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**The Influence of Occupational Socialization on Novice Teachers' Practical Knowledge, Confidence and Teaching in Physical Education**

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# **The Influence of Occupational Socialization on Novice Teachers' Practical Knowledge, Confidence and Teaching in Physical Education**

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## **Abstract**

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The purpose of this qualitative multiple-case study was to examine the influence of occupational socialization on three novice physical education teachers' practical knowledge, confidence in teaching content and enacted pedagogical practices. This study involved three novice teachers who taught in Finnish primary schools. Data sources included nonparticipant lesson observations and semi-structured in-depth teacher interviews. The analysis occurred in two phases. Initially, we created a case narrative for each teacher with respect to the research questions through an inductive process that integrated the occupational socialization theory. For the second phase, a cross-case analysis was completed to provide a comprehensive and in-depth understanding of the data set. Each teacher's occupational socialization experiences influenced their teaching confidence, planning practices and enacted pedagogical actions. In addition, the teacher education program experience extended their practical knowledge and was evident in their PE teaching. Therefore, in designing the pedagogical structure in teacher education, it is essential to consider pre-service teachers' experiences about teaching, schooling, sport and physical education and thereby strengthen their knowledge and skills of how to teach physical education and provide students with quality learning experiences.

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**Keywords:** Physical Education, practical knowledge, occupational socialization, teacher education

# **La Influencia de la Socialización Ocupacional en el Conocimiento Práctico, la Confianza y la Enseñanza en Maestros Noveles de Educación Física**

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## **Resumen**

El propósito de este estudio cualitativo de casos múltiples fue examinar la influencia de la socialización ocupacional en los conocimientos prácticos, la confianza en el contenido de la enseñanza y las prácticas pedagógicas promulgadas de tres profesores noveles de Educación Física que enseñaban en escuelas primarias finlandesas. Las fuentes de datos incluyeron observaciones no participantes y entrevistas semi-estructuradas en profundidad a maestros. El análisis se realizó en dos fases. Inicialmente, se creó un caso narrativo para cada profesor con respecto a las preguntas de investigación a través de un proceso inductivo que integró la teoría de la socialización ocupacional. Para la segunda fase, se completó un análisis de casos cruzados para proporcionar una comprensión completa y profunda del conjunto de datos. Las experiencias de socialización ocupacional de cada maestro influyeron en su confianza en la enseñanza, en las prácticas de planificación y en las acciones pedagógicas. Además, la experiencia del programa de formación docente amplió sus conocimientos prácticos y fue evidente en su enseñanza de EF. Por tanto, al diseñar la estructura pedagógica en la formación del profesorado, es esencial considerar las experiencias de los maestros en la enseñanza, la educación, el deporte y la EF y fortalecer así sus conocimientos y habilidades de cómo enseñar EF y proporcionar a los estudiantes experiencias de aprendizaje de calidad.

**Palabras clave:** Educación Física, conocimiento práctico, socialización ocupacional, formación de profesores

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Teachers' mental processes and their classroom actions affect each other reciprocally (Meijer, Verloop, & Beijaard, 2002). Therefore, in an attempt to understand teaching, researchers cannot restrict themselves to studying teachers' instructional practices, but should also focus on teachers' mental processes (Beijaard & Verloop, 1996). In addition, actual teaching will provide teachers with an opportunity to refine and clarify their mental processes (Johnston, 1992). Borg (2003) concluded that the educational community should be interested in understanding teachers' professional actions, not what or how they think in isolation of what they do. There is a call for a focus in teacher education (TE) on what teachers know and how that knowledge is constructed (Tsangaridou, 2006).

The term teacher knowledge has over time expanded and broadened significantly, with a growing focus on the personal aspects of knowledge (Ben-Peretz, 2011). While the practical context is also central (Black & Halliwell, 2000), researchers have focused on teachers' practical knowledge (Elbaz, 1981). Verloop, Van Driel and Meijer (2001) used practical knowledge as an overarching inclusive concept that includes a variety of mental processes from conscious and well-balanced opinions to unconscious and unreflected insights that underlie teachers' actions in practice. They pointed out that, "in the mind of the teacher, components of knowledge, beliefs, conceptions, and intuitions are inextricably intertwined" (p. 446). The main emphasis is on the complex totality of teacher's mental processes, where knowledge and beliefs are seen as inseparable, although beliefs are seen as a more personal component and refer to individual values, attitudes and ideologies, while knowledge as a content-related component with a focus on teacher's more factual propositions (Meijer et al., 2002; Witterholt, Goedhart, & Suhre, 2016).

Practical knowledge is that part of professional knowledge that guides daily and weekly interactions in classrooms (O'Sullivan & Deglau, 2006). Evidence in the PE literature suggests that central to teachers' work and their practical knowledge is a clear and deep understanding of the content being taught (Reuker, 2016; Schempp, Manross, Tan, & Fincher, 1998; Siedentop & Eldar, 1989; Siedentop, 2002; Ward, 2013). One special characteristic of the content knowledge (CK) in PE is that it includes not only theoretical knowledge but also personal performance skills in a specific sport or content area. Interestingly, CK mastery is typically acquired outside the TE program through a long history of participation in

