Blended Professional Development in Physical Education: Merging Long-Distance with Face-to-Face Ongoing Support

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The study focuses on the use of blended professional development (BPD). That is, merging long-distance and face-to-face professional development (PD) characteristics to introduce a physical education pedagogical model to an elementary school teacher. This study sought to: (a) to contextually describe how a BPD in Student-Designed Games approach was designed and delivered, and (b) identify how the BPD was aligned with O'Sullivan and Deglau (2006) Principles of PD Design and Delivery. Data collection included lesson plans, observations and interviews. Data analysis was undertaken through the BPD in-depth description and a systematic process of deductive analysis. Three key findings emerged: empowering the teacher; meaningful learning in contextualized environments; and ongoing support. The BPD incorporated 4 stages of delivery: preparation, learning game categories, adjustment to students' background. Through these stages the BPD was able to provide: a balance between the teacher's background knowledge and PD vision; meaningful learning in contextualized environments.

Keywords: professional development, long distance professional development, blended professional development, models based practice, student-designed games, physical education

Introduction

The pursuit to advance in-service teacher practices is often promoted through professional development (PD). It is widely recognized that PD refers to continuing opportunities for teachers to engage in new and meaningful teaching practices that can positively impact on students' learning (Armour & Yelling, 2007; Patton & Parker, 2012). The key features of effective PD practices have been outlined in a number of studies and include: (a) the commitment to adopting changes in pedagogical tools that positively contribute to student learning, (b) providing long-term support with planning and reflection, and (c) promoting interactions between teachers and PD leaders to

address contextual challenges encountered within specific settings (Armour & Yelling, 2004; Chen *et al*., 2013, Ko *et al*., 2006).

Effective PD practices also involve teachers as active participants. That is, they come to PD workshops with their own beliefs, ideas, prior knowledge and expertise, and this informs their outlook and engagement within workshops and subsequent practice (Ko *et al*., 2006; O'Sullivan & Deglau, 2006). Having said this, internationally it is still common for teachers to attend de-contextualized, and sometimes compulsory, PD activities that do not facilitate short or long term changes to teaching (Armour & Yelling 2004; Sinelnikov, 2009). These kinds of PD activities are known for merely summarizing content as part of a limited number of meetings. They are often underpinned by a teacher-centered approach in which the PD leader is positioned as the knowledgeable gatekeeper. Moreover, no follow-up support is offered from the PD team (Armour & Yelling, 2007). It is widely acknowledged that these types of PD opportunities can be ineffective as they may include irrelevant content that is not applicable to the recipients of the PD. This kind of practice is therefore likely to have minimum impact on student learning (Braga *et al*., 2016; Ko *et al*., 2006). This paper adds to these wider discussions regarding PD within PE by reporting on a small scale research project that explored how one teacher experienced a PD activity focusing on the design and delivery of student designed games within PE. First consideration is given to the different modes of PD delivery found within contemporary education. After this the purpose of the study is identified and the methods utilized to address the purpose are discussed. This includes setting the scene in terms of the research context, participants, approaches to data collection and analysis. Following this the results are presented and discussed in relation to a number of themes including: (a) empowering the teacher and promoting experiential learning, (b) meaningful learning in

contextualized environments, and (c) on-going support and balancing PD visions with teacher's goals. In concluding we highlight how a BPD approach may connect student-centered pedagogical models experts with teachers even where there is physical distance between these practitioners.

