective countries for the PSTs to observe. The teachers and the schools chosen were known to the PEITEs and contexts which the PEITEs felt the PSTs would learn from. Seven teachers were observed, five from primary schools and two from secondary schools (See Table 1). The secondary schools were chosen as two of the Swiss PSTs were studying to become physical education specialists at both primary and secondary level. This gave the primary generalist PSTs from both Ireland and Switzerland an opportunity to observe physical education specialists teach. To ensure the PSTs observed in a range of schools, one of the schools chosen was a DEIS (Delivering Equality of Opportunity in Schools) school. These designated schools are identified to help children and young people who are at risk of or who are experiencing educational disadvantage and tend to have lower numbers of children in their classes and receive additional resources (DES, 2017).

The PSTs observed three teachers in Ireland teach games skills, athletics and gymnastics (six lessons) during the first week. Four months later they observed four teachers in Switzerland teach gymnastics, athletics and ice hockey (four lessons) (see Table 1 for further details) during week two of the PEERS project. Each teacher provided the PSTs with an outline lesson plan prior to the lesson observation. They met with the PSTs prior to or after the lesson depending on which was most convenient for them to answer any questions the PSTs may have had. The teachers took this opportunity to explain their teaching

philosophy and any contextual issues which they felt were important for the PSTs'
understanding of their teaching. The PEERS project, therefore, provided supervised field
experiences which were authentic opportunities to think reflectively and critically (Yost and
Sentner, 2000) about the teaching practices they observed. This study was awarded ethical
approval by the Research Ethics Committee of the faculty of the university where the
research was conducted and informed consent was received from all who volunteered to
participate.

[insert Table 1 here]

Data Collection

Data were collected at various points throughout the project and consisted of one planning
discussion, two reflective discussions (post Irish lesson observations and post Swiss lesson
observations involving the ITEs and the PSTs) and 40 critical incident observations
completed by the PSTs.

The planning discussion was to establish what critical incidents would be noted while
observing the lessons and how these observations might be carried out. This discussion lasted
approximately an hour and was recorded and transcribed. During initial preparation for the
PEERs project the PSTs studied research articles on critical incidents (Francis, 1997; Griffin,
2003; Placer and Dodds, 1988) which informed the development of the research project. The
PSTs reflected on personal teaching practices which they felt they needed to improve, based
on their previous school placement experiences and the feedback they had received. The
PSTs were to complete their final school placement experience immediately after their lesson
observations in Switzerland and therefore saw this as an opportunity to inform their
imminent, as well as future, teaching. A critical incident observation template was created by
the PSTs in consultation with their PEITE (See Figure 1), informed by the critical incident

literature, to guide their observations. The PSTs agreed the critical incidents to be observed including: (a) questioning and demonstrating; (b) inclusion; (c) organisation and management; and (d) feedback. Forty observation templates completed by the PSTs were collected during the two weeks of observations. Each PST observed the lessons making notes on all identified critical incidents. Although observing globally each PST agreed to focus on one particular critical incident during the lesson observations to limit the possibility of any critical incident being missed.

[Insert Figure 1 here]

The reflective discussions, each lasting 40-45 minutes, took place at the host institute following each weeks' observations and were recorded and transcribed for analysis. The reflective discussions were carried out to guide the PSTs to reflect on action and connect theory to practice as they described their observations of the critical incidents, reflected on them, came to new understandings in many cases and discussed how these might affect their actions in the classroom in the future (Griffin, 2003). The PSTs were prompted to consider: their previous personal experiences; the critical incidents they observed; similarities and differences between countries, schools and teachers; and teacher-student relationships. The final reflective discussion was designed to explore the PSTs' perceptions of their learning throughout the project and was to give them opportunities to reframe their new understandings of teaching.

Data Analysis

A general inductive approach (Patton, 2002) to data analysis was adopted. Following familiarisation with all observational data by each PST and the PEITE separately, detailed analysis took place together using hard copy data. Coding involved looking for distinct concepts and categories within each of the data sets informed by the critical incident focus.

Data from each PST were further analysed independently across observations by the PEITE. Through discussion key messages developed from the data set were agreed. Next, the three reflective discussions were analysed by the PEITE in search of confirmation, explanation, and additional insight on the key messages identified from the critical incident observations. To conclude, the PSTs examined the PEITE's analysis and findings were agreed and finalised. The involvement of the PSTs and the PEITE in the analysis process and the triangulation of multiple data sources resulted in a detailed and thorough process of data examination that supported trustworthiness.

