The Action Research story of a student–teacher: Change is not easy and it takes time, effort, and critical reflection

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Abstract
The purpose of this paper is to report on the pedagogical and research learning I experienced as a physical education student–teacher engaged in an action research project, for which I designed and implemented an innovative teaching model. In my roles as student–teacher and researcher, I wanted to examine the impact of using Sport Education in a Finnish school context by analysing and understanding my teaching as well as my students' experiences. Data collection included my personal reflective journal, video observations, student group interviews, and student diaries. The results of this study reinforced previously reported benefits of Sport Education, although there are contextual and pragmatic issues that need to be acknowledged. Even though implementing a new pedagogical approach was time-consuming, stressful, and full of real-world challenges as well as the additional demands of the action research project, I still learned a great deal about teaching and research.

Key Words: action research, physical education, student–teacher, curricular change, teacher education

La historia de la Investigación Acción de un estudiante-profesor: El cambio no es fácil y lleva tiempo, esfuerzo, y reflexión crítica.

El propósito de este trabajo es informar sobre el aprendizaje pedagógico y de investigación que he experimentado como estudiante-profesor de educación física involucrado en un proyecto de investigación acción para el que diseñé e implementé un modelo de enseñanza innovador. En mis roles como estudiante-profesor e investigador, quise examinar el impacto del uso de la Educación Deportiva en un contexto escolar Finlandés, analizando y comprendiendo mi enseñanza así como las experiencias de mis estudiantes. La recopilación de datos incluyó mi diario de reflexiones personales, observaciones en video, entrevistas a grupos de estudiantes y diarios de estudiantes. Los resultados de este estudio reforzaron los beneficios previamente reportados de la Educación Deportiva, aunque hay cuestiones contextuales y pragmáticas que deben ser reconocidas. A pesar de que la implementación de un nuevo enfoque pedagógico consumía mucho tiempo, fue estresante y lleno de retos del mundo real, así como las demandas adicionales del proyecto de investigación acción, aprendí mucho acerca de la enseñanza y la investigación.

Palabras Clave: investigación acción, educación física, estudiante-profesor, cambio curricular, formación de profesores

Introduction

A new national curriculum will be implemented in Finland at the beginning of the 2016-2017 school year. Although the Finnish education system is already child-centered and liberal (Sahlberg 2011), the overall goal of the new curriculum is to give students more independence by giving them responsibility for their own learning through an emphasis on the joy of learning and students' active role (Finnish National Board of Education 2015). More specifically, in physical education (PE), students should become active participants who are able to cooperate and help each other (Finnish National Core Curriculum for Basic Education 2014). This significant change is one reason teachers should find new methods of teaching physical education. For the first time ever, model-based practice and Sport Education (SE) in particular have been included in the teacher guidelines of the Finnish National Core Curriculum for Basic Education (Utbildningsstyrelsen 2014) as a method of enriching PE.

The SE model is an internationally used and researched model that has had several positive outcomes (Layne & Hastie 2015), and it will be further developed in later sections. It is also gaining more traction in countries that do not primarily speak English, though studies in these countries are still limited, as well as textbooks in languages other than English (Glotova 2011). There is a gap in the literature base about model-based practice in Scandinavia (Romar 2013; Romar, Ahlroos, Flykt, & Penttinen 2015). Although there has been an initial effort in Finland (Romar, Henriksson, Ketomäki, & Hastie 2016), there is still a need for more research on the implementation of SE in Finnish schools.

In addition, Araújo, Mesquita, and Hastie (2014) pointed out that there are still several gaps in international SE research, which they suggested could be filled through action research in SE. This was one of the main reasons I wanted to study SE through action research. I chose to do so during my final student–teacher experience as a way of increasing my knowledge of innovative model-based practices, which are also expected in research-based teacher education programmes in Finland (Niemi & Nevgi 2014). Research-oriented teacher education has received credit as well as criticism due to the relation between research and practice. By situating action research in teacher education, educators assume that authentic researcher experiences will help preservice teachers translate theory into practice, particularly when dealing with innovative instructional strategies (Kemmis 2010). Furthermore, Eklund (2014) proposed that action research could be a solution to preservice teachers' dilemma. Though teachers understand and see the logic of the research orientation, they feel that research-based teacher education does not give them enough practical tools.

All first-person references in this article refer to Nicolina, as I was the practitioner in this study. When drawing conclusions and implications, all three authors' voices will be heard. Jan-Erik and Ben, the silent coauthors in this paper, were experienced university faculty members who have expertise in the use of SE and action research, respectively. Jan-Erik was the master's thesis supervisor, and we constructed the SE unit, discussed data collection, analysed the data, and discussed the findings together. He also challenged my understanding of the whole process. Ben provided an outside audit, giving peer debriefings and acting as a critical friend in order to challenge my interpretations of the student–teacher experience.

Action Research

By definition, action research is when practitioners systematically investigate their own practice, to understand and improve it (Huang 2010; McNiff & Whitehead 2006). Besides developing and changing the practice, practitioners use action research to understand the change process (Newby 2010). Action research has been implemented in several ways, and one general feature is an approach where new knowledge is generated through change-oriented activities (Kalliola 2009). Teacher action research is about teachers and the improvement of teaching and student learning, where no outside experts conduct inquiry on them (Eikeland 2007; Schaenen, Kohnen, Flinn, Saul, & Zeni,2012). Therefore, the production of knowledge in action research is not a straightforward process (Olesen & Nordentoft,2013) and the action researcher needs to become aware of being a co-producer of knowledge (Pedersen & Olesen 2008). Teacher action research challenges traditional social research and teachers' practically acquired experience has the potential to bridge the traditional dualism between theory and practice (Coghlan 2010; Eikeland 2012). While educational AR projects often are small scale, the research need to be analysed and understood within the larger context, and consequently the generated knowledge has specific features (Pålshaugen 2014). The knowledge has a fundamentally tacit knowledge and action-oriented perspective, while grounded in teachers' everyday work in classrooms (Dohn 2014). Additionally, this knowledge describes phenomena as they appear to teachers, in a descriptive and subject-centered context, and not with a focus on general solutions (Coghlan 2010). An action research approach facilitates analysis of practice-based knowledge development that arises (Hynes, Coghlan, & McCarron 2012) from involving the researcher practically in the *messy* classroom work (Dohn 2014). These features support the notion that action research was originally a strategy for reforming social science (Lewin 1946; Pålshaugen 2014).