Modes of PD delivery in contemporary education

Traditionally, PD has been delivered through face-to-face workshops or similar opportunities where practitioners engage in situ with the PD leader. There are many examples of this kind of approach internationally. For some time, questions around the effectiveness and efficiency of a face-to-face workshop orientated approach to PD have been asked by a number of scholars (see for example Armour & Yelling, 2007; Braga *et al*., 2016). More recently, technology has increasingly been used in PE and this includes extending the scope and nature of PD (Goodyear *et al.,* 2014). Indeed, teachers working in schools today are exposed to more flexible learning resources that may better accommodate their schedule, location and preferred approach to engagement. These opportunities include online resources (e.g. Twitter, Facebook, Instagram) and more specifically in the United States Web based platforms such as, SHAPE America forums, toolbox and webinars and PE Central (Sato & Haegele, 2017). Within a more formal structure than these kinds of resources, online PD may also provide teachers with a resource that enables them to work at their own pace in order to seek and gather information and learn within their specific area of interest (Donavant, 2009; Miller *et al*.,1998). Research focusing on online PD has shown the various possibilities to deliver sessions that are relevant to teachers' interest, beliefs and specific work context (André, 2017; Hanson *et al*., 2017). Of course, a potential disadvantage to these PD opportunities is the distant relationship that emerges between the PD leaders and teachers. In part, this working relationship may heighten the possibility of PD leaders

not fully understanding teachers' educational circumstances, context and needs. In these situations it is recommended that additional consideration is given to an approach to PD delivery that promotes a better understanding of the individual needs of the teacher and setting within which they are working (Chalmers & Keown 2006; Donavant, 2009).

Sato and Haegele (2017) developed two online adapted physical education (APE) courses to address in-service teachers' needs. They developed these courses based on a number of features including low cost, voluntary engagement, flexibility and accommodating to different schedules, no geographical barriers, shortage of specialists, and sustainable support. Both APE courses consisted of 15 weeks; one with 120 and the other with 150 hours of instruction. Besides confirming the advantages of flexible time and location, the results illustrated that the participating teachers enjoyed the experience in different ways.

Another way to support PD learning is to blend online and face-to-face PD activities, what Chen *et al*. (2013) describe as blended professional development (BPD). In their study they implemented a three-phase BPD approach to provide one PE teacher from Taiwan with instruction about utilizing a Sport Education model within 22 volleyball lessons[1]. The BPD initial phase included electronic submissions (e.g. via emails) of materials regarding Sport Education to the PE teacher prior to the beginning of the study. The second phase, was also conducted before the beginning of the study, and involved a month of onsite PD sessions (two visits per week) and supported planning and development associated with the lessons. The third phase occurred before and during the implementation of the Sport Education unit. This phase consisted of email correspondence, instant messaging, and video-conference calls via Skype among

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[1] Model-based practice refers to a pedagogical framework that proposes a set of procedures to organize content, activities and sequence of learning tasks (Casey 2014), such as sport education, cooperative learning, teaching personal and social responsibility and teaching games for understanding.

all three PD leaders. The results of the study demonstrate that the PE teacher successfully implemented the volleyball lessons using the Sport Education model. The PE teacher was motivated, able to adjust the content learned from the PD to his students' responses to the model, and also had more opportunities to monitor his students during lessons. With the use of technology, the PD leaders were able to provide feedback, support and offer consultation when needed (Chen *et al.*, 2013). According to Cardina and DeNysschen (2018) in-service physical education teachers are provided with less opportunities than other educational disciplines, hence, the instigation of new opportunities that are able to reach a wider audience becomes particularly relevant.

As illustrated above, the modes of PD delivery in contemporary education can include face-to-face, on-line or blended opportunities. As well as these contextual aspects of PD it is important to recognize that the wider ethos underpinning PD activities can influence approaches to delivery and subsequent outcomes. With this in mind, O'Sullivan and Deglau (2006) conceptualized seven key principles of PD based on their reflections of a four-year project. The first principle is driven by a view that teachers should be treated as active learners. Since in-service teachers come to PDs with pre-existing knowledge and beliefs, they should take active, instead of passive, roles in designing and implementing ideas. Second, teachers should be empowered and treated as professionals and leaders. In this regard, a supportive climate should be in place to enable teachers voices have been heard. To this end an environment should be created in which teachers feel able to challenge the PD purposes and mutually share their ideas. Third, PD should be based on practice aligned with teacher and school contextual variables and not based on abstract theory. Forth, PD should focus on meaningful content knowledge that relates to teachers actually work and students' needs. Fifth, follow-up engagement or activities should be on site and overtime in order to support