sport and/or coaching (Siedentop & Eldar, 1989). There is concern in TE that when pre-service teachers enter a teacher preparation program with in-depth CK in only one or two sports (Kim, Lee, Ward, & Li, 2015) they will finish their program short of developing an adequate understanding of the content taught in school PE (Kim, 2016; Siedentop, 2002). Therefore, PE teachers often teach content outside their areas of expertise and sports where they lack personal performance skills (Reuker, 2016) or CK (Siedentop, 2002; Sinelnikov, Kim, Ward, Curtner-Smith, & Li, 2015). However, sport-specific knowledge and experience seems to be necessary but insufficient for good teaching; Reuker (2016) reported that athletes lacked the pedagogical knowledge necessary to teach their own sports. As noted before, CK is not enough; teachers need to implement content pedagogically. As Siedentop and Eldar (1989, p. 257) concluded, an “expert teacher combines high levels of teaching skill (the technical virtuosity component) with high levels of subject matter competence, both applied through experience to a particular context.” Relevant CK is assumed to provide much of the basis for the development of pedagogical CK (Ayvazo & Ward, 2011; Graber, 1995; Siedentop, 2002; Rovegno, 1995). Ward, Kim, Ko and Li (2015) defined pedagogical CK in PE as teachers’ understanding of what content to include and how it is to be instructed to specific students in particular contexts. The term helps to distinguish a teacher’s own ability in a content area (e.g., throwing a ball or dribbling) from the knowledge of the skill that is needed in order to teach it to students (Rovegno, Chen, & Todorovich, 2003). The differences between CK and pedagogical CK should also be identified in TE, because during content courses with a focus mainly on pre-service teachers’ performance skills in particular content areas or sports, more integrated activities are needed in developing pedagogical CK expertise as well (Kim et al., 2015; Sinelnikov et al., 2015; Tsangaridou, 2014). Recently, several studies have shown how improved teacher CK was recognized in more mature and enacted pedagogical CK, which in turn showed increased student learning (Kim, 2016; Sinelnikov et al., 2015; Ward et al., 2015).

Siedentop and Tannehill (2000) noted that PE teachers with a strong practical knowledge can convert their knowledge about the content into actual instructional practices in a complex situation. Thus, experienced and expert teachers have more completely developed schemata of teaching, a deeper understanding about typical classroom situations and students as

well as larger teaching repertoires that will help them in making instructional decisions (Reuker, 2016; Siedentop & Eldar, 1989). On the other hand, pre-service teachers had difficulties adapting instructions for their students and implementing appropriate teaching strategies (Graber, 1995; Rovegno, 1995). However, research evidence indicates that teachers have varying levels of practical knowledge, teaching behaviours and competence depending on their knowledge and experience of the specific content area being taught. In a seminal study, Schempp et al., (1998) reported that experienced teachers showed differences between their expert and non-expert content areas in recognizing problems in student learning, in the level of detail in planning and organizing subject matter, in the ability to accommodate all students and in their comfort with and enthusiasm for teaching. Siedentop and Eldar (1989) concluded that teachers felt more like experts in those activities in which they had strong backgrounds, and therefore expertise in teaching is highly specific to context and subject matter. Ayvazo and Ward (2011) also studied two teachers' expert and non-expert content areas and noted limitations in both CK and pedagogical CK in both teachers' weaker teaching unit despite their teaching experience.

### **Occupational Socialization Theory as Theoretical Framework**

Teachers' practical knowledge has been acquired and developed during their life experiences as students in school, from other physical activity experiences, through their TE professional preparation programs and/or during their actual teaching in schools (Graber, 1995; Tsangaridou & O'Sullivan, 2003). Therefore, occupational socialization will serve as the theoretical framework in this study. Research in teacher socialization is generally focused on understanding the processes whereby an individual teacher becomes a contributing member of the society of teachers (Zeichner & Gore, 1990). Thus, teacher socialization research exposes the social, psychological and political dynamics of what it is like to be a PE teacher as well as agencies and mediators of socialization (Templin & Richards, 2014). Originating from teacher socialization theory more broadly (Lortie, 1975), occupational socialization theory (OST) represents one theoretical perspective that has been used to understand why teachers think about and teach PE as they do (Lawson, 1983a, 1983b; Schempp & Graber, 1992). Teacher socialization is conceptualized within a time-oriented continuum

represented by phases of acculturation, professional socialization and organizational socialization (Richards, Templin, & Graber, 2014). These phases reflect the influence of individual biographies before TE, teacher training in higher education and work socialization in the context of schools and are fully described and analysed in comprehensive research reviews (Pike & Fletcher, 2014; Richards et al., 2014; Schempp & Graber, 1992; Templin & Richards, 2014). The unique contextual features of schools and teaching ought to be recognized, even though the theoretical framework was originally based on the context of the United States (Pike & Fletcher, 2014; Richards, 2015). Therefore, research is needed outside the traditional arena to confirm or challenge existing findings.

Acculturation, or pre-TE socialization, begins at birth and reflects childhood and adolescent participation in and experiences of PE and sport with the influence of family, friends, teachers and coaches. Through an “apprenticeship of observation” (Lortie, 1975), individuals develop their beliefs, values and understandings of what it means to be a PE teacher (Schempp & Graber, 1992; Templin & Richards, 2014), and it is an important phase in the development of PE teachers. In general, those who enter the profession have had positive experiences of PE in school and are interested in and enjoy sport and physical activity (Capel, Hayes, Katene, & Velija, 2011).