Like any change process in schools, action research takes a lot of time (Reason & Bradbury 2008), and it might take a while before positive outcomes can be seen (Denscombe 2009). Action research consists of a spiral of steps, including planning, acting, observing, and reflecting (Denscombe, 2009; Newby 2010). Action research can enable reflection as part of the research process (Cohen, Manion, & Morrison 2011). The sharing of research findings of the action researcher with others, both practitioners and researchers, will strengthen this research approach (Pedersen & Olesen 2008). According to Casey and Dyson (2009), action research is a way for practitioners to problematise their teaching, and understand how to improve it. Action research also plays a role in fostering the relationships between teacher education and schools to the benefit of all learners (Vaughan & Burnaford 2016).

Lattimer (2012) pointed out that action research can help teachers develop the skills needed to be reflective in the classroom. Gore and Zeichner (1991) proposed that action research should be included in preservice teacher education programmes (Liston & Zeichner 1990). Research has shown that effective use of action research in teacher education programmes will improve preservice teachers' ability to reflect, which is important for their future work as teachers (Barbre & Buckner 2013; Crawford-Garrett, O'Reilly, & Luttrell 2015). Action research also helped preservice teachers facilitate the process of integrating reform-based teaching (Capobianco & Ní Ríordáin 2015), promoted a shift towards child-

centered teaching (Kosnik & Beck 2000), and improved their self-efficacy and teaching confidence (Mostofo & Zambo 2015). However, Ulvik (2014) found that performing action research during student–teacher experiences has been challenging due to preservice teachers' lack of experience, as well as their need to simultaneously perform the roles of a student, a teacher, and a researcher in another teacher's classroom. Also, time has been a key challenge to implementing action research during student–teacher experiences (Ginns, Heirdsfield, Atweh, & Watters 2001; Ponte, Beijard, & Ax 2004; Smith & Sela 2005). Still, Crawford-Garrett et al. (2015) suggested that student teaching should be considered a professional development avenue that allows for the time and space needed to carry out research.

Action Research in Physical Education

Though existing research proposes and shows the results of a pedagogical use of reflective practices in PE teacher education (Crawford, O'Reilly, & Luttrell 2012; O'Connell & Dyment 2011; Standal & Moe 2013; Tsangaridou & O'Sullivan 1997), there is a gap in the literature when it comes to describing the use and effects of action research (Rossi & Tan 2012). The majority of action research in PE has implemented model-based practice teaching with school students or preservice teachers, in which the teacher–researcher is a university faculty member or school teacher. These studies have focused on learning about teaching and ways to improve practice (Casey & Dyson 2009; Casey, Dyson, & Campbell 2009; Gubacs-Collins 2007; Webb & Scoular 2011). Other studies have focused on how preservice teachers learned the model (Glotova, 2011) or how much they remembered it when performing a second round of action research with the same group (Casey 2013). However, recently, O'Leary, Wattison, Edwards, and Bryan (2014) reported on an action research project where preservice teachers implemented one Cooperative Learning strategy while teaching gymnastics in a secondary school.

Studies in PE have also shown that action research is time consuming, and the process of change is not always straightforward (Casey et al, 2009). As the progress was not always linear, and sometimes occurred in overlapping ways, it was difficult to describe both the progressive steps and the reflection phase (Webb & Scoular 2011). Casey and Dyson (2009) stated that there was a fine line between success and failure, and it took a lot of work to change what had to be changed. The setbacks of trying to implement an innovative teaching model and inexperience using action research made the teacher–researcher consider restarting the unit (Casey et al. 2009).

However, Gubacs-Collins (2007) felt that the dual role of a teacher–researcher had a motivating advantage over other research methods. She also reported that she became closer to her students and learned to listen to them, as a result of the continuous action and reflection process. Webb and Scoular (2011) also reported that action research helped them to get to know their students better and increase their knowledge of themselves as teachers. However, using action research made the teachers feel like novices despite their many years of teaching experience (Casey & Dyson 2009; Gubacs-Collins 2007). Even when the role of teacher–researcher was familiar to Casey (2013), he continued to learn about his own teaching.

Sport Education

While most action research studies in PE have focused on cooperative learning, SE may provide a solution to the new national curriculum in Finland. SE is a model-based practice in PE that has six key features, which are (a) the seasons are longer than a normal unit in PE, (b) the students stay on the same team throughout the season and have different responsibilities within the teams, (c) formal competitions are organised for the teams to compete against each other, (d) records are kept, (e) the whole season takes place in an atmosphere of festivity, and (f) the season ends with a culminating event (Siedentop 1998). The primary goals of SE are to create competent, literate, and enthusiastic sports persons (Dyson, Griffin, & Hastie 2004; Siedentop, Hastie, & Van der Mars 2011).