and promote dialog between the teacher(s) and PD leader(s). Sixth, attention should be given to what can be taught in the actual teaching-learning context (e.g. students, facilities, equipment, school culture). The last principle relates to balancing the teachers' needs with the PD vision. The PD activities need to meet the teachers in terms of where they are and then push them, by challenging them to work towards their ultimate PD goals.

Drawing on this wider literature around PD, the purpose of this study was twofold: (a) to contextually describe how a BPD in Student-Designed Games (SDG) approach was designed and delivered, and (b) to identify how the BPD was aligned with O'Sullivan and Deglau (2006) Principles of PD Design and Delivery. In addressing this purpose two features of Chen *et al*. (2013) BPD approach were implemented. First, one teacher was targeted and supported to design and implement SDG to fifth-graders. Second, like Chen *et al*. (2013) a triad interaction model was implemented between the PE teacher and two PD leaders (one onsite and the other via Skype). The methodology underpinning this study is outlined next.

Methods

Settings and Participants

This study was conducted using a single case descriptive-qualitative case study design (Yin, 2003). The primary school chosen is situated in the southern region of the United States and is located in an urban area. In the time of the study, the school had 439 students enrolled, 87% were White, 11% were African-American, and 4% were Asian. The Human Subjects Institutional Review Board approved this study. In line with this approval informed consent from teacher was obtained prior to the study. The school had one male PE teacher. The PD sessions were conducted in the school, at the teacher's

office. Peter (pseudonym), a White male, graduated in in 1982 and has 23 years teaching experience, he has spent much of his career in his current school. Typically, Peter attended an average of 24 hours of face-to-face professional development workshops per year. This was the first time he has participated in a BPD. The 11 lessons of the SDG games unit were taught to 27 fifth-graders, 16 girls and 11 boys (ages 10-11 years). They received 50-minute PE class twice a week.

The Professional Development Leaders

The triad interaction for this BPD consisted of Peter and two PD leaders, Paul and Mary. Paul (pseudonym) contributed as a SDG expert. He has worked with SDG for over 10 years as a practitioner and researcher. His role in the PD triad interaction was to provide ongoing support via online (Skype) meetings with Peter as well as the other PD leader. Mary (pseudonym) contributed as an elementary PE teacher education expert. She has conducted research in school settings for 15 years. Mary knew Peter because he served as cooperating teacher in her teacher education program in the last seven years.

Model-Based Practice: Student-Designed Games Five-Step Procedure

Student-Designed Games (SDG) is considered a curriculum approach that encourage students to work together while designing, refining, and playing their own games (Hastie, 2010). In SDG, the role of the teacher is to facilitate active learning experiences through a whole unit of instruction. According to Hastie (2010), the implementation of a SDG unit requires teacher's planning for: (a) outcome goals to be achieved, (b) type of games to be designed, (c) organization of learning groups; (d) challenges to be presented to the groups, (e) time for students to explore options when designing the game, (f) time for students to practice the game, (g) time for students to review the game, and (h) time for students to share the end product to their peers.

This BPD utilized André and Hastie's (2018) SDG Five-Step procedure to plan and implement 11 lesson plans in target games. Table 1 summarizes the SDG Five-Step implementation.

[insert Table 1 near here]

The Professional Development

Similar to Chen *et al*. (2013) study, this model-based practice study used a PD triad interaction format in a BPD format, incorporating long-distance workshops along with an onsite PD leader. In contrast to Chen *et al*. (2013), this present study organized the PD sessions with both long-distance and onsite PD leaders simultaneously. In addition, the onsite PD leader was present during the implementation of 11 SDG lessons. Based on Chen *et al*. (2013), Figure 1 presents the main tasks and support undertaken by each PD leader and their interactions with each other and Peter.