Professional socialization begins when pre-service teachers enrol in a TE program, where, during the TE process, they are expected to gain PE knowledge, develop a professional identity and start to think and act as PE teachers in a school context (Pike & Fletcher, 2014; Templin & Schempp, 1989). Historically, many scholars have argued that physical education teacher education (PETE) is relatively ineffective in altering the beliefs of pre-service teachers (Pike & Fletcher, 2014; Templin & Richards, 2014), while other studies have shown a strong influence (Ingersoll, Jenkins, & Lux, 2014; MacPhail, Tannehill, & Goc Karp, 2013).

The next phase, organizational socialization, is the workplace socialization that occurs on the job and is ongoing throughout teachers’ careers (Richards et al., 2014). Organizational socialization may work against change (Pike & Fletcher, 2014), while schools are often guided by unwritten and deeply embedded assumptions held by veterans and powerful teachers (Lawson, 1989; Schempp, Sparkes, & Templin, 1993). In particular, newly qualified teachers can meet induction problems in the

form of reality shock, marginalization, role conflict or isolation (Stroot & Whipple, 2003)

Based on OST, some recent studies have shown how deeply rooted personal life experiences are in both pre-service and in-service teachers during practical teaching in schools. While Flory and McCaughtry (2014) showed the strong influence of family values and cultural templates for PE teachers in urban schools, O’Leary, Longmore and Medcalf (2015) reported how all three stages of occupational socialization influence teacher development. As a fact, these were case studies with one to three teachers involved. Through another research approach, Adamakis and Zounhia (2016) studied pre-service teachers’ beliefs regarding PE outcome goals with a cross-sectional questionnaire investigation. They concluded that the PETE program did not seem to affect their students’ beliefs, nor was there an influence of their athletic level and time spent playing sports, which is both consistent and inconsistent with previous research.

It seems that the research methodology and the structure of PETE is central, when Hemphill Richards, Gaudreault and Templin (2015), through a case-based learning approach, demonstrated enhanced cognitive growth and enriched engagement and reflection in pre-service teachers. Ni Chroinin and Coulter (2012) also reported a change in pre-service teachers’ understanding of PE and highlighted the alignment between the principles guiding the TE program and pre-service teachers’ experiences. Nevertheless, all university-based work may not be valuable as such; rather, it is the connection to teaching in schools that was important for developing knowledge (Capel et al., 2011).

One area of less OST research is related to classroom pre- and in-service teachers for whom PETE consists of a few courses with minimal impact. Tsangaridou (2012) concluded that many primary school teachers have limited CK, do not have appropriate skills or knowledge for good PE teaching and do not feel confident teaching PE. Similarly, Elliot, Atencio, Campbell and Jess (2013) noted among non-specialist primary school teachers in Scotland that their early school experiences of PE formed their beliefs of the subject, influenced their teaching confidence and affected their PE teaching practices. Teachers also commented that TE did not adequately prepare them, which was partially related to limited time in PE-specific training. Deficits in classroom teachers’ CK and teaching confidence have created a momentum in primary schools towards utilizing



sport coaches and physical education specialists in PE (Jones & Green, 2015). However, Jess, McEvilly and Carse (2016) noted that primary PE teachers had a diverse range of personal and professional backgrounds, thus resulting in significant differences in primary PE practices across schools.

Research from different countries during the TE phase has shown that pre-service teachers' personal school PE experiences and physically active backgrounds as students are linked to their perceived competence and attitudes towards teaching PE (Morgan & Bourke, 2008; Morgan & Hansen, 2008; Penttinen, 2003; Valtonen, Autio, Reunamo, & Ruismäki, 2012). In addition, acculturation from teaching and coaching experiences was also positively correlated with pre-service teachers' intentions to teach PE and perceived teaching strengths (Penttinen 2003; Valtonen, Reunamo, Hirvensalo, & Ruismäki, 2015). In addition, Kari (2016) reported recently with a follow-up study, that pre-service teachers' previous physical activity experiences were reflected in their development as PE teachers during the TE program. Teachers with a physically active history had a solid foundation of understanding and experience on which to construct new knowledge. Upon graduating from a five-year TE program, students felt they had PE CK and experience of teaching PE, which made them view themselves as experts in the teaching field. Looking back on the TE program, they appreciated the time they had for practicing their movement skills, which provided feelings of competence, learning and improved self-esteem, thus providing a foundation for a career teaching PE. Moreover, there are some promising findings indicating that meaningfully designed courses in classroom TE can positively change pre-service teachers' perceptions of their own preparedness, their identities as PE teachers and their self-efficacy for teaching PE (Fletcher, Mandigo, & Kosnik, 2013; Freak & Miller, 2015).

The purpose of this qualitative multiple-case study was to examine the influence of occupational socialization on three novice PE teachers' practical knowledge, confidence in teaching content and enacted pedagogical practices. In the study, we first examined teachers' occupational socialization, analysed their practical knowledge and confidence in teaching content and described their planning decisions and teaching actions. This enabled us to determine how their occupational socialization is represented in their practical knowledge, teaching confidence and enacted practices.