Findings and discussion

Overall, the opportunity to observe ten quality physical education lessons taught by experienced teachers in a variety of settings in both Ireland and Switzerland, while focusing on critical incidents, supported the PSTs' learning. The use of a critical incident observation template and the reflective discussions at the end of each week of the exchange project also supported the process of reflection-on-action (Schön, 1983) and enriched the professional learning experience of the PSTs. The findings are presented and discussed below in relation to the critical incident focus of the PSTs: questioning and demonstrating; inclusion; organisation and management; and feedback. The findings discussed are supported with references to the Critical Incident Observation Templates (CIOT), followed by school (SA, SB …) and lesson (L1, L2 …) and the reflective discussion (RD1 or RD2) data.

Questioning and demonstrating

Questioning in the lessons observed was noted by the PSTs to have a variety of purposes and the style of questioning was very different depending on the children and the context. This highlighted for the PSTs how purposeful questioning can be an integral part of physical education for both young learners (infant classes) and also in older years by addressing

children's needs and developing questions to suit children's ages and abilities. According to Hastie and Martin (2006), 'good high-level questioning strategies encourage students by fostering critical thinking skills, thereby encouraging interaction to create students' own sense of understanding' (p.91). The lessons observed in School A:

> *primarily featured lower-order (closed) questioning in comparison to the pupils in School C whereby higher order (open) questioning was key to sustaining the pupils' interests and motivating them to support one another and get involved within the lesson* (RD 1).

The PSTs noted that questioning, '*played a role in engaging pupils to assess their knowledge of activities and lesson content both prior to, during and after Physical Education lessons. It gave teachers opportunities to engage the pupils and motivate them to participate.*' (RD 1). Further questions, '*What new skill did we learn*?' and '*How did you roll the ball?*' (CIOT, SA, L1) used by the teacher at the end of a lesson with very young children, was noted by a PST to consolidate learning. In another lesson in School A, the children were using the over-arm throw for the target toss station. The teacher suggested to the children *'would underarm work better, you could try and see'* (CIOT, SA, L2). Her questioning was suggestive rather than instructional which gave the children the opportunity to explore different types of throws. This allowed the children to make connections and decide for themselves which throw works better leading to more self-directed learning. The PSTs also noted how the teacher used questioning to facilitate learning. While the children were throwing balls to knock over cones, instead of telling the children to throw the balls more gently, she asked some of the children '*why did it go too far?*' (CIOT, SA, L3). These justifications or reasoning type questions provided the PSTs with effective questioning strategies which they too could build on.

On many occasions the PSTs observed teachers use questioning to introduce and teach a skill rather than showing the children how to perform the skill straight away, '*she questions girls about position of the next runner/hand position – doesn't tell them'* (CIOT, SB). This demonstrated for the PSTs the various uses of questioning and the variety of teaching strategies available to the teacher. It also allowed the PSTs to reframe their understanding of how a skill might be taught leading to a more social constructivist than behaviourist style of teaching. The following observation evidences how questioning has a variety of uses:

> *The teacher limited the amount of questions she asked at the beginning of the lesson to ensure that the children got started on the activities as soon as possible. In her instruction, the teacher went through each station quite quickly and the children began working on the stations, therefore there was not much time for questioning to check for understanding. During the main part of the lesson the teacher moved from group to group and it was at this stage that her questioning skills became evident. Different questioning types were used by the teacher while working with the groups. Firstly, she ensured that each group knew what they should be doing by asking them questions such as, "Which object have you not thrown yet?" "Have you bounced the ball off each of the islands?". As the lesson moved on the questions required more higher-order thinking for example "Why was that object more difficult to throw?" and "How could you make the target throwing harder?"* (CIOT, SA, L1).

Questioning within the lessons observed in the Swiss schools mirrored what had been observed in the Irish schools. Questioning motivated pupils to participate and become more responsible for their learning. It created purpose for the pupils as they sought to answer teachers' questions through engaging in and experimenting with the activities. The responses of the children to the questions were equally important. Through the lesson observations the

PSTs began to see the value in prepared questions aligned with the lesson content and how questioning engaged, motivated and involved the children in self-directed learning. This gave the teacher further opportunity to assess the children, which demonstrated for the PSTs how theory learned in their degree programme translated to practice in the classroom.