[insert Figure 1 near here]

The PD triad interactions occurred during four two-hour sessions (total of eight hours) prior to the beginning of the study. The purpose of these sessions was threefold: (a) to clarify what SDG was, (b) to adjust SDG model to the school facilities, weather, equipment, Peter's content knowledge, and students' prior knowledge, and (c) plan for the first two lessons. During the implementation period, the PD triad interaction occurred once a week for two hours throughout four weeks (total of 8 hours). The purpose of these sessions was to discuss how students responded to the previous lessons and plan for the following week.

Data Collection

Three techniques of data collection were used including, (a) lesson plans, (b) field notes, and (c) post-interviews.

Lesson Plans

The lesson plans were used as a record of the preparation of the SDG unit. They provided a description of what was initially planned and how it changed from one class to the next. The preparation of each lesson plan was the collaboration among the two PD leaders and the teacher. Informal conversations were undertaken and were used in the data collection process. Peter and Mary wrote down the lesson plan that would be delivered in the following class.

Field notes observations

Mary took field notes from observations during each lesson. The notes included both a description of the lesson as well as a brief comparison of what was discussed in planning and the teacher's actions, reactions and impressions during each lesson (including informal interviews). These notes were used as starting point to initiate a discussion about Peter's concern and interests, and to ensure the SDG model's fidelity.

Post-intervention interviews

Paul conducted two interviews at the end of the SDG unit. Peter participated in an approximately 60-minute interview to describe his perceptions of the BPD in SDG. Mary also participated in a 60-minute interview conducted by Paul to describe her experience as the PD leader and perceptions about the project.

Data Analysis

The field notes observations and the lesson plans were used to provide an in-depth description of how the BPD was conducted. The field notes observations were used to provide a description of the context in which the SDG unit took place, identifying its particularities, challenges and Peter's actions.

Field notes observation and transcribed interviews were used in a systematic process of deductive analysis (Lincoln & Guba, 1985) to identify how the BPD was aligned with O'Sullivan and Deglau's (2006) Principles of PD Design and Delivery, hence the data analysis was limited to identifying (coding) the BPD actions to one of the seven principles of Design & Delivery. In the initial data analysis process, field notes observations were used to identify how the BPD was being conducted relation to the seven PD principles. The 21 pages of field note observations were read by author one and two separately, each sought to identify when one or more PD principle was being incorporated in the BPD. For instance, after lesson six, the teacher felt that students were overwhelmed with the challenges of creating a game from scratch which led to significant changes to the initial course of action designed for the unit.

Through this example it was established by the authors that the BPD was incorporating principle #6: Attention to the teaching learning contexts. After this, these first interpretations were cross-checked with the post-intervention interviews in order to confirm or contradict the preliminary interpretations. Using the same example provided, the data analysis sought to identify if principle #6 was being identified by the teacher and one of the PD leader within their interviews and how was this being incorporated. When repeated examples were found to relate to the same pedagogical principle, a theme was generated to report as a finding. Two methods were used to ensure trustworthiness: triangulation and member-checking.

Triangulation involved the process of using multiple sources of data to answer the purpose of the study and by doing this provide an opportunity to re-evaluate each interpretation. Member checking enabled the findings to be shared with the participant and this process provides an opportunity to verify if these findings were aligned with his perceptions.

Results

The results of this study are presented according its purposes: (a) to identify how the

BPD was aligned with O'Sullivan and Deglau's (2006) Principles of PD Design and

Delivery, and (b) to contextually describe how a BPD approach was designed and

delivered.

BPD Alignment with Principles of PD Design and Delivery

Table 2 summaries how the SDG BPD align with the principles identified by O'Sullivan

and Deglau (2006) in its design and delivery.