### **Methodology**

Teacher knowledge can be conceptualized and investigated in several ways (Tsangaridou, 2006). Therefore, this study adopted a multiple-case study approach, which offers an in-depth understanding of teacher learning in its natural setting (Merriam, 1998; Yin, 2013) and highlights the individuality of teacher knowledge (Johnston, 1992). This qualitative approach will provide a holistic and comprehensive understanding of teacher socialization in its context (Miles & Huberman, 1994). One important starting point for this study was that it is not possible to detect general features for teachers' practical knowledge, nor is the aim to formulate prescriptions for PE teachers (Verloop et al., 2001). However, what was observed in this study of teachers' practical knowledge represents a mixture of teacher outcomes and impressions acquired during phases of occupational socialization. Because it is impossible to distinguish perfectly between the three phases (Flory & McCaughtry, 2014, Elliot et al., 2014; O'Leary et al., 2015), it is unavoidable that the results can provide only a partial picture of teacher socialization.

### **Context**

In Finland, teachers are required to have a master's degree, and teaching and research is emphasized in TE programs (Westbury, Hansén, Kansanen, & Björkvist, 2005). The main objective is to prepare teachers with a research orientation who are capable of independent problem-solving and have the capacity to utilize the most recent educational and subject-specific research (Finnish National Board of Education, 2014). Education is the major subject in the five-year classroom teachers' master's degree program. These three teachers were graduates from a Finnish University and had courses in language and communication studies, methods classes in various school subjects, and pedagogical studies. Their compulsory PE course (4 European Credit Transfer System [ECTS]) focused on the content and pedagogy of PE for primary school students. In addition, these three teachers elected to specialize in PE as their minor study (60 ECTS) and therefore also qualified as PE teachers in primary and middle school. The purpose to this specialization course is to provide preservice teachers in-

depth knowledge of the content and pedagogy in primary PE. More specifically, the course included topics as PE curriculum work, the instructional processes, curriculum models, student empowerment, fundamental movement skills, motor learning, physical activity and fitness, school in the society, dance, gymnastics, games and major sport for primary students. Furthermore, the TE program has a strong research-oriented component in pedagogical studies, and all students have to write both BA and MA theses. The TE program includes supervised teaching practice that starts in the first year and continues with student teaching during the final year. This teacher practice is mainly organized in the University Training School.

The national goals for PE are defined in the National Core Curriculum for Basic Education. According to these goals, primary PE has the general lifelong educational objective to have a positive impact on students' physical, psychological, social and affective growth and well-being and to guide each student towards a lifelong interest in physical activity (Finnish National Board of Education, 2004). More precisely, the subject aims are to enhance students' movement competency and motor skills, promote a physically active lifestyle and physical fitness, support responsible personal and social behaviour, promote appropriate values and promote enjoyment of self-expression (Yli-Piipari, 2014). Typically, primary PE is organized around multi-activity programs in a series of units with an emphasis on popular ball games (Heikinaro-Johansson & Telama, 2005; Palomäki & Heikinaro-Johansson, 2011). The Finnish PE curriculum is close to the Scandinavian model and similar to PE in other Western countries, although it includes activities characteristic to the Scandinavian context such as swimming, skiing, skating, orienteering and outdoor education (Annerstedt, 2008). Two PE lessons of 45 minutes are compulsory for all students at the primary level. The Finnish national curriculum leaves teaching decisions concerning activity selections and delivery to individual teachers and schools (Yli-Piipari, 2014). Primary PE lessons are taught either by the students' classroom teacher or by a classroom teacher specialized in PE. Although PE generally is a popular school subject (Palomäki & Heikinaro-Johansson, 2011), Lauritsalo, Sääkslahti and Rasku-Puttonen (2012) showed that messages posted on the Internet discussion forums frequently referred to negative experiences.

### **Participants**

Three purposely selected (Patton, 2002) teachers were chosen because they were first-year teachers from the same TE program, had a dual qualification as both PE and classroom teachers, instructed PE and other subjects, had diverse physical activity backgrounds and together represented both genders. Each teacher was asked to identify a content area from the National Core Curriculum for Basic Education in which they had high teaching confidence and one area in which they had low confidence. They were told that confidentiality and anonymity procedures would be implemented in the study, and informed consent was obtained from all teachers.

Tom (pseudonym) was 27 years old at the time of this study and had graduated with a dual degree from a University as a classroom and PE teacher. He started to work as a classroom teacher with additional teaching responsibilities in PE in January 2015. Tom worked at a primary school, which has about 200 students. Tom was a classroom teacher in grade six and taught two PE lessons a week to boys in grade six and two lessons a week to boys in grade three. Tom chose Finnish baseball as his low-confidence sport and floorball as his high-confidence sport.

Nicole was 28 years old and had worked for one year as a teacher, as she had started in August 2014. She graduated from a University with a dual qualification as a classroom and PE teacher. Nicole worked at a primary school with about 200 students. Nicole was classroom teacher in grade two and she taught PE (eight lessons a week) to boys and girls in grades two and five and to girls in grades four and six. Nicole selected Finnish baseball as her low-confidence sport and gymnastics as her high-confidence sport.

Amanda was 25 years old and was still enrolled as a classroom and PE pre-service teacher at a University. She was in the final stages of her studies and was writing her master's thesis alongside her work. She had worked since August 2015 as a classroom teacher at a primary school with 354 students. Amanda was a classroom teacher in grade four and she taught PE (six lessons a week) to boys and girls in grades four, five and six. Amanda selected rhythmic gymnastics as her low-confidence sport and team handball as her high-confidence sport.