The PSTs, when focusing their observations on demonstrations, noted that these were used primarily when the skill being taught was technical and visual support was required. However, they also observed that teachers in many instances could have '*used the children more to demonstrate*' (RD 2). In this particular critical incident, PSTs saw children take responsibility for demonstrating themselves when necessary:

> *the children were working on an individual activity of knocking down cones by throwing a ball and although they were working alone they paid close attention to what other children around them were doing. One child took it upon himself to demonstrate his strategy for a friend saying, "look Alex do it like this"* (CIOT, SA, L2).

One teacher, observed by the PSTs, used *'all child led demonstrations'.* The PST continued to note the value of the children's demonstrations, *'Every child wants to volunteer to demonstrate. This shows that they are all actively engaged'* (CIOT, SB). Throughout the lesson in School G, the class teacher participated in the learning activities and the match at the end of the lesson. The teacher was demonstrating the skating and game skills he wanted the class to use, '*during the match ... and ... would always use the space on the rink which encouraged the class to follow his example'* (CIOT, SG).

The lessons observed in a different language while in Switzerland gave the PSTs another perspective on teaching and learning, and gave further value to the importance of demonstrations:

when you take the language out of the class, when you are sitting and watching and not understanding anything that's been said you notice everything else and this was very interesting. You notice body language and how things are demonstrated, - recognised how it might be for EAL [English as an Additional Language] *children in your class - and how the teacher explained things and used pictures and symbols therefore even though [student] didn't understand the words, she inferred what was happening from the body language, pictures, tone etc.* (RD2).

The PSTs noted the many ways teachers included the children in lessons through the use of questioning and demonstrations. They acknowledged the skill required by the teacher to successfully pose questions, set problems and to demonstrate appropriately is a thorough knowledge of the content for that lesson (Graham, 2008). While the PSTs reflected that children were included through questioning they also observed critical incidents focused on inclusion.

Inclusion of all children

Although teachers (Avramidis and Norwich, 2002), PSTs (Cardona, 2009), and more specifically physical education teachers (Hodge et al., 2004) have positive attitudes towards the idea of inclusion, they also report feeling unprepared to implement inclusive practices. Prior to the lesson observations the PSTs had particular views of what they saw as 'inclusion'. The PSTs wanted to observe when and how teachers included children with special educational needs (SEN) and those with lower ability levels. However, the observations led the PSTs to re-think their understanding of what inclusion meant for them. They observed that focusing on the learning needs of children with SEN although important, should not be to the detriment of other children's learning in the class. What PSTs observed reflected the theory studied in their university programme whereby inclusion is designed 'to

ensure that all students are able to successfully participate in an activity, develop new skills, and experience a sense of belonging in the classroom' (Hastie and Martin, 2006: p.28).

The PSTs noted that teachers used differentiation to include all children in lesson activities; '*differentiation occurred for both those who struggled to complete activities but also for those who found activities too simple and therefore were not engaged with purposeful learning*' (R2). Differentiation, observed in School A, was self-regulated:

> *the pupils were given a task and in turn they adjusted the complexity in accordance with their competency and abilities. The children in the senior infant class exhibited initiative and a sense of independence in developing their own strategies to complete the activity and make it more achievable, they moved the throwing targets closer to them to make the activity simpler and further away in order to increase complexity. This made the activity inclusive as pupils of all abilities could accomplish the task but with a differentiated goal in mind* (CIOT, SA, L2).

The PSTs noted the impact the success of completing such an activity had on children's participation levels as it motivated the pupils to engage and challenge themselves further. This strategy was commented upon by PSTs as one which could have been utilised for children's benefit in another school:

> *differentiation has the capacity to include pupils who otherwise may choose not to participate for fear of failure or who may simply not have the fundamental movement skills to complete such tasks and activities. As pupils who struggled to hit the tennis racket during the rounders lesson in School C did not engage with the lesson and were reluctant to continue to participate and re-try having failed to hit the racket previously … a differentiated methodology could have been applied here to increase inclusion and participation within the lesson* (RD1).