[insert Table 2 near here]

In relation to these principles three main themes emerged from data analysis: (1)

empowering the teacher and promoting experiential learning, (2) meaningful learning in

contextualized environments, and (3) ongoing support and balancing PD visions with

teacher's goals.

Empowering the teacher and promoting experiential learning

From the beginning of the BPD, Peter was excited about learning a student-

centered approach that involved target games. He also seemed enthusiastic about the

opportunity to participate in the elaboration process. At this time, Peter acknowledged

he would find it difficult to give up his usual teacher-centered approach. In part, he was

able to grapple with, and overcome, this challenge through discussions during the BPD

sessions. The following account reflects the teacher's experience of introducing a

student-centered pedagogy:

> "It's hard to relinquish control and sometimes I did, and I sometimes, behavior
>
> wise I had to step in and intercede. But that's for a PE teacher, who's always had
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> direction instruction, you know, 'this is what we want to do' to give up that
>
> power so to speak and give it them was a learning experience for me to see how

I would react to it. On the other hand, look how they would react if they were given an opportunity to take 5 or 6 in a group and teach each other and how they cooperated and how they went about the process of developing a game, taking suggestions from each other and how they were going to react to some of those situations. To me, it was a learning experience all the way around." (Peter's interview).

Interestingly, Mary (onsite PD leader) also acknowledged that she was supporting Peter and in doing this found this process had enabled her to reconsider her understandings of SDG. As she states:

"I felt like I learned how to implement [SDG] better because I had an idea of what it was, but I would feel like I had to implement the way the book says or this or that. It made me question, 'Oh, no, the principles are there. I have the flexibility to change things.' You taught me this flexibility." (PD leader interview)

The opportunity to experience the SDG as an active learner encouraged Peter to implement these practices beyond the context of the BPD support. Indeed, six months after the end of this project Peter and Mary collaborated to deliver a 6-hour live PD in SDG-target games to 32 teachers in his school district. Initiating this activity demonstrates how a teacher involved in BPD can take actions that move beyond their immediate needs and support other colleagues more widely. This action serves to illustrate how the principle of empowering teachers to become local leaders can be a catalyst for promoting positive changes in school practices.

Meaningful learning in contextualized environments

The idea of a meaningful content related to Peter's desire to teach something that reflected his agenda and students' interests. The following extract highlights Peter's intention to nurture a more collaborative environment in his classes.

> "I thought this would be a worthwhile opportunity for the kids to really get in and delve deep into creating games and see how they could work together, the group dynamics and just see how they would cooperate with each other. Because we're trying as a district to get kids to start showing compassion and cooperation with each other instead of fighting against each other when we come up to topics like this, because when they get to middle school and high school, they're going to have to learn how to work together in groups." (Peter's interview).

Peter was very pointed in emphasizing that he believed this content was meaningful for the students as it promoted good relationships among the students. As Peter suggests this process enabled students to develop skills associated with negotiation and he believed this consequently brought them closer together.

> "As far as I'm concerned, watching them grow as students working with each other trying to create something together—of course they had their bumps; there were a few that were butting heads a little bit. But as far as their growth goes, you could tell that some of those groups were really starting to bond, get closer together, and there wasn't as much argument or people resisting ideas that people had developed for their games. So yeah, I think it was meaningful for them." (Peter's interview).

It is clear that Peter, as a teacher in the school was immersed in, and understood, the environment and students he was working with and this helped him to map out his intensions and actions. This, however, was not the case for Mary and she still felt that there were still opportunities to learn about the school environment. Interestingly, Mary

has worked with Peter in this school for the past seven years while establishing a partnership of her university's teacher education program. Clearly, even by forging this kind of partnership it did not enable a more intimate understanding of school environment. This perhaps reflects the challenges for any PD leader who is external to the schools involved to promote contextualized PD opportunities.