### **Data collection**

Interviews and observations were used by the second author to gather data that indicated how the teachers' practical knowledge was represented in their teaching and how occupational socialization influenced their thinking and pedagogical practices. The purpose of nonparticipant observations during lesson was to provide the researcher a chance to "live" the lessons and compare teacher interviews with what actually took place. Direct observation allowed the researcher to gain a detailed understanding of how the teachers constructed their pedagogical practices (Patton, 2002). The observations followed standard guidelines for non-participant observation and the researchers sat in a corner of the teaching area, observing and taking field notes (Check & Schutt, 2012). The observations were non-participant because the observer did not interact with the teacher or the students during the lessons. Each teacher was observed teaching two lessons: one from the high-confidence unit and one from the low-confidence unit. Although unsystematic in nature, the observations were loosely based on Schempp's, Tan's and McCullick's (2002) study on expert teaching. During observation, the second researcher took detailed field notes about the goal of each lesson, the instructional strategies the teachers used, how the students responded to the activities, how the students and the teachers interacted and the characteristics of the PE learning environment. The observations provided glimpses into each teacher's practical knowledge as seen through the lens of the researcher. Observations of teachers' actions and students' behaviours served as starting points for informal interviews. Thus, the field notes from the lessons not only complimented the interview data, but they also provided an opportunity to analyse teachers' pedagogical actions in relation to their thoughts.

Interviews have been used in interpreting both teachers' practical knowledge (Beijaard & Verloop, 1996) and teacher socialization (Pike & Fletcher, 2014). One semi-structured interview took place after the completion of both observed lessons and provided an opportunity to gain in-depth responses. For example, broad categories of questions were related to information about the teachers' acculturation, professional socialization, organizational socialization, perceived teaching confidence and teacher planning and instruction. In addition, interview questions were based on field notes from lesson observations. All interviews were audiotaped and

transcribed verbatim. In addition, an informal interview was carried out at the end of each lesson. Detailed notes were recorded as soon as possible after each informal interview, which provided the researcher an opportunity to ask questions in order to clarify, explain, elaborate and discuss what happened during the lesson.

### **Data Analysis**

Data were analysed inductively through individual-case and cross-case analysis (Patton, 2002; Yin, 2013). Interview and observation data were read carefully by both researchers to identify mutual themes and patterns in order to find common categories (Patton, 2002). The development of coding categories involved a repetitious process that entailed considering the relevant literature and exploring the interview data. The conceptual input from the literature was primarily informed by concepts related to OST and teachers' practical knowledge. Codes were defined to reflect the issues and with reference to notions in the conceptual framework. Consensus among researchers was achieved upon discussion of differences in coding and categorizing the themes. Due to the fact that the study involved three teachers, our data analysis started with an individual case analysis and was then completed with a cross-case analysis. For each case, a summary report was generated based on a within-case analysis of the coded data. In addition, a matrix was generated to provide a visual and evolutionary representation of each case (Miles & Huberman, 1994). Finally, a cross-case analysis was conducted that aimed to reveal similarities and differences and relationships between categories of data were identified.

Several steps were taken during the research process to maintain trustworthiness. First, the study procedure was made transparent to participating teachers at the beginning of the study (Lincoln & Guba, 1985). The triangulation of data sources involved the identification of similar data situated in both observations and interviews (Miles & Huberman, 1994). Although the teachers were aware of the purpose of the study, they were not informed of the focus of the observation. Therefore, they had no specific preparation, and their teaching was deemed authentic and naturalistic. Member checks were conducted formally during two stages. First, teachers received the field diary of the observed lesson and the interview transcripts. Second, at the end they received a draft copy of their own case. None of the

three teachers suggested any major changes during either stage of the member check. The first author translated all quotes to English in a way that resembles the original as much as possible. Peer debriefing occurred multiple times to make sense of and challenge emerging categories.

### **Results and Discussion**

Lawson (1986) defined occupational socialization as any kind of socialization that influences individuals to select PE teaching as a profession and which then affects their practical knowledge about teaching and their actions as physical educators. The purpose of this qualitative multiple-case study was to examine the influence of occupational socialization on three novice PE teachers' practical knowledge, confidence in teaching content and enacted pedagogical practices. Four themes were generated from the analysis of interview and observation data. These were given the titles of, "acculturation influence", "professional socialization", "content knowledge and competence", and "organizational socialization".

#### **Acculturation Influence**

All three teachers had mainly positive experiences in their PE lessons during their 12 years in school. As Tom said, "I always liked PE in school," and Nicole said, "In middle school I had a very good PE teacher who was versatile and skilled, so we practiced skill a lot but also played games." Although Amanda always liked PE, she explained that "I had no positive experiences in gymnastics while boys and girls were together in a large group with one [student] performing and everyone watching, low activity." Thus, they all enjoyed PE in school and remembered that PE was mostly about playing games with "terribly little skill practice" (Amanda). They recalled that a variety of sports was covered, but they especially remembered ball games, which both teachers (Morgan & Bourke, 2008; Ni Chroninn & Coulter, 2012) and students (Palomäki & Heikinaro-Johansson, 2011) typically report as the most frequent activity in PE. Morgan and Hansen (2008) concluded that teachers with positive experiences from PE tend to use the same content in their teaching as they themselves experienced during their own school days, while teachers with negative experiences avoid repeating own poor experiences in teaching. However,

up to this moment, none of these teachers implemented teaching strategies that they as students did not like during PE lessons. During the TE program they had understood what was inappropriate in PE, and “you realized rather fast when you started in the [TE] program, that NO, you can’t keep on doing this” (Tom). They avoided repeating their own poor or inappropriate experiences such as having students pick teams and having one student perform in front of other students. Observations showed that teachers in ball lessons implemented instructional tasks with a focus on skill practice as well as tactical understanding and game play. In gymnastics, Nicole also created “stations with activities for different skill levels” (field note).