While observing the lessons in Switzerland the PSTs noted increased use of differentiation, and '*how naturally the teachers differentiated during lessons*' (RD2). During observation of a skating lesson in School F, the PSTs noted one of the child's competency on the ice was far superior to his peers. The teacher differentiated the assigned task to challenge this child making him travel a longer distance in the same length of time as the rest of the class. One PST commented that this type of differentiation, '*provided challenge, increased the participation levels and motivation of children, which led to an observed increase in learning*' (RD2). Sometimes to encourage inclusion and participation the teacher used the other children in the class. One PST wrote that the teacher '*got the class to give a round of applause for two girls who put effort into class, creating a positive and encouraging atmosphere in the class*' (CIOT SC). This led to a discussion on strategies for inclusion and how '*praise is just as important for older children as it is for the 4 year olds*' (RD1). In fact, with the older group (School C) observed, praise to motivate was key to increased participation levels. The PSTs commented that they assumed praise would have been used more with the younger children.

Exclusion was also observed in lessons. One PST noted a critical incident where a child was misbehaving and the teacher, following a warning, '*asked him to stand out for a few moments before allowing the child to return to activities but not before apologising for his unacceptable behaviour*' (CIOT, SE). This critical incident demonstrated that inclusion requires adherence to basic 'rules of engagement'. Others reported this critical incident as concerning classroom management. The next section will examine the observations of critical incidents regarding class management further.

Management and organisation

It has been well documented in the literature that teaching is a more complex and demanding task than ever before and requires much preparation and organisation from the teacher (Gore, 2001; Lampert, 2010). According to Merrett and Wheldall's (1993) research, teachers believe that classroom management skills are of major importance to them professionally and they were dissatisfied with the preparation in this area of professional skills provided by their initial training courses. Similar to the research of Tsangaridou and Polemituu (2015) the PSTs in this study chose to focus on pedagogical issues including managerial aspects and believed these to be a prerequisite for effective teaching and a productive learning environment. A physical education class requires a degree of structure, predictability and security for both teachers and pupils. According to Locke and Lambdin (2003) 'one key element in the transition from novice teacher to expert practitioner is the acquisition of a repertoire of methods for preventing disruptions and dealing with students who persist in misbehaving' (p.23). This study has shown that there are more similarities than differences between teaching physical education in Ireland and teaching in Switzerland. All PSTs observed the main difference in management and organisation between the countries occurred when managing children's behaviour during physical education lessons. They came to the conclusion that behaviour management was related to class size. Research on class size in physical education lessons has been somewhat limited (see Bevans et al., 2010; McKenzie et al., 2000; and Taras, 2005). With physical education being a mainly practical subject area, many of these studies mentioned that management took up an inordinate amount of time when there were large classes. More skill practice time, more activity time and more on task activity were the outcomes of small classes. Small classes would appear to provide opportunities for an improved teaching environment. The Swiss classes on average were a lot smaller in comparison to Ireland (See Table 1). Smaller classes according to the PSTs helped personalise the teacher-student relationship and, as a result, the teachers' efforts were more

effective which concurs with the findings by Barroso et al. (2005). More time could be devoted to skill development, because the one-on-one personal contact had improved. The PSTs began to understand that if teaching in large classes they would need to find a balance between time spent on class management and child learning, ensuring that child learning was the priority. They noted in the smaller Swiss classes, '*the teacher expected attention and concentration during lessons'* (RD2). However, in Ireland the PSTs felt that teachers' expectations were not as high, or perhaps teachers expected a certain level of distraction and/or noise during the lesson due to class size. In School A, *'even if there was not complete silence she would continue on giving her instructions if she felt they were still listening. She wanted to keep them active for as long as possible and didn't spend too long giving out instructions'* (RD1). It was noted that the teacher, *'gained complete silence when it was necessary when she was giving new instructions'* (CIOT SA, L1). To ensure the children were on task in the lessons, the PSTs noted how efficiently teachers managed the children's behaviour. This was carried out without detracting from the lesson or wasting time and in some cases not personalising the behaviour, when a *'child bouncing ball while she is talking* [the teacher] *instructs class to hold the ball on their belly'* (CIOT, SA L2). The success of any method for managing disruptive behaviour the PSTs noted was dependant on the context in which it was used. Reflecting on observations and prior experiences, they observed many factors which were determinants of success such as age, class size, subject matter, teacher experience or school atmosphere. As pointed out by Locke and Lambdin (2003), 'no single method works everywhere, for everyone, all of the time' (p.26).