Comprehensive reviews of literature (Araújo et al. 2014; Hastie 2012; Hastie, Martínez, & Calderón 2011; Kinchin 2006; Wallhead & O'Sullivan 2005) present empirical evidence that SE effectively promotes students' participation in student-centered learning tasks. Though students have been enthusiastic about the SE model, similar positive reactions have been noted among teachers who are implementing the model in countries all over the world (Alexander & Luckman 2001; Clarke & Quill 2003; Kim, Penney, Cho, & Choi 2006; Kinchin, MacPhail, & Ní Chróinín 2012; Romar et al. 2016; Sinelnikov 2009; Smither & Zhu 2011). Teachers have noticed that they have become more like facilitators than traditional teachers. Nevertheless, it has not always been easy to let go of control, step off the centre court, and give students additional responsibility (Casey 2013). Both in-service teachers and preservice teachers (McCaughtry, Sofo, Rovegno, & Curtner-Smith 2004; McMahon & MacPhail 2007; Romar 2013) have indicated that working with the SE model is initially more demanding and time consuming than traditional teaching.

Preservice Teachers and Sport Education

Early field experiences and student–teacher experiences are important for preservice teachers' professional learning (Richards, Templin, & Graber 2014). Preservice teachers' experiences using instructional models have generally been positive (Romar 2013), and they found SE attractive, because it was congruent with their subjective warrants and work orientations and the space they could create for themselves, by providing students more responsibility and ownership during the SE unit (Curtner-Smith & Sofo 2004). In addition, Glotova and Hastie (2014) found that positive attitudes toward SE were due to successful experiences and the chosen sport. Preservice teachers who used the SE model felt that they got to know their students better and that the students behaved well and paid more attention (Curtner-Smith & Sofo 2004).

However, studies also show that preservice teachers felt insecure using the SE model (Romar et al. 2015) and had difficulties teaching students their duty roles (McCaughtry et al. 2004; McMahon & MacPhail 2007). Furthermore, preservice teachers had problems with their own roles as teachers (Romar 2013) and felt like they were not teaching when they did not use the traditional teacher-centered approach (Curtner-Smith & Sofo 2004). Preservice teachers also struggled with tactical instruction and misunderstood the role of skill development in SE (McCaughtry et al., 2004). With these problems in mind, McMahon and MacPhail (2007) suggested that preservice teachers should get the chance

to explicitly learn the philosophical theory underpinning the SE model and implement it in practice.

Although Ulvik (2014) noted that action research gives student–teachers the opportunity for professional development, other studies (e.g., McCaughtry et al. 2004; McMahon & MacPhail 2007; Romar et al. 2015) report on challenges with implementing innovative models in PE. Groundwater-Smith and Nicole Mockler (2015) point to the value of students' voices in research projects, which could be seen as giving student–teachers a participatory role in action research. In addition, most action research that is reported in PE (Casey & Dyson 2009; Gubacs-Collins 2007; Webb & Scoular 2011) and teacher education (Capobianco & Ní Ríordáin 2015; Ponte et al. 2004; Smith & Sela 2005) is reported by university faculty members rather than student–teachers. As my teacher education programme also included a master's thesis, I was challenged by my supervisor to develop a practical way to combine student teaching with collecting and analysing data for my thesis and thereby learn to do research (e.g., Kosnik & Beck 2000). Thus, my goal for this action research project was to examine the impact of using SE in my PE lessons, and see how the model worked in a Finnish school in response to the new national curriculum. In addition, I wanted to improve as a practitioner and researcher.

Methods

Context

In Finland, teachers are required to have a master's degree, and teaching and research are both emphasised in teacher education (Westbury, Hansén, Kansanen, & Björkqvist 2005). The main objective is to prepare teachers with a research orientation who are also capable of independent problem-solving and have the capacity to utilise the most recent educational and subject-specific research (Finnish National Board of Education 2014). Education is the major subject in classroom teachers' master's degree programmes, which are typically completed in five years. Preservice teachers at Åbo Akademi University have courses in language and communication studies, method classes in various school subjects, and pedagogical studies. In this study, the teacher education programme has a strongly research-oriented component in pedagogical studies, and all students have to write both bachelor's and master's theses. The teacher education programme includes supervised teaching practice, starting in the first year and continuing with a student–teacher experience in the final year. This teacher practice is mainly organised in the university training school.

This study was conducted in the elementary training school at my university during a four-week student–teacher experience, and I implemented a SE soccer unit in PE. Researchers of model-based instruction have been concerned about short units (Casey & Goodyear 2015; Harvey & Jarrett 2014), particularly in SE research (Araújo et al. 2014). However, in Finland, traditional physical education is implemented using a multiactivity approach with short units of two to three weeks with one 90-minute lesson a week (Yli-Piipari 2014). It would have been difficult to change this physical education culture and the structure for student–teacher experiences, which is also supported by Layne and Hastie (2015). Therefore, to achieve the goals of contextualisation and realism in this study, I used

a four-week unit with 90-minute, once-a-week PE lessons to make the study ecologically valid (e.g., Davids 1988). Given that I was a classroom teacher, I could also use two 45-minute classroom lessons to introduce and implement the SE unit. In relation to each lesson, I went through the action research cycle: I first set an intention for the lesson (plan), accomplished this plan with my class (act), collected data about what happened as a result of the intentions (observe), and analysed the efficacy of my instructional choices (reflect).

Participants

At the time of the study, I was a preservice teacher engaging in my last student–teacher practice in a generalist teacher's classroom. I had the dual role of teacher and researcher. I taught PE and all the other classroom subjects for four weeks. The class consisted of eight girls and 10 boys, but one girl and one boy did not have parent permission to participate in this study. Data from these two students are not reported here, though they participated in all PE activities. Therefore, the students in this study were 16 fifth grade students (aged 10–11 years). The names of all students in this article are fictional. This class had PE as one group during my student–teacher experience, but they were otherwise collapsed with another fifth grade class and divided into one girls' and one boys' group. Both girls and boys had engaged in one season of SE before this study. Boys played floorball and girls engaged in a combination of handball and dance with preservice teachers during early field experiences.