Tom’s, Nicole’s and Amanda’s athletic backgrounds influenced how confident they were in teaching different sports, which also supports previous research where teachers’ personal experiences had a direct relationship with their perceived confidence in teaching PE (Morgan & Bourke, 2008; Penttinen, 2003; Valtonen et al., 2012). All three teachers showed higher confidence in teaching sports and content areas where they had experience either through childhood and youth sport involvement or during TE, although they were most confident in sports in which they themselves had actively participated. Tom had played ice hockey at the highest level until he was 18 years old and he had high confidence in ice hockey and other invasion games. Nicole’s high-confidence content area was gymnastics: “[I] had competed all my life and had been a coach already for ten years.” Low-confidence content areas were mainly related to an individual lack of practical skills. As Amanda stated, “you are a less skilled athlete in that, so it also feels difficult to teach things [content] that you do not perform well in.” Likewise, Morgans and Bourke’s (2008) study showed that teachers were confident in teaching content in PE because of their personal experience in the specific area. Morgan and Hansen (2008) found that teachers felt least confident in teaching dance and gymnastics, which was also true for Tom and Amanda. However, Nicole was confident in teaching gymnastics and she had been a gymnast as well as a gymnastics coach. Siedentop and Eldar (1989) also reported that teachers feel like an expert in the activities where they have had extensive experience, and they stated that expertise is often linked to a particular topic or content. This is consistent with our results because all teachers perceived that they were experts in the sports in which they had the most experience and in which they had also competed.



These teachers have chosen teaching and teaching PE as their profession because of their interest in sport and a desire to transfer that interest to their students. Ralph and MacPhail (2015) also reported this as the main reason why individuals decide to enter the PE teaching profession. Tom indicated that he wanted to work with something he liked and was good at. “Sport has been a big pleasure for me,” said Nicole, and therefore she wanted to have an impact on children’s lives by teaching them the physical, psychological, social and health benefits of being active. Amanda also wanted to communicate her enjoyment of movement to children and thereby promote a physically active lifestyle, but she also noted her own interest and skills as a reason for becoming a PE teacher. Thus, early socialization influenced these teachers’ choice to start a PETE program, which supports the OST (Lawson, 1986; Pike & Fletcher, 2014; Templin & Richards, 2014).

### **Professional Socialization**

Although research has shown that teachers’ previous experience has a stronger influence than formal TE itself (Adamakis & Zounhia, 2016; Capel et al., 2011; Elliot et al., 2013; Flory & McCaughtry, 2014; Morgan & Hansen, 2008), this was not the case for Tom, Nicole and Amanda. Our results support researchers reporting that TE can contribute to a deeper understanding of PE as a school subject and its relevance and significance for all children (Hemphill et al., 2015; Ingersoll et al., 2014; MacPhail et al., 2013). Although all teachers had a strong CK from their acculturation experiences at the beginning of TE, they developed their sport-specific CK and skills during the professional socialization phase, which in turn influenced their teaching and perceived confidence in various content areas. Amanda had learned “how to teach with task sheets and we did not just play games, but we practiced everything from skills to game play and all steps in between and how to structure teaching.” Tom explained that he “learned technical skills and rules in different sports.” Nicole pointed out: “I have learned a lot about basketball and I feel confident because of all the coursework, plus I’m a better player, plus I now know more about game strategy. When I started PETE being an athlete with a background in individual sports, it was difficult to know how to move on the court in team games.” The teachers have also developed a deeper pedagogical understanding, which was reflected by Tom, who had learned “how to

organize and to try to give short and distinct instructions.” In Finnish baseball, Tom “instructed the correct skill in throwing and explained that it is similar to overarm throwing in team handball, which they previously practiced” (field note). Similarly, Amanda “walks around [in the gym] and provides feedback: Look where you want to throw” (field note). Nicole showed a student-centred approach: when she “asks students how to throw a ball, they answer and Nicole confirms” (field note). Thus, their practical knowledge enacted in teaching developed both from a CK perspective and from a pedagogical CK perspective during TE (Reuker, 2016; Verloop et al., 2001).

These teachers explained how during TE they had learned that in PE teaching a variety of different content should be covered, and teaching ball games should include skill practice, game strategy and alternative game variations. Moreover, they have learned “that all students must be included and [that teachers should] try to achieve high student activity” (Tom); “to adapt teaching so that weak students can also be successful and those who are stronger can have challenges” (Nicole); and “how to teach in different ways” (Amanda). Ni Chroínín and Coulter (2012) have also shown that pre-service teachers changed their views and beliefs about teaching PE during their TE program, and they included that the teachers had learned and developed despite their own school experiences of PE. During the professional socialization, these teachers had incorporated a different view where games and matches were not the only focus, and they considered the development of specific skills, strategies and techniques as more important, even though they perceived that PE teaching during their own PE mainly consisted of game play. Despite the general view that early school experiences have a stronger influence on socialization than TE (Elliot et al., 2013; Morgan & Hansen, 2008), it is quite clear that TE has had a strong influence on Tom, Nicole and Amanda.

