



FACULDADE DE DESPORTO
UNIVERSIDADE DO PORTO

**Communities of Practice cultivation along the course of a Physical
Education Teacher Education programme in the pursuit of
pedagogical innovation: a two-year ethnography**

Carla Sofia Valério Fernandes

Advisor

Isabel Mesquita, PhD

Co-advisor

Cláudio Farias, PhD

Academic dissertation submitted with the purpose of obtaining a doctoral degree in Sports Science, organized by the Centre of Research, Education, Innovation and Intervention in Sports (CIFI²D), Faculty of Sports, University of Porto, according to the Decree-Law 76/2006 of March 24th.

Porto, 2022

Cataloguing

Valério, C. (2022). *Communities of Practice cultivation along the course of a Physical Education Teacher Education programme in the pursuit of pedagogical innovation: a two-year ethnography*. Porto: C. Valério. Doctoral Thesis in Sport Sciences submitted to the Faculty of Sports, University of Porto.

KEYWORDS: PHYSICAL EDUCATION TEACHER EDUCATION, PRE-SERVICE TEACHERS, COMMUNITIES OF PRACTICE, STUDENT-CENTRED APPROACHES, ETHNOGRAPHY, LONGITUDINAL, QUALITATIVE.

This work was supported by the Portuguese Foundation for Science and Technology (FCT) [grant number: SFRH/BD/141505/2018].



*Sê paciente; espera
Que a palavra amadureça
E se desprenda como um fruto
Ao passar o vento que a mereça.*

Eugénio de Andrade

Dedicatória

Às **Valério**. As mulheres que me inspiraram a fazer ciência.

Aknowledgments

Na humilde tentativa de transpor em palavras inúmeros gestos de carinho e suporte que tive a sorte de receber ao longo deste processo, deixo aquele que é apenas um breve reconhecimento da incalculável ajuda que me deram. Nunca me senti só, graças a todos vocês.

Professora Doutora Isabel Mesquita, obrigada pela forma como suportou este processo abrindo-me o caminho para lhe dar vida. O meu crescimento ao longo desta viagem foi muito além do profissional e, reconheço que, parte dessa conquista devo à forma como, intencionalmente, dirigiu a sua orientação. Agradeço-lhe por ter acreditado no meu potencial, atribuindo-me votos de confiança por vezes maiores do que os passos que eu me achava capaz de dar. Obrigada por me ter feito compreender a importância de equilibrar a ânsia do perfeccionismo com a espontaneidade e naturalidade dos altos e baixos do processo. Muito obrigada, por ser um exemplo de excelência, de uma Mulher líder e empoderada. Foi para mim um privilégio trabalhar consigo.

Professor Doutor Cláudio Farias, agradeço-lhe todo o empenho que depositou no desenvolvimento deste projeto e como sempre dedicou parte do seu tempo a esta orientação. Agradeço-lhe o seu olhar atento e cuidado ao pormenor que tanto contribuíram para me sentir cada vez mais confiante com o trabalho desenvolvido. Nunca esquecerei o seu voto de confiança e incentivo para iniciar o meu caminho na investigação científica, antes mesmo de algum dia pensar que pudesse vir a ser estudante de doutoramento.

Professora Doutora Carla Luguetti, que me provou que a distância nunca será um problema quando a vontade e a dedicação existem. Quero agradecer-lhe pela leveza, prontidão e convicção com que desenvolveu esta pareceria que tanto contribuiu para o meu desenvolvimento. Obrigada pela forma alegre e carinhosa com que me acolheu e que me fez admirar tanto o seu trabalho como a si enquanto pessoa.

Professor José Carlos Monteiro e Professor Luis Moreira, obrigada por gentilmente me terem recebido nas vossas escolas e por terem partilhado comigo tantas aprendizagens. Agradeço a forma cuidada como sempre me incluíram nos Núcleos de Estágio que tão bem foram por vocês guiados. Agradeço a forma genuína como me

permitiram estar “em todo o lado a ver tudo”, sem questionar a pertinência da minha presença.

Aos (agora) Professores Nuno, Pedro, Miguel, Ana, Lucas, Hugo, Ricardo e Fábio, agradeço-vos por terem confiado em mim. A vossa honestidade e entrega permitiram-me chegar aqui. Cada um de vocês partilhou comigo tesouros de valor inestimável. Desejo o melhor para o vosso futuro.

Professor Doutor António Manuel Fonseca, Diretor da FADEUP e do Programa Doutoral em Ciências do Desporto, agradeço toda a sua disponibilidade, prontidão e dedicação prestadas no desenvolvimento e suporte institucional e pessoal neste projeto.