Ongoing support and balancing PD visions with teacher's goals

The main premise of creating a BPD was the idea of assessing an ongoing support to teachers that wish to implement SDG. There was a genuine concern to establish this relationship with Peter. From his perspective, he believed he was able to respond very positively to this due to the opportunity to "bounce ideas off" the local PD leader. In this way Peter could engage in mutual discussions to support his planning and implementation. The following quote illustrates this point:

> "Mary and I go through that process [reflection] after every class, you would know, there was a lot of reflection there. Because at the beginning, we had set it up where they were playing four games. And we tried that the first day, and it just did not work. So we pulled it back down to two games each day, and that was that reflection from the previous lesson that guided us through the process of cutting it back down to two so they had a clearer understanding of what we trying to achieve. So reflection is definitely a part of this process." (Peter's interview)

> When asked about the difference between this BPD experience in relation to

other types of PD Peter had participated, he stated the main benefit of this format:

> "I definitely think the interaction was important. That's the thing about PD, though—and I know they can't be at your back and call all the time, but to have a day or two where you can go back and say "Could you clarify this?" Or "What

do you think about me doing this instead of this?" If you didn't have that opportunity, you're going in different directions, and it may not be the same direction that you wanted me to go on." (Peter's interview)

Mary, shared a similar perception about the BPD support provided during the study.

"It's a fact that you were in a long distance, but it's a fact that you gave support every week, so we were not alone. Any time that we needed [support], we could hold a little, then we would get the answers; we figured that out." (PD leader interview).

The ongoing support ensured the PD leaders did not dictate what was planned and delivered and this did not diminish the PE teacher's role. Peter perceived the partnership as a balanced approach in which teamwork enabled the goals of all parties to be met.

"I know there were outcomes that you and Mary were looking for with this, and I didn't want to step on those outcomes and maybe muddy it up and you didn't get the outcomes that you were looking for. But no, I felt like I had control of as much of this as you all did through the process…You were able to give me some freedom to select games that were target games that we had done in the past here. Then I was able to, I say, bounce these ideas off, but to give you an opportunity to understand what I have done in the past…So it was mutual cooperation, I guess the best way to describe it." (Peter's interview)

Reaching a balance between the PD leaders and the teacher was a constant concern of the PD. A key practice to promote this equilibrium was to ensure the teacher felt comfortable initiating a conversation in order to share with the PD leader what he

wanted to accomplish. This was then used as the starting point for discussions before anything was proposed to his practice.

Blended Professional Development: Design and Delivery

The BPD process was divided in four different periods. First was the preparation stage occurred prior to the study. Second stage focused on playing and understanding four game categories. It occurred during lessons one and two. Third stage related to adjusting the SDG Five-Step procedure to students' background knowledge. It occurred between lessons three and six. The last stage involved in supporting students to refine their game.

[insert Table 3 near here]

The preparation stage focused on pre-existing knowledge and new knowledge. The SDG Five-Step procedure (André & Hastie, 2018) was introduced and this included a projection of what would happen in each lesson, handout and charts. Peter shared what he knew about target games and which ones could be used in the lessons. This reasoning was based on availability of equipment and space, the students' previous knowledge and their target game preferences. Peter and Mary learned about the SDG behavioral rules to design games as group.

The second stage involved allocating students into four groups. Each group was assigned to different game stations: ultimate ball, four square, football bowling, and modified kickball. Over two days they rotated through the stations. The theme of these lessons was to understand the characteristics of each game. Peter provided students with an explanation and also checked their understanding using handouts. These lessons were delivered on an outdoor field and tennis court.

On the third stage, students were placed in six persisting groups and were told they were to focus on target games. Stations were set up and they played four different

target games during two lessons. Peter's input during this stage was critical to the selection of the games, group selection, pace of the lesson and adjustment to the SDG procedure. Peter provided explanations and handouts for students to better understand the target games SDG leading questions (i.e., questions that led to common characteristics of target games).