Organisational strategies were also recorded by the PSTs as opportunities to manage behaviour, increase participation, save time and in turn increase learning time:

children walked out to the yard and are given the instruction to stand on a square, this eliminates any time wasting, confusion, need for unnecessary decisions or

confusion regarding what one should do next and omits opportunity for messing.

There was swift progression between each activity to keep the children's attention and

to engage them at all times. The same equipment was used throughout, i.e the squares

remained in place which prevented the need to waste time tidying up between

activities (CIOT, SA, L2).

Similarly, the teacher in School C *'was well equipped and prepared and had equipment ready for when the balls went out of bounds as so not to interrupt the flow of the lesson'* (CIOT, SC). The children in another lesson were given responsibility in setting up equipment and helping with lesson organisation, '*the Teacher demonstrated how the first row of cones should be put out and the children then followed the example in laying out the rest of the cones, as one row was incorrectly laid the teacher offered support and questioning in repositioning the cones instead of just replacing them herself*' (CIOT, SB).

During the final discussion with the PSTs it was evident that their initial understandings of management and organisation were changing. The PSTs saw that they needed to be proactive and plan and manage a lesson to eliminate behaviour management issues and if any did arise they should not impinge on the lesson but be dealt with swiftly. Engagement with the children throughout the lessons observed was a strategy used by the teachers to maintain children's interest and ensure learning was meaningful (Beni et al., 2017) with much of this done through the feedback provided to the children.

Feedback to children

Feedback is considered to be an integral variable in learning and skill acquisition and is often prescribed as a part of education and evaluation (Rink, 2013; Spittle, 2013). Feedback is often used in physical education, not only in the development of physical skills (Fredenburg, 2001), but also as a tool to increase time spent in activity, motivation and student

participation (Lee et al., 1993). The PSTs wanted to observe critical incidents involving expert teachers to provide a more complete picture of how feedback influences student outcomes in physical education (Shulman, 1987). The PSTs understood how effective feedback was a result of teachers' skilled observation of children and professional knowledge of the content, but they needed to see how teachers carried out the process. The most effective example of feedback described by one PST was where pupils were practising the high jump and many of them were leading with the wrong foot:

> *The teacher picked up on this mistake and stopped the children for a minute to watch a demonstration. Not only did the teacher perform the jump correctly he also demonstrated how some of the children were jumping, leading with the wrong foot. He then asked the children which way is the correct way and why that is the correct way. The children could clearly distinguish between the two jumps and were able to explain why it is better to lead with the correct foot. I took note of how many children led with the wrong foot after the first explanation of the jump and out of a class of 17, 14 of the children led with the wrong foot. After [the teacher] stopped the lesson and carried out the demonstration, only one of the children led with the wrong foot. This demonstration clearly showed the children not only how to correct their mistake but why this physical and verbal feedback was needed* (CIOT, SE).

When reflecting on this critical incident during the reflective discussion the PSTs were prompted to think about how the teacher came to providing this feedback. The PSTs noted that the teacher had good subject content knowledge and when observing the children noted the incorrect take-off technique. The effectiveness of teacher feedback may vary according to the teacher's knowledge about the skill. Teachers with limited backgrounds in the skill being taught may fail to recognize and correct student errors (Siedentop et al., 1984; Siedentop, 1991).

There were times during the lessons where the teacher gave specific feedback and linked with the learning outcomes and success criteria. In these cases, the PSTs outlined how this feedback supported the children's learning and encouraged higher order thinking. There were other times where they felt verbal feedback could have been improved by including a demonstration. The use of praise also formed an important source of feedback for the pupils in the physical education lessons. Praise was considered most effective when it was specific and credible. The teachers used praise that was specific to the skill/task rather than generic praise. In School A, the teacher's praise had an important function - offering the other children in the group feedback on their performance. In the lesson, the teacher praised one pair for correctly catching and throwing because they were both keeping their eyes on the ball and as a result the other children in the group began to do this. Whenever the teacher praised the children she often prompted the children to focus on an aspect for improvement in her feedback, for example '*good throw, try a bit more gently the next time'* (CIOT, SA, L3).