All three teachers had developed sport-specific skills through combined practical content and methods courses (Schempp et al., 1993). CK and sport skills play a central role in their practical knowledge, while all three teachers believed that it is important to be able to demonstrate the tasks they teach. Nicole explained that it is an advantage to be able to demonstrate, and Tom said, “if you are skilled yourself [as a teacher] and you demonstrate a skill and then they [students] are like “wow,” I also want to learn.” However, they also recognized the possibility that a student could

demonstrate a skill. Nicole “asked for a student volunteer to demonstrate, while during student demonstration she corrects the performance and similarly supports the student” (field note). Amanda also noted that “sometimes I have a student to demonstrate so that I do not always demonstrate, and sometimes I use a student because I know they are better than me.” These examples of practical knowledge showed how novice teachers’ instructional actions are also contextually embedded in the particular situation and based on a mixture of beliefs, knowledge and experience (O’Sullivan & Deglau, 2006; Siedentop & Tannehill, 2000; Verloop et al., 2001).

Tom learned during professional socialization that teaching ball games in PE should not only consist of students playing regular games; rather, the students should also learn something. Although his own experiences from PE mainly consisted of game play (Elliot et al., 2013; Morgan & Hansen, 2008), he now elected to teach both technical skills and game strategies. Additionally, Tom implemented curriculum models that he had learned during PETE (Deenihan & MacPhail, 2013). He taught games and game strategies by applying Teaching Games for Understanding (TGfU) and believed that students learned game strategies through a cycle of playing, pausing, discussing and playing again. He typically “starts to play games and then they [students] notice that we don’t know the rules, where to stand, and how to hit or kick, so that is a good motivator.” Furthermore, Tom implemented the Sport Education model in order to develop students’ social skills and to teach students responsibility and leadership skills. During the Sport Education lesson in floorball, “Tom reminds students to give positive feedback to each other when he notices that they start whining” (field note). He indicated that professional socialization had influenced him to challenge students by empowering them and giving them responsibility. Nicole was also teaching a Sport Education unit to her sixth grade class, and “it looks really promising at the moment and that [Sport Education] is something I have learned directly from my TE [program].” Amanda was not familiar with task sheets during her acculturation, but now she has recognized the benefit of using a variety of teaching strategies and methods. In invasion games, she used several small teams instead of two goals and one ball to increase student activity and learning.

### **Content Knowledge and Competence**

Several researchers have pointed out the importance of teachers' CK and sports competency (Siedentop, 2002; Ward, 2013; Witterholt et al., 2016) as part of their practical knowledge, which also was evident for Tom, Nicole and Amanda. Here, both the acculturation and professional socialization phases were blended together to inform teachers' views on teaching PE in general and their perceived confidence in particular. In this process, relevant CK can provide a strong foundation for further development and the construction of new practical knowledge to be enacted in their instructional practices (Ayvazo & Ward, 2011; Kari, 2016; Siedentop, 2002). The issue of CK and their own performance skills need to be discussed from a PE perspective, and particularly at the primary PE level. Nicole was an expert in gymnastics through her athletic background and her long-term coaching experience, and Tom had extensive experience in ice hockey through his high level of involvement. How extensive CK is needed by PE teachers is not clear, since several studies have shown how student learning improved when teachers gained CK (Kim, 2016; Ward et al., 2015). Sinelnikov et al. (2015) reported similar learning results, but these novice teachers' own practical content performance was still sufficient for them to deliver appropriate instructions. Nicole and Tom had strong CK in a specific area, but as Nicole noted, "what I do as a coach and as a teacher is different." Tom also stated that "you don't take those tasks that you yourself have practiced at a national level, but select those tasks that any student can do and then adapt them a little." So it appears that expert CK is not needed in teaching primary PE, although it might have another function in supporting teacher status and confidence (Schempp et al., 1998). As Siedentop and Eldar (1989) have also concluded, many teachers teach quite effectively with moderate levels of competence in most of their content areas. These facts point towards a need for pedagogical knowledge (Reuker, 2016). Thus, during PETE Tom and Nicole had completed courses where content and methods were blended to a didactical mixture of knowledge. In addition, they had a master's degree in education with coursework in pedagogy and didactics as well as several sequences of student teaching (Westbury et al., 2005), which provided essential input into their practical knowledge for teaching PE.

Teachers' planning behaviours were also influenced by their acculturation and professional socialization. This was evident when teachers explained that planning was less time consuming for teaching content where they had high confidence. Since their perceived confidence in various sports was related to their personal experience with physical activity and in the TE program, it also influenced teacher planning. Tom said, "if I'm unconfident in a sport, I put much more time into reading and understanding it [the content] so that students think I'm an expert in that also." Low-confidence content requires more preparation, which in turn takes more time. As Nicole stated: "it was more time consuming to plan a floorball lesson than a lesson in gymnastics," which was her high-confidence sport. Teachers searched the Internet or went back to their study materials from PETE to find appropriate instructional tasks and to relearn rules. In a high-confidence sport, planning was less time consuming, as the teachers knew which tasks worked and were grade level appropriate. Amanda said that "I had to read about task progressions in forward rolls, but in floorball I did not have to read about how to shoot because I can do it [shoot]." The importance of CK received further support from Schempp et al. (1998), who found that subject expert teachers plan richer activities when they accommodate for classroom context.