The Sport Education Unit

At the start of the unit, I used one classroom lesson to introduce the SE-model and divide the students into teams. The students chose their roles, team names, and team colours. Another classroom lesson was used in the second week to discuss the problems that occurred during the first PE lesson, clarify the rules, and introduce the scoreboard. During the first three PE lessons, all teams practiced soccer skills and played games against other teams. Team practices were led by students, while I supervised and encouraged them. These lessons involved initial warm-up fitness routines led by the fitness coach, followed by a skill practice phase led by the skill coach. At the end of the lesson, two teams competed in unofficial matches, with referees from one team officiating in a rotating schedule while the fourth team continued to practice. The SE unit ended with a culminating tournament during the last lesson, in which all teams were supposed to played against each other. Before the unit, I decided to meet team coaches every week on the day before PE, so that we could go through their lesson plans together. The guidelines for SE recommend having an uneven number of teams so that one team can be a duty team (Siedentop 1998). Despite this, I chose to have four teams so that they would not be too large and I could use them in the classroom. The student responsibility roles were captain, skill coach, fitness coach, referee, statistician, and equipment manager. Each team had four to five players. Therefore, some students had multiple roles.

Model Fidelity

The lack of reports on researchers' attempts to maintain fidelity has been a concern in the analysis of research on model-based teaching in physical education (Hastie & Casey 2014). Therefore, the SE benchmark instrument (Browne, Carlson, & Hastie 2004; Sinelnikov 2009) was used to validate the model. Benchmarks included in this study were season, team affiliation, student roles and responsibility, gameplay, formal competition, and the culminating event. I planned my SE unit with the second author (Jan-Erik) and implemented it using action research cycles, which confirmed the existence of SE benchmarks in the study. This was my first time teaching SE, although I had read, practiced, and discussed the characteristics of SE during PE courses at the classroom teacher education programme, where I trained and specialized in PE. One ice games content class was also structured according to the SE model. In addition, I had observed a SE season taught by another preservice teacher during a previous field experience. During that experience, I also taught PE using the Hellison (2011) Teaching Personal and Social Responsibility model. The second author was a faculty member at the university, who had several years of experience teaching SE to preservice and in-service teachers. He also conducted studies with SE in a local high school. I met with the second author weekly with the intention of dealing with any queries and discussing solutions to various problems.

Data Collection and Analysis

Multiple methods were used to collect data, including video observations, group interviews, student diaries, and my field journal (e.g., Miles, Huberman, & Saldana 2014). All lessons were video recorded, and I observed and analysed them after the unit. At the end of the unit, I conducted two semi-structured group interviews, one with three boys and one with three girls. The interviews lasted 25–30 minutes. As a homework task, the students wrote in their diaries after every PE lesson. Students were asked to write their opinion of what went well and what they and their team could improve on next time. In my field journal, I wrote what I felt I could have done better and what worked well. I also made notes after my meetings with my university and school-based supervisors (cooperating teachers) regarding post teaching discussions.

Data analysis had a cyclical structure that originated with the action research process and centered on planning, action, observation, and reflection. The analysis occurred in two layers. The first part of the data analysis was immediate and ongoing, and it allowed me to react to the learning needs of my students, through their written assignments and my reflective journal. Consequently, changes and adaptations were made after each lesson. On the other layer, I systematically collected and organised data throughout the unit. Here, the data analysis was an inductive process that integrated multiple data sources, and was done with and challenged by my supervisor Jan-Erik. The analysis was characterised by constant comparison between the different sources to draw out and identify themes from the evidence collected (Lincoln & Guba1985; Miles et al, 2014). During this phase, emphasis was given to the identifying indicators of themes and sub-themes that fit the data. Peer debriefing enhanced the credibility of this action research. In this process, these themes and subthemes were critically examined and interpretations were challenged by Jan-Erik (second

author) and Ben (third author) throughout an on-going reflective discussion regarding the multiple data sources, action research, and SE. However, the discussion of findings is written in first person to emphasize an action-oriented perspective (Dohn 2014). Finally, all three authors are heard in the section about conclusion and limitations.

Results

The main themes drawn from the evidence collected: issues with SE and a student–teacher's use of SE, emerged from a number of smaller categories. The first set of subthemes: students' perspectives of SE, gender and status, acting as referee, and the evenness of teams, were related to learning from the implementation of the model in this fifth grade class. The second set of subthemes: being on thin ice, making adjustments and coming up with solutions, and having many balls in the air, explored my action research experiences as a student–teacher combining practice and research.

Issues with Sport Education

Students' perspectives of Sport Education. Before the SE unit, students wrote in their diaries that they were looking forward to having SE and soccer. In the interviews after the unit, boys said that they liked SE because it was different, and that the best part of SE was playing games. Girls also reported enjoying SE because they learned a lot during the unit, and could select the practice tasks themselves. They also indicated that they would like to have SE again with a sport they knew well, and they wished that the unit had been even longer. In addition, there were negative comments related to team members not getting along with each other.

During the unit, students wrote that warmups and skill practice had been fun, interesting, diverse, and well planned and that it had improved during each lesson. They wrote, "It went 100 times better than last time!" and "It went better this time because everyone focused on what we were doing". The video showed that teams were active and followed the coaches' instructions. However, a few students wrote that it was boring and that practice tasks were similar each lesson. Lisa wrote that "warm-up was boring; we ran just one time around the playing area." Also, Emily said in the interview:

> We did the same things every time. I don't know if Tommy had planned anything or if he just made it up during the lesson. If he had planned something it was for the first lesson and then he used the same lesson plan for the whole unit.

Students also wrote that they improved during the unit. In the interview, Peter said, "We were trying harder in SE because there was something to win and that's why we got better." Girls noted that those who had not played soccer before improved their skills the most. Students also wrote in their diaries about the games, how many goals they had scored, and that they played well, did their best, and did not give up.