Ao Centro de Investigação, Formação, Inovação, e Intervenção em Desporto (CIFID2D), agradeço a forma como fui integrada e, sobretudo, por pautar pela excelência e primor científico que tanto me inspiraram.

Fundação para a Ciência e Tecnologia, expresso um sincero agradecimento pelo financiamento atribuído a este projeto de doutoramento, que permitiu a minha entrega e total dedicação ao mesmo.

Professor Doutor José António Maia, agradeço-lhe por tantas vezes me ter questionado “qual é o teu verdadeiro problema?”. Esta questão foi ganhando peso e medida com o passar do tempo e, permitiu-me compreender que o meu percurso neste ciclo de estudos tinha realmente, um único problema, no qual eu teria inúmeros caminhos a percorrer para o resolver, pés embora, durante muito tempo eu achasse que tinha em mim todos os problemas do mundo.

Ao Núcleo de Dança e à Professora Lurdes Ávila, por terem dado vida aos meus sonhos, acreditarem na minha criatividade e por me terem proporcionado tantos anos de movimentos ao som da amizade, companheirismo e dedicação. Obrigada por tudo.

À menina **Maria Domingues,** por ser tão cuidadosa e profissional no apoio que presta a todos os doutorandos que por ela passam. Um exemplo de como na FADEUP a excelência está em todo o lado.

À **Rita, Eugénia, Cristiana, Sara, João e Carla,** obrigada por terem partilhado esta experiência comigo. Por serem os “mais velhos” que tanto me ajudaram a relativizar e a partilhar os meandros destes que, provavelmente, foram dos anos mais marcantes das nossas vidas.

Eduardo Guimarães, agradeço-te por seres o espelho da genuína bondade. Tenho muito orgulho em ter-te como amigo e por poder assistir às tuas conquistas. Obrigada por todos os momentos que partilhamos ao longo desta viagem que tanto me ajudaram a seguir em frente com animo e convicção. És um exemplo para mim. Um grande beijinho à Diana de quem também tanto gosto.

Grace, por mais que te quisesse explicar, nem eu própria sei qualificar a importância da tua presença na minha vida. O teu inconfundível gargalhar, a forma como verdadeiramente cuidas da tua família e amigos, a tua entrega, cuidado e dedicação – não poderia admirar-te mais. Obrigada por todas as conversas, por me deixares filosofar à vontade, por ouvires os meus poemas, pelo mar e pelas ondas que surfamos, pelo teu apoio incondicional, pelos teus conselhos, enfim...por partilhares a tua vida comigo, obrigada. “She is go” always!

Rita Santos, obrigada pela tua amizade verdadeira, pelo teu suporte constante, por sempre acreditares nas minhas capacidades. 10 anos a crescer juntas foram só o início da nossa caminhada pela vida. Admiro a tua força de viver, o teu empenho desmedido a tua saudável obsessão pelo mais e melhor. És uma mulher incrível e obrigada por partilhares tudo isso comigo.

Aos meus amigos Siquenique, Márcio, Joana Patrocinio, Cláudia Henriques, Sara Solá, Rita Figueiredo, Família Póvoa Lima, Fátima Pinto, Daniel Seabra e Pedrito, obrigada por serem sempre um porto de abrigo independentemente da distância. Por termos vivido tantos momentos bons e que, sem dúvida, tanto contribuíram para me manter feliz, forte e segura ao longo deste doutoramento. Por sempre acreditarem que estava no caminho certo mesmo sem saberem muito bem o que é que eu realmente estava a fazer. Por festejarem cada submissão, cada artigo, cada palavras que escrevi. Obrigada por tudo isso.

Jeca, porque por mais que o mundo mude e nos mudemos com ele, há coisas que só um olhar desvenda, que só uma gargalhada conta e só um silêncio revela. Contigo sei que nunca precisarei de falar para revelar, e é um alívio tão grande saber que há alguém que realmente conhece o nosso ADN – BI. Sem isso, dificilmente me encontraria a mim própria. Para ti, o meu obrigada é o para sempre.

Ao meu Padrinho, agradeço-lhe por ser o melhor do mundo. Por estar sempre disponível para garantir que está sempre tudo bem. Pelo seu incrível instinto protetor.

Prima, porque para além de seres a responsável pelo Jurassic River, o que te coloca logo noutra patamar, ainda consegues partilhar comigo esta tão característica cabecinha de osca preocupada. Obrigada por todos os conselhos que me deste, a forma como sempre me ajudaste a avançar na vida sabendo que tinha apoio incondicional – não há melhores costas quentes! Falar contigo é sempre fácil e leve. Um obrigada também ao Edu que tão bem cuida de ti e de nós.