All three teachers explained that it was easier to provide specific feedback in a sport in which they felt confident because they had deeper knowledge and more experience of the content. Tom explained that he tried to provide variable feedback and that that feedback had an impact on student learning. He continued, speaking about ice hockey: "as a previous player, you know exactly how to say that: use the outside edge and think about this and have a stick that you can lean against," while in teaching dance he would say "just go with as basic as possible." Nicole perceived that it was more difficult to give feedback in team sports because she did not have much experience in team sports. However, in Finnish baseball she "moves around and corrects, provides feedback and hints, she provides a lot of corrective feedback, feedback is related to hitting the ball" (field note). Giving feedback about tactical aspects during game play was a particular challenge because of her lack of experience with the game, though she could give specific feedback when students were practicing technical skills because she had mastered the skills. Similarly, Siedentop and Eldar (1989) also reported that a teacher felt that it was impossible to teach strategies in

invasion games based only on the knowledge from TE and with little personal experience in ball games. Amanda also found it difficult to provide feedback in gymnastics because of her lack of knowledge and personal competence. As she said: “for me, who has not seen it [the skill] so often, it is much more difficult to give feedback.” As with planning, teachers’ abilities to provide student feedback was influenced primarily by their physical activity backgrounds, although practical knowledge developed during TE provided an additional base on which to stand.

### **Organizational Socialization**

While teachers wanted to implement and apply the curricular models they learned during TE, the influence of professional socialization needs to be recognized as a strong element in the occupational socialization process. No “wash out” effect was evident during the organizational socialization. These results are not in line with previous research on this persistent problem for newly qualified teachers (Schempp et al., 1993) and the low influence of TE (Adamakis & Zounhia, 2016; Morgan & Hansen, 2008). While Capel et al. (2011) argued that teachers tend to reject what they have learned during TE and return to the methods with which they were familiar during their own schooling, these three teachers implemented what they had learned such as TGfU, Sport Education, use of feedback, high student activity, individually adapted instruction and games played with small teams.

The lack of the typical “wash-out” effect might be explained by these teachers’ dual qualification as classroom teachers and PE experts with high CK levels compared to all other classroom teachers in their schools (Elliot et al., 2013; Tsangaridou, 2012). In fact, they were therefore able to implement their practical knowledge from the acculturation and professional socialization phases without having to adapt to an existing and powerful old culture or to unproductive traditions (Lawson, 1986). When they were PE experts with rich CK and strong pedagogical knowledge that informed their practical knowledge, they could stand for their decisions related to their enacted instructional practices (Schempp et al., 1998). However, they had some concerns as first-year teachers (Stroot & Whipple, 2003), and everything was not easy as novice teachers, but these issues were not related to the pedagogy of teaching PE. As previous research has indicated, time was a limiting factor both in planning and teaching, but they

had also concerns about how to deal with non-teaching issues such as parents and extra-curricular sport competitions (Stroot & Whipple, 2003). However, these issues might be difficult to include in TE, and could rather be such understanding that teachers learn on the job. However, we feel confident that in a few years these teachers will also learn how to deal with these issues and become even more skilled and confident as teachers.

### **Conclusion**

In summary, the results showed that occupational socialization during childhood and TE has influenced teachers' practical knowledge, perceived competence and planning and instruction in teaching PE. Teachers' physical activity and athletic backgrounds were particularly evident in how confident teachers perceived themselves to be in different content areas and also in teachers' planning behaviour and their ability to provide more detailed student feedback. Having active participation in a particular sport made teachers feel more confident in teaching that sport to their students. The professional socialization during a five-year TE program influenced their perceived confidence in various sports and changed what they know, what they are able to do and what they value about teaching PE. The practical content and methods courses have resulted in increased CK and competence, which they related to teaching confidence and the development of practical knowledge. In addition, teachers have developed a deeper understanding of the subject and a stronger ability to apply what they have learned in their day-to-day teaching. Previous research has shown that teachers' perceptions and experiences from their own school days have a stronger influence on their occupational socialization than TE and their own sporting background (Capel et al., 2011; Morgan & Hansen, 2008; Zeichner & Gore, 1990), which is not consistent with our results.

What was reported in this study of teachers' practical knowledge represents a mixture of TE outcomes and impressions acquired during acculturation. Because it is difficult to distinguish between the two sources completely (Flory & McCaughtry, 2014; Elliot et al., 2014; O'Leary et al., 2015), it is probable that the results can provide only a partial picture of formal TE. What is important is that we have provided some encouraging evidence to show that it is possible for novice teachers to overcome the constraints of "wash out". Nevertheless, the findings from this study

support practical skills and CK as a central part of PETE. Teachers need to know what to teach, and with strong CK teachers will gain confidence and enthusiasm as part of their identity as teachers (Kari, 2016). The CK coursework needs to integrate subject matter and methods through a variety of strategies including observations, analyses, reflections, lesson planning and peer teaching (Kim et al., 2015; Reuker, 2016; Tsangaridou, 2014). Our findings also highlight and add to the literature that each teacher has an individual acculturation history, which needs to be acknowledged in how TE is structured. At the moment, most TE programs are structured according to a “one-size-fits-all” approach, which means that all pre-service teachers have the same coursework. Therefore, teacher educators are encouraged to find ways to individualize the course structure to meet the needs of individual pre-service teachers. This study extends the literature related to OST into a different context. However, given the exploratory nature of this study and the relatively short duration, further work is necessary to support our findings from this multiple-case study approach. Whereas this study showed that TE can have an impact, we had no intentions to study this in particular. Therefore, more research is needed to investigate what parts help teachers to learn and develop during the socialization process and how they do so.

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