Gender and status. As this SE unit was the first time the girls and boys had a PE class together, girls noted that it was strange to have PE with boys at first, but they enjoyed it and learned a lot because student coaches were boys. Mary said that "boys took everything

more seriously. Winning was more important to them, I don't care if I win or lose because there will be more games." Girls also claimed that boys were harassing them. Nevertheless, boys also enjoyed having PE with girls, and Henry said that "PE lessons were not as 'wild' as they were with only boys."

Some girls pointed out inequities during the PE lessons and blamed boys for it. For example, only boys were forwards and girls had to play as defenders. However, video analysis showed that Emma said to Peter, "Me and Jessica should also get to play as forwards even though we are not that good." Peter replied, "You are good at soccer! If you want, you can come and play as forwards." Despite this comment, no girl moved to a forward position, and all remained defenders.

There were also disagreements as to how the roles were chosen. In their diaries, all students wrote that they received the role they wanted and that team roles were assigned according to preference and previous soccer experience. However, in the interview after the unit, some girls stated that boys had decided the roles for everyone and that they had not received the roles they wanted. However, some boys said that they had all chosen the roles together and that they could not give the coach role to someone who did not have any experience in soccer. Most boys were "happy with their roles." Students wrote in their diaries that everyone was responsible and took their roles seriously, even though the captain of one team said in the interview that he had to "remind some of his team members of their duties." Though the different data gave me a mixed message, no one complained to me about their roles during the unit, aside from two students who did not want to referee even though they had chosen that role.

Being a referee. Problems with the referee during gameplay were mentioned several times in student diaries. During the first lesson, one student complained about how the referee acted. The student referee was intimidated, walked away from the game, and refused to come back. I wrote in my dairy, "I tried without success to convince him to come back, but I ran out of time and had to give up and end the lesson." Solving this problem and making the students understand that it was not easy to be a referee was one reason I chose to have an additional classroom lesson. I further wrote, "Here, I tried to make students understand that the referees are doing their best and that everyone should respect their decisions, even though they might make a wrong call." Despite my efforts, only a few students felt comfortable refereeing during the next PE lesson, and one team did not want to referee at all. I came up with a solution in my dairy: "I had to encourage them, and I managed to convince one student to referee together with me. During this game, I encouraged him to make the decisions himself and defended him when some players were unhappy with his calls." As a result, he felt comfortable enough to referee alone for the rest of the unit. Nevertheless, the situation improved. By the end of the unit, the referees gathered teams and started gameplay without me telling them what to do. Although I only noticed problems with the referees during the first and second lesson, Henry said in the group interview that he was unhappy with the referees:

> They did not know the rules and they listened to the players too much. If someone said "It is out, it is ours," the referee would listen to them instead of saying, "No, you're wrong, it's the other teams." The teacher should have helped them more.

Uneven teams. Another problem encountered during the unit was that the teams were uneven. I noticed this after the first lesson, when teams gathered to choose their team names and colors. Alex had a negative attitude, which affected the cohesion and attitude of the rest of the team. Alex was sure that they were going to lose because "all the other teams have at least one boy who plays soccer during their leisure time and we don't have anyone". He suggested a bad team name and brown as their team color, as it was the most boring colour he knew. The other team members were too shy to say anything and did not have any other suggestions. I wrote in my dairy, "Alex took the role as a coach and had not planned anything for our meeting that was scheduled for the day before the first PE lesson because he felt that it was not worth it." He kept saying, "What's the point? We are going to lose anyway!" (Alex) during our meeting. I helped him plan practice tasks for the first lesson, and motivated him during the lesson in order to keep him focused on what he was supposed to do. However, I wrote, "During the first lesson I noticed that the captain on this team tried to motivate the other players and cheer them up when it seemed like they had given up already before the game." After most of the games, Alex still complained that the teams were unfair and that they were losing all the time.

I did consider making new teams but I decided to follow SE guidelines and keep the same teams for the whole unit. After all, I only had a four-week PE unit, although with 90 minutes lessons. This team required a lot of my energy to keep them active and positive during the unit. The problem with uneven teams was also noted in the interviews. Students stated that it was unfair that from one team no one played soccer during their leisure time, while in another team three out of four students practiced soccer. Students also mentioned in the interview that I, as a teacher, could not know that the teams were uneven as I did not know the class.

As a result of maintaining the same teams, the negative attitudes from this team changed throughout the unit, and so did their success in game play. I felt that it was an improvement in Alex's attitude when he started to tie his shoelaces tighter and took off his cap, as he made it clear from the beginning that running shoes are ugly and he wanted to be cool. The team scored its first goal during the third lesson and they started to believe in winning a game. At the end of the lesson they were happy that both of their games ended with a tie. During the last lesson of the unit, the team won its first game and they were extremely happy. So was I; something had changed. The captain wrote that "everyone was like 'we're going to lose' and I tried to cheer them up. There was no point in being sad because we then won against probably the best team."

A Student–Teacher and Sport Education

Being on thin ice. Before the unit, I felt insecure about whether the SE model would work, and whether the students were going to like SE and perform their roles dutifully. I was also afraid of having students take over the responsibility for practice. After my first meeting with the coaches, I was positively surprised that the students had planned their practice and I felt more calm and relaxed before the first PE lesson. In my field notes, I reflected the following:

Despite this, it took a lot of my energy to make sure that everyone was active and knew what to do. Even though I was not teaching normally, there were a lot of things to keep in mind and to take care of (e.g., checking the time, bringing the equipment and collecting it after the lesson, helping the teams, and giving them feedback).

However, I realised that all teams were responsible and students were actively engaged.