Aos meus tios, Pacheco e titi Carminho, obrigada por sempre me apoiarem. Por estarem por perto sempre que é preciso. Pelas fofocas, os bolinhos e as sopas maravilhosas. Os melhores tios do mundo.

À Tia Adília, a nossa matriarca. O verdadeiro símbolo de união desta família tão especial que é a minha. O carinho mais genuíno que conheci em 27 anos de vida. Uma força interminável! Avozinha, quando fizeres 100 anos vai haver uma festa, seria de mau tom não compareceres.

Aos meus Pais, dizer-vos que vos agradeço parece pouco por aquilo que fazem por mim e pela Mana. O vosso apoio e amor são de outro mundo. Sempre me senti forte para seguir em frente e enfrentar desafios na vida graças a vocês. Não há palavras que expressem o orgulho que sinto na nossa família e na nossa união. Sem vocês, não estaria hoje a escrever estas palavras, de mais uma tese que vai para o baú de coisas boas que já conseguimos conquistar todos juntos.

Mana. Parte deste doutoramento é teu. Não só por teres tido sempre disponibilidade para me ajudar, pelo teu profissionalismo e capacidades, mas, sobretudo, pelo orgulho que sempre demonstraste nos meus pequenos passos. Por fazeres parte da minha vida a todos os níveis, por seres uma inspiração para mim. A tua garra, a tua capacidade de querer sempre ser melhor, a tua coragem inspira-me todos os dias a seguir em frente. Obrigada por todas as conversas importantes que tivemos ao longo deste meu caminho, pelo enorme apoio que senti da tua parte. És incondicional, imprescindível e extraordinária. Que sorte a minha em ser tua irmã!

Flávio. Tu não só me apoiaste na superação deste desafio como quiseste vivê-lo lado a lado comigo. Entre ataques de riso e lágrimas, danças e cantorias de festejo, dias mais cinzentos e outros tantos cheios de sol, estiveste sempre pronto para me compreender e para me dar aquilo que eu precisava para voltar ao caminho, quando senti que já não tinha pernas para andar. Tu és além daquilo que eu poderia pedir. Tu fazes

parte do grupo de pessoas extraordinárias. És de outro planeta, mas tive a sorte de te encontrar. Obrigada por viveres comigo o caminho das estrelas. Por que mais do que sonharmos alto, juntos fazemos o que é preciso para tornar esse sonho real. Contigo tudo se torna fácil, tudo se torna possível, tudo fica leve. Talvez demore a vida toda para te agradecer...espero que sim.

Index

Index of Figures	XVII
Index of Tables	XIX
Index of Supplements	XXI
Resumo	XXIII
Abstract	XXV
List of Abbreviations	XXVII
Chapter I - Introduction	
1.1. Rationale	3
1.2. Research problems and aims	10
1.3. Thesis structure	12
1.4. References	18
Chapter II – General Methodology	
2.1. An ethnographic study	27
2.2. Ethnographer ontological position	28
2.3. Context and participants	30
2.3.1. Approaching the field – Obtaining access	30
2.3.2. Field relations	31
2.3.3. The culture and who run for sponsor or gatekeeper	32
2.4. Data gathering	32
2.5. Data analysis	35
2.6. Research quality and methodological rigour	40
2.7. References	41
Chapter III – Theoretical Articles	
3.1. Systematic review - <i>Pre-service teachers' learning and implementation of student-centred models in physical education: a systematic review.</i>	49
3.2. Narrative review - <i>A narrative review about Physical Education learning strategies towards innovative teachers' professional development: are Communities of Practice being romanticized?</i>	77
Chapter IV – Empirical Articles	
4.1. Empirical article 1 - <i>Becoming an ethnographer in a Physical Education Teacher Education culture: a challenging self-knowledge journey.</i>	107
4.2. Empirical article 2 - <i>Pre-service teachers' negotiation of meaning in their Physical Education Teacher Education programme: A two-year follow-up ethnography</i>	131
4.3. Empirical article 3 - <i>Challenges in generating value in the Pre-service teachers journey from learning to implementing Student-centred Approaches: an ethnography study along a two-year PETE.</i>	159
Chapter V – Final Thoughts	
5.1. General discussion	187
5.2. Practical applications for PETE programmes	195
5.3. Avenues for future research	197
5.4. References	198
Supplements	
Supplement 1	CCV

Index