On lesson five, students played their favorite target game (pins down), responded to the SDG leading questions with the teacher, and were introduced to a different version of the game. This enabled students to appreciate how games can change but still maintain their category features. Building on what they learned in previous lessons, lesson six focused on students creating a new game. Each group used a chart (60 X 60 cm) to complete the SDG leading questions about the new game. Interestingly, Peter and Mary noticed that students were confused with the chart questions, and were not able to make connections between the previous target games and new games. The PD triad reflected on the students' responses to this task and decided to ask them to modify football bowling and corn hole rather than creating the game from scratch.

Apart from students' difficulties to design a new target game, during this stage, Peter had to intervene continuously to solve behavioural issues. Even though leaders were not assigned, some students took leadership roles and this reflected different student attitudes towards PE and the SDG. Some were more positive and were able to negotiate and comprise. Some students wrote on the chart only what they thought was important. Although not anticipated in the PD, the constant reinforcement of behavioral rules, and checking for understanding regarding the five behavioral rules during the game design process became paramount features to the implementation of SDG.

The final stage of the PD addressed intra and inter group interactions. Besides maintaining the five behavioral rules, the PD triad also established strategies to facilitate student presentations to other groups, and how to give feedback to others. The strategies were effective in helping students to rethink and refine their games. To support this, students worked through a playbook, a template written as series of power point slides and incorporating each leading question on a separate page. Before students' completed of the playbook, Peter decided to share with the students how the playbook of basketball had evolved since it was created. Offering this illustrative example clearly caught the students' attention and supported them to better understand how the playbook teaches other people to play the game and the ways in which it is modifiable. Peter also informed the students that he would use their playbook to teach their games to other fifth-grade classes.

Discussions

As discussed earlier O'Sullivan and Deglau's (2006) principles guided this study because they reflect realistic PD conditions and also represent many of the key features recognised as effective PD (Armour & Yelling, 2004; Chen *et al*., 2013; Ko *et al*. 2006; Patton & Parker, 2012).Relatedly, and inspired by Chen *et al*. (2013), this BPD study focused on supporting a PE teacher to learn and implement model-based practice in SDG.

Whilst model-based practice is not a novelty, it is considered to be an innovative teaching tool (Casey, 2014). This is because many teachers still choose to adopt teacher-centered traditional approaches. Having said this, there have been repeated calls to better support the implementation of new model-based practice (Fletcher & Casey, 2014). Although previous studies have designed PD that are specific tailored to student-centered pedagogical models (see Hemphill, 2015), the dissemination of these models

should not be hindered by model-based practice experts location. Importantly, at least at local level, this study played a positive role in contributing to the dissemination of a model-based practice. Besides the successful SDG implementation, similar to Sato and Haegele's (2017) study participants, Peter found meaning from what he learnt, to some extent; this served as a catalyst for him to take on the role of a PD facilitator within a local school district. In many ways, Peter's positive experiences of this PD opportunity aided his confidence and as a result he felt able to become an advocate of PD himself.

Consistent to previous model-based practice long-distance PDs (Chen *et al.* 2013; Sinelnikov, 2009), SDG was taught from a remote location. The role of Paul, as a long-distance and SDG expert PD leader, was critical for Peter and Mary to adjust the key features of SDG into the actual contexts. They recognized the flexibility within the SDG approach, and counted on Paul's support to help them to keep the fidelity of the procedures whilst at the same time dealing with contextual variables. Coupled with this, the onsite support provided by Mary, was valuable particularly in relation to observing how the lessons were implemented and students' responses. This insight provided a useful trigger for reflecting and discussing the lessons with Peter and Paul. The collective participation and open communication from all members of the PD triad established in the meetings prior to the study, certainly built credibility among PE leaders and the teacher. This finding is similar to Deglau *et al.* (2006) study in that critical dialogue among teachers and PD leaders allows teachers to rely on their own expertise. It also enabled then to be comfortable and confident to share successes and challenges, and to continue to build trust through their relationship with colleagues and PE leaders.