My main concern was the team that had a negative attitude from the beginning, and I spent a lot of time and energy supporting them. After the first two PE lessons, I was not really satisfied with my teaching and I was not sure what students thought about the model. They wrote in their diaries that "everything was fine" and they "had fun" but during the lesson they were complaining about their teammates and the other teams. These mixed signals made me doubt my teaching and the positive aspects of the model. However, when I later observed the lessons on video and looked at my teaching as an outsider, I then realised that the situation was not as bad as I had described in my journal.

Making adjustments and coming up with solutions. Students were complaining a lot during the first lesson and many students wrote about it in their diaries. Kevin said at the end of the lesson "SE is boring! Why do we have to have it again?" I tried to make them see the difference between complaining and encouraging, as some of them thought that complaining was a way to teach and help each other. To deal with this negative atmosphere, I chose to have one extra lesson in the classroom to introduce a scoreboard and a point system for good behavior. The team would get five points if they did not complain, had proper clothes for PE, worked together as a team, and accomplished their roles. In my notes I wrote the following:

I noticed that the student complaints decreased already the following lesson and students also wrote that there were fewer complaints. The last two lessons no one had even mentioned complaining in their diaries, and instead they had written about that they were encouraging each other.

Video observation from the third lesson showed students encouraging each other by saying, "Next time you will score a goal." In an interview, Fanny said, "There was a lot of complaining in the beginning of the unit but when we learned to cooperate with each other we did not complain anymore." Girls also said that the point system made everyone friendlier and they stopped blaming each other. They noted that knowing good behaviour would give their teams five points was encouraging and made them stop complaining. Some boys, on the other hand, were unhappy with the fact that good behaviour was worth five points when winning a game only gave them three points, and they would have wanted more points for winning a game.

Another concern I had to deal with was when I chose to have four teams in order to keep the teams small. As a result of this, I had to come up with activities for the fourth team while two teams played and one acted as referees. During the first lesson, I told the fourth team to "work on something they needed to improve," which led to them sitting at the side line watching two teams playing. During the second lesson, I instructed the fourth team to play a two-on-two game as I knew their favourite part of the lesson was to play games. I noticed that they were more active but they wanted to save energy for the games and were taking breaks. Again, for the third lesson, I came up with a new strategy. I brought two iPads and told them to record when they were practicing the same exercises as earlier, and to interview each other. Finally, this kept them active the whole time while they were waiting for their turn to play.

Many balls in the air. In my journal I wrote, "I did not have enough time for what I had planned and I was always busy. I made the games shorter each lesson so that they would have time to play all the games that I had planned, but I still had to skip some games." For the last lesson, I had made a schedule for a tournament but we had to finish the lesson without playing the bronze medal game and the final game. Actual teaching time was shorter than I realised and I noted "instead of making the games shorter, I could have given them less time for skill practice and longer time to play, because one team had some time for training while the others were playing." This created frustration among students, and Henry said: "I was disappointed that we had to skip some of the games even though we had been promised that we would play a lot."

In the beginning, I had decided to meet the coaches one day before PE on a weekly basis, so that we could go through their lesson plans together. In reality, I only met coaches the first week and I was pleased with their work. One reason why I did not meet them every week was because "it took me a lot of time to prepare my other lessons I was teaching during my student teaching." Now, after the unit, I realised "it would have been good to see the coaches every week to make sure that they had proper preparation and were not using the same plan every week." Another option would have been to make them give me the practice plan in advance.

I was stressed with having many things to consider and to keep in mind while at the same time I was "learning to teach." As a PE teacher, I needed to organise and teach the lesson but also to make sure that all students would be able to the following classroom lesson. My student role, which meant being supervised and evaluated by my supervisors, was another challenge as well as "finding time for meetings with my cooperating teacher." In addition, as a researcher I had to make sure that I was actually implementing SE. I had also to organize and take care of video equipment, to write my experiences in my dairy, and to analyse and reflect on my action research cycle.

Discussion

Based on the above findings, the discussion focuses on two different aspects of my action research project during a student–teacher experience: (a) the implementation of a SE season in the Finnish context, and (b) my professional learning process as a student, a teacher, and a researcher. While educational change is often overwhelmed by ambiguity, conflict, and uncertainty (Capobianco & Ní Ríordáin 2015), action research served as a dynamic tool to help me enable the process of implementing a novice instructional PE model in my student–teacher experience through the action research cycle of planning, acting, observing, and reflecting. Although I perceived some final success in my teaching, it was not a simple process, but rather one with both pitfalls and mistakes.

Sport Education through a Student–Teacher's Eyes

The international literature (e.g., Layne & Hastie 2015; Wallhead & O'Sullivan 2005) related to the use of SE in physical education has shown that students can make a significant contribution to the instructional environment when they are organised as team members

with increased accountability, cooperation, and trust. However, when I implemented my SE unit, I noticed problems with student gender and status, creating even teams, and being a referee. In Finland, traditional PE is implemented through a multi-activity approach with short units (Yli-Piipari, 2014). Therefore, SE with longer units is something totally different for teachers and students. Therefore, I had a four-week unit, but in the beginning students needed time to learn their roles and responsibilities. The novel teaching situation resulted in disagreements and arguments at the onset of the unit. Another possible reason for the arguments was that boys and girls were not used to coeducational PE, and therefore they had to learn how to cooperate and to seek power and status within the group. Previous studies in SE have shown that students become active learners when they learn to cooperate and solve problems (Smither & Zhu 2011), and by learning to cooperate they also learn to take responsibility (Casey 2011). Brock, Rovegno, and Oliver (2009) also noticed that a student's status (skill level and gender) influences their social interactions during group work and game playing time. In addition, research on student-centered teaching in PE also suggests that teachers need to plan for developing students' social skills and to prepare students to work together (Casey & Dyson 2009; O'Leary et al. 2015).