The feedback in the younger classes consisted of teacher praise which motivated children to participate in order to receive more positive feedback such as, '*"you're great, you did that perfectly" and "well done"'* (CIOT, SA). This feedback was given during the lesson so as not to disrupt children and to motivate continued participation. The PSTs noted in some instances that feedback took other forms such as clapping and tapping on the shoulder. This feedback was in the main positive and reinforced children's confidence to complete activities. According to Koka and Hein (2003) non-skill related feedback should be used by teachers in physical education classes to keep students on task and enhance motivation. By doing this, time spent in activity will be greater, thereby increasing skill practice opportunities.

Whole class feedback was observed as being more prevalent than individual feedback to children in all schools in both countries. It addressed children's learning and their progress

throughout the lesson. The feedback was reinforced by questioning and demonstration, where the children gave correct answers and good demonstrations of the skill learned.

Peer feedback was observed by the PSTs as having a positive effect on learning:

the children responded very well to their peers' advice and support during the lessons. In L1 I observed numerous instances of peer feedback. At the throwing and catching station one child encouraged their partner saying, "good catch!". In a similar way, at the target station one child said to another "Yeah you made it!". The teacher was modelling this type of motivational feedback and the children were following her example (CIOT, SA, L1).

Another PST noted, *'I also observed one child offer encouragement to a peer saying, "so close, try again!'* (CIOT, SA, L2). In School C the peer feedback was more specific, *'as this class was older, they had been explicitly told the importance of encouraging and supporting their team mates. The girls helped each other in their skill development by telling members of their team to "go easy", "take a step in" and "move in closer before you throw"'* (CIOT, SC).

The PSTs' evolving understanding of feedback was that in order for feedback to have value, it needed to be specific, to help the learner understand what was good or bad about their skill performance in order to help facilitate learning. They also spoke of a balance being created between the provision of non-skill related feedback to keep students motivated and engaged with the task and specific feedback that can help with skill learning (RD2) which aligns with the findings of Spittle (2013). The PSTs discussed the influence social background, age and gender had on the feedback provided (RD2). They observed that the teacher in the disadvantaged school's biggest challenge was how to motivate her pupils. The PSTs felt she achieved this through supportive feedback during critical incidents,

encouraging them to remain engaged in the lesson. In contrast in the other lessons in both countries, this did not seem to be an issue and therefore the teachers could concentrate on specific feedback and focusing on developing the skills and objectives in their lessons. This was achieved by using a range of neutral, positive and even negative feedback to provide pupils with the necessary information to achieve the lesson objectives (RD2).

Based on all her observations one PST felt '*the contrasting difference in providing feedback to children is based on their age*' (RD2). In both countries the class teacher tended to provided more general feedback to children of younger ages compared to much more specific feedback when working with older children. Class size was discussed again following all lesson observations in relation to quality and frequency of feedback. In Switzerland, where the classes were considerably smaller, the PSTs observed, '*the teacher provided more meaningful individual feedback*' (RD2).

PSTs began to make links between the learning intentions and assessment strategies provided in the teachers' lesson plans, supporting Patton and Griffin's (2008) research where they found that use of assessment strategies promoted an alignment between planning, instruction and assessment. Providing feedback to the learner to enhance learning is a key aspect of formative assessment strategies (Conner, 1999; Cousins et al., 2004; Elwood, 2006; Rink and Hall, 2008; Siedentop and Tannehill, 2000) and the PSTs recorded that, as the lessons progressed, each teacher's feedback gradually became more specific and targeted certain aspects of the children's learning more explicitly. PSTs' understandings of feedback changed dramatically as the value of assessment, through provision of feedback, in enhancing the learning process was recognised. As these PSTs were to complete their final school placement following the observations in Switzerland they were concerned with their own learning and how this experience might prepare them. They felt that '*more attention is needed to determine the type of feedback appropriate for simple and difficult tasks*' (RD2).

Finally, when discussing what they had learned in relation to their critical incident observations one PST summed up:

Respect for others views and different ways of teaching. You see others teach and you may learn things and be open to changing how you do things or how you perceive things should be done. You can adapt as you observe what others do. You become more adventurous. Become a more rounded teacher because you are seeing other ways of doing things and maybe bringing together good practice from two countries and improving your teaching. Not stick to the one way of doing things (RD2).

Conclusions

Findings from this study provide new understanding of how opportunities to observe physical education lessons in a variety of contexts can be used to support PSTs in their professional learning journey. An important learning outcome of their experience was their development of practical knowledge (Rovegno, 2003; Zanting et al., 2001). Practical knowledge is that which reflects each individual teacher's biography, values, knowledge and experience in school context, is based on experience developed over time, guides teacher's actions in the classroom and is content-related (Behets and Vergauwen, 2006).