Another benefit of the combination of practitioners involved in this study was the ability to incorporate Peter's background knowledge of games and how to teach

them into the project. O'Sullivan and Deglau's (2006) PD principles advocate balancing the PD visions and teacher's goals, and this was possible in this study because Peter's pre-existing knowledge about content, students, equipment and facilities. Possessing this knowledge and understanding helped the PD leaders to push Peter to work towards his goals. For example, Peter seemed well-organized and taught students all game categories. He also checked for students' understanding and managed their behavior effectively. However, it was more challenging for Peter to transition from a teacher-centered to a student-centered approach. During the game refinement stage, particularly, he felt insecure about the strategies adapted as a 'facilitator'. Recently, Casey and MacPhail (2018) and Fyall and Metzler (2019) have highlighted how teachers can be uncertain when implementing model-based practice for the first time. That said, the inclusion of a continuous support system seems to be one antidote to overcome these concerns (Goodyear, 2017). The results of this study demonstrate how the PD triad enabled different levels of constant support. Indeed, the reflections during the PD triad meetings provided Peter and Mary with an understanding about the role of the facilitator and how to teach students to develop autonomy and cooperation within their groups. Similarly, Paul benefited from understanding of the context from a distance. Keegan (2019) have highlighted the importance of engaging learning while having a reflexive approach as a form of lifelong learning that should be embedded in any form of PD.

This BPD presented two challenges that should be acknowledged. First, the number of hours and workload that the PD leaders and PE teacher dedicated to this BPD was significant. All three members of the triad were committed to engage in a project that could improve their knowledge and students' learning. The school context, and the PD triad members' expertise and interactions had a constant and interactive effect on how this project evolved. It was very much a collective endeavor and the positive

relations between the triad seemed to dissipate the sense that this project was an onerous time commitment. Therefore, it is recognized that where the triad dynamics are not functioning in this way this may have a less favorable impact on the experiences and outcomes of those involved. Second, although the teacher seemed to be an active member of the PD triad, and demonstrated his ability in sharing the new knowledge with other teachers, there is no assurance that the dissemination of SDG will flourish. That is, Peter may have good intentions to continue to implement and advocate for SDG but may simply revert back to his more familiar approaches to teaching. Sometime ago Zeichner and Tabachnick (1981) described this response as the "wash out effect" and it is a real possibility where any changes are promoted through PD. Indeed, this has been identified as a risk when teachers have little experience on implementing a student-centered approach (Ko *et al*., 2006). Perhaps the issue to consider here is how someone like Peter can feel supported in the longer term to continue their PD activities.

Conclusions

The search for a student-centered pedagogical models (here represented by SDG) as well as PD modes of delivery that are able to impact teachers' practices and students learning has been debated for some time (Casey 2014; Casey & MacPhail, 2018). The study presented in this paper demonstrated that PD leaders and the teacher were able to go through different stages when implementing the BPD. This study also reinforces the premise that the teacher as an active learner and ongoing support were key elements for the implementation of the new teaching approach. Importantly, this study illustrates that the BPD format can connect student-centered pedagogical models experts with teachers despite any physical distance. Whilst at the same time, seeking to envision an alternative way to promote pedagogical models often found on the periphery of practice. And in doing this still consider local contexts and the possibilities for on-going support.

Moving forward there is still much to learn and understand about BPD. In particular, more thought needs to be given to how to balance better the amount of work and time required from PD leaders and teachers to implement this kind of intervention. There is also a need to consider the implication of scaling up such projects in order that more teachers can be included in similar PD opportunities. Moreover, working with different age groups or delivering different student-centered approaches could also be explored. Finally, within the study it was those involved in the triad that were research participants. Future projects should be more attentive to how students can become part of the relational process of developing, delivering and reviewing similar PD activities.

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