One challenge for preservice teachers has been that they are not familiar with and have no history with their students, as they typically come in and stay for some weeks (Romar et al. 2015). This was also my case, and I was not successful in forming even teams. My students mentioned several times that the teams were uneven and it affected both my teaching and team cohesion in one particular team. This team felt that they did not have a chance to win against other teams, a fact that also has been reported previously (Gutierrez et al, 2013). Previous studies have shown that students want teams that are even and they appreciate that teachers formed the teams (e.g., MacPhail, Kirk, & Kinchin 2004; MacPhail, Gorely, Kirk, & Kinchin 2008).

Students in this class were responsible for their roles, and indicated that it made them feel like being on a professional team. However, some students did not receive the role they wanted, which can be a problem when several students want the same role (Clarke & Quill 2003; Romar et al. 2015). As part of a student-centered approach, students were referees, which was a challenge and many students did not like to referee their games. Similarly, other studies have shown that students felt it was difficult to be a referee, while the other players did not respect them and they were unsure of the rules (Gutierrez et al. 2013; Hastie & Sinelnikov 2006).

Although through action research I have identified problems I faced during my student–teacher experience, I have also realised the benefits of SE as a student-centred approach where they have roles and responsibilities, as described in the new Finnish national curriculum. I really realised that SE changed my way of teaching, from the teacher having a central role to me acting more as a facilitator. Despite the disagreements in the beginning, students also liked SE and would have preferred to have another SE season. Students' positive attitudes towards SE have been reported in other studies as well (Gutierrez et al. 2013; Kinchin et al. 2012; MacPhail et al. 2004; MacPhail et al. 2008; Sinelnikov & Hastie 2010). Based on my and the students' experiences, this study showed, as also Romar (2013) suggested, that SE is appropriate for the Finnish physical education curriculum. This supports the new teacher guidelines of the Finnish National Core Curriculum for Basic Education

(Utbildningsstyrelsen, 2014), where SE is mentioned as a method to enrich PE. In order to successfully implement SE in Finland, PE teacher education programmes must also include early exposure to, and a teaching experience with, SE. Several researchers (e.g., Glotova & Hastie 2012; McMahon & MacPhail 2007; Tsangaridou 2012) have supported the importance of preservice teacher education in order to facilitate the process of learning and implementing the SE model.

A Student–Teacher and Action Researcher

Although I was aware of the significant amount of time required for preservice teachers to plan and implement a SE season (Glotova & Hastie,2012; McMahons & MacPhail 2007; Romar 2013; Romar et al.2015) and to do action research studies in PE (Casey & Dyson 2009; Casey et al. 2009; Webb & Scoular 2011) and in general education (Capobianco & Ní Ríordáin,2015; Smith & Sela 2005; Ulvik 2014), I still was surprised by how much preparation time I needed. In the beginning of this study, this fact made me uncertain and doubtful of the model and how everything would turn out. In addition, I was afraid that students would not plan their lessons, and that I would not be able to handle that as I did not know the class. However, much like the teachers in Clarkes and Quills' (2003) study, I realised that my students were responsible in their roles, and coaches mostly planned their practice. My interpretation is similar to Casey (2013), which is that change is not easy nor always successful and it takes time. Therefore, it is important to know and understand the action research process and to not give up too early (Denscombe 2009).

Another challenge for me was that I had many things to consider and keep in mind as well as handing my different roles, which Ulvik (2014) confirmed is consistent with other student–teachers' experiences. My first role was that of a teacher keeping the students active and helping them during problems with SE, while still keeping track of scheduled lesson time, which is the first role that a teacher often takes (see Siedentop 1998). My second role was that of a student–teacher, who was continuously learning about my own teaching and reflecting upon my actions, which is a common experience among student–teachers (see Richards et al. 2014). My third role was as a researcher making constant observations, and critically reflecting on what happened in the class and how to collect all relevant evidence, which is a role typical of teachers who are also conducting research (Crawford-Garrett et al. 2015). Dealing with all three roles, I had a constant feeling of not being "good enough" nor succeeding in what I had planned. I wanted everything to be perfect from the beginning and I did not realise that I was still learning how to teach, nor that reflection and failure are parts of the action research cycle (Cohen et al. 2011). I realised that I had reflections in action and reflections on action, which has been recognised in other teachers by Argyris and Schön (1978), where the shortening of the length of the games occurred both during the lesson, as well in planning before the lesson. Capobianco and Ní Ríordáin (2015) recognized that uncertainty is a natural part of a preservice teacher's role as an action researcher, which also can have a positive effect. Action research is about seeing and feeling a challenge in order to decide to do something about it, and the frustration and uncertainty during the process can then, up to a certain point, be rewarding (Ulvik, 2014).

Despite the complexities of this action research project, I learned that my reflective experience provided an opportunity to connect practice and theory in the real world (Coghlan

2010; Eikeland 2012). Even when I was writing and finalising my thesis, I realised new things that I had not thought about before. I also found that action research results and findings are really about me as a teacher (Pedersen & Olesen 2008). I learned a lot both about myself as a teacher and as a person, which often occurs as a result of action research (Capobianco & Ní Ríordáin 2015). I felt in several situations that I completely failed in my teaching, and that I did not know how to change it, similar to what Casey (2012) described in his action research project. However, through my data I realised that my teaching was not as poor as my initial impressions led me to believe. My self-reflective diary was a way for me to follow my own thoughts and experiences. Watching myself teach on video also made me aware that I handled many situations much better than I thought I had done. In addition, student diaries and interviews provided a different view of the students compared to what I saw and experienced during my lessons. I am not sure if they were afraid of showing their opinions in front of their class and just agreed with other students, but I felt that I could hear their real voice in their diaries and interviews. These mixed signals were confusing for me, as I was constantly wondering if students liked the lessons or not.