The use of self-selected critical incidents in this study prompted the PSTs learning (Crips et al., 2005). Through the observation of good practice and noting how the teachers capitalised on critical incidents was a valuable learning experience for the PSTs. The PSTs were quick to point out where teachers may not have capitalised on a critical incident and these observations enhanced their learning experience further. Using the critical incidents involved describing, analysing and reflecting on the incident both by themselves and as a group. Through these reflections and discussions, the PSTs made sense of their experience and made connections to their knowledge. They went through a process of reframing their

understanding of the pedagogy of physical education (Kolb, 1984). The process undertaken and the use of critical incident observations and reflective discussions developed their capacity to think in a reflective and critical manner. In some ways the process was as important for the PSTs as the outcome, supporting Korthagen (2001) where he describes field experiences as optimal chances for growth of reflective skills and inquiry orientated activities. It helped them articulate where they were in their learning journey and consider where they might possibly go to implement their new understandings in their future teaching practices leading back to *active experimentation* with their practice (Kolb, 1984).

Prior to carrying out the research the PSTs believed that there would be vast differences between the teaching methodologies and the overall standard of the children's ability in physical education in Ireland and Switzerland. However, they were surprised to notice that both countries were very similar in how they taught physical education and the content of their lessons. The findings highlighted the value of the teaching strategies (the critical incidents): questioning and demonstrating; management and organisation; feedback; and differentiation to promote inclusion and enhance participation within physical education and the power they have in supporting teaching and learning for the PSTs. The PSTs from their observations came to understand that the successful application of such strategies is dependent on the class, the lesson and the pupils and must be altered in accordance with a class's needs and their responsiveness to such strategies. Questioning was noted by the PSTs to have multiple uses, for example: to assess children's knowledge; to provide motivation; and to initiate and prompt learning. Although the PSTs had hoped to observe and learn from teacher demonstrations, the demonstrations were more obvious by their absence in the lessons observed. The PSTs observed opportunities for demonstrations, particularly child demonstrations, which were not taken by the teachers. Reflecting on inclusion led the PSTs to understand that inclusion applied to all children in their lessons and not just those with SEN.

Observation of this particular critical incident demonstrated for the PSTs that use of differentiation by the teacher engaged, motivated and challenged the children. When observing and reflecting on management and organisation the students concluded that this was related to class size. The PSTs felt the smaller Swiss classes allowed for more individual feedback, more time for skill development, better teacher-student relationships and therefore better quality teaching and learning and fewer organisation and management issues. Feedback was noted by the PSTs, from their observations, as requiring good subject content knowledge and very good observation skills. Similar to questioning, feedback was also utilised to motivate, engage and prompt children's learning.

Cochran-Smith and Lyttle (1993) have emphasised the role that communities of inquiry can play in PSTs' learning. The documentation of their graduates thinking and practice suggested that they learned both dispositions and strategies that carry forward from their experience. Similarly, the PSTs in this study developed as a community of learners from their specialism class of 25 to this smaller inquiry community focused on critical incidents to inform their learning about teaching. Further longitudinal studies that follow PSTs into their student teaching experience and the first several years of teaching are needed (Griffin, 2003: Kosnik et al., 2009: Ní Chróinín and O Sullivan, 2014) and in this case further examination could explore the impact of this project to establish if the PSTs implemented their new understandings through active experimentation. Future research could examine whether their established learning community continued beyond the project or if the PSTs continued to reflect on their teaching.

The PSTs, for the purposes of this research were individuals from a single university. Therefore, generalisations of results and conclusions to other PST populations are not possible. Aside from the obvious need for replication, several research directions may be suggested from the findings of this study. Further research is required to explore why PSTs

define becoming better teachers in terms of management and inclusion and its relationship to children's learning. The impact of class sizes upon effective inclusion, formative feedback, skill development and personalised learning could also be researched further.

For initial teacher education programmes this study has demonstrated that there is value in providing PSTs with opportunities to observe and reflect on a variety of teachers providing children with a rich learning opportunity in a 'real' physical education environment. The dilemma is how this might be facilitated within the constraints of university and school contexts, and for PEITEs successful in providing such opportunities to share their experiences.

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