Nevertheless, I was able to change something, have an impact on a situation (even with small steps), and to focus on my actions. My role as a teacher has also evolved from such insights. This is in line with what Kemmis (2010) suggested: "Action research aims to explore new ways of doing things, new ways of thinking, and new ways of relating to one another and to the world" (p. 425). According to Ulvik (2014), action research can offer an insight into one's practice and provide professional learning, and I felt that action research was an opportunity to learn more from my student–teacher role (Lattimer 2012). Ulvik (2014) noted the demanding nature of action research with lack of support and cooperation and highlighted that mentors should be a part of the process, and that universities and schools should have a joint understanding of the research process. In my case, I had support from my academic programme supervisor, and he organised my action research project during my student practice and helped me with my problems with the SE model and data collection. In addition, my co-authors challenged my research interpretations in a way that took them to a new level. Therefore, this study showed that action research during a student–teacher experience allowed me to learn from actual teaching rather than from theory, which is an ideal result (Mostofo & Zambo 2015).

What I appreciated and learned from SE was to give students responsibility, which I will implement with my students this year as I am working as a full-time teacher. Fifth graders are already old enough to learn to take more responsibility over their own learning. Once I have my students for the whole school year, I can gradually give them responsibility, but not as much nor as fast as I had to do during my student–teacher experience. This could also be one reason to why I had difficulties in the beginning, when I expected too much and they were not used to take have responsibility both for their own and their team mates' learning. I will also have the same teams for an extended time, as it is timesaving and students learn to cooperate. Although I learned and improved my own practice, another purpose of action research is to make my knowledge accessible to colleagues and other teachers (Crawford-Garrett et al. 2015). At this moment, I am not sure if I, as a novice teacher, can convince my older colleagues to implement SE, but I will try.

Conclusion and Implications

Recognising the challenging relationship between university-taught PE theory and its application in school-based practices, this study used an action research approach to examine the impact of using SE in PE in a Finnish school. Given students' reactions and our experiences, SE seems to have a real future in the Finnish PE curriculum, as pupils can have a substantial impact on the teaching and learning environment. In addition, our findings showed that the implementation of SE is complex and time consuming, and that the process of change in adapting theory into practice is not an easy one. Eikeland (2007) suggested that teacher action research should focus on teachers and the improvement of teachers and student learning. We found, similar to others (Olesen & Nordentoft 2013), that the production of knowledge in action research is a complex and messy process.

The additional challenge working through an action research approach can make a research-based education journey both frustrating and uncertain, due to multiple roles of being a student, a teacher, and a researcher. Based on our evidence in this paper, we argue that action research is a powerful framework for allowing students in teacher education programmes an active role with the opportunity to connect practice and theory (Coghlan 2010; Eikeland 2012). Our concern is not the question that action research should be a part of teacher education programs, which Eklund (2014) confirmed it should be, but rather how it is introduced and supported. Therefore, preservice teacher education needs to provide student–teachers with feasible preparation, understanding, and support to examine their work as teachers and to become researchers of their own teaching. They, in the role of action researcher, need to become aware of and learn to embrace the position of being a co-producer of knowledge (Pedersen & Olesen 2008).

Consequently, based on our experience and the results from this study, we conclude that the action research component in a teacher education programme needs to be extended over several (five years) action research cycles or structure. This structure has the potential to provide an on-going and multifaceted engagement with linking theory and practice from first semester through the final student–teaching experiences (Mostofo & Zambo 2015; Ponte et al. 2004). This structure will provide a powerful framework to think scientifically about education, compared to an action research component as a single project completed at the very end of the programme. Secondly, time is a central issue (Capobianco & Ní Ríordáin 2015, Kosnik & Beck 2000; Schaenen et al. 2012). This is partly related to the previous implication, where action research work is integrated throughout the coursework, thus enabling preservice teachers to spend sufficient time on the professional development as a teacher and as a researcher. Additionally, time is needed to learn the school context and gain more understanding of the students. Our experience with a four-week student teaching period could be extended by in-school assignments by placing preservice teachers in their practice classes for 1 or 2 days a week throughout the semester. Moreover, the whole project takes time, from initial preparation, planning, through several cycles of inquiry to examination, and reflection on the data. Thirdly, teacher educators need to have research competence and similarly display a genuine reflective, critical approach to educational questions as well as creating a caring and supportive climate in mentoring sessions and school visits. Fourthly, our conception is that the schools and the institute need to have a

shared and balanced understanding of the action research process during school practice (O'Leary et al. 2014; Ulvik 2014). Particularly the school-based supervisor needs to be involved in what happens, and be prepared to support preservice teachers' implementation of their action research projects. Finally, Master Thesis projects are often seen as a compulsory task, with few possibilities for real interactions with other preservice teachers, future colleagues or teacher educators. Therefore, we suggest, that a final action research forum where "new" knowledge that preservice teacher learn from their experience, will be publicly presented and discussed.

Due to time constraints and challenges in teaching, this action research project has been demanding. From a pragmatic view, our suggestion might be for a student–teacher to not work alone, but rather to collaborate with another student–teacher. In doing so, two action researchers could have responsibility for planning and teaching together, collecting data, reflecting and understanding the data, and sharing experiences about what it means to be a teacher in the 21st Century.

We are fully aware that the context of this study is unique and the findings are based on the teaching experiences of one student–teacher. The study was conducted on a small scale and during a relatively short time. These limiting factors indicate a need for caution in making generalisations from the study. Nevertheless, we hope that by presenting our experiences and results, it will help educators of teachers and student–teachers with the demanding task of attempting to learn how to use SE in different contexts. Still, we believe that action research by student–teachers can become a platform for the learning of academics, field-based practitioners, and the community at large as long as research is a systematic inquiry into one's own practice, is connected to theory, and is accessible for and exposed to critics. The caveat is that for the action research process to be successful, it requires a huge amount of time and commitment but the rewards can be educative for the teacher–student conducting action research and for his or her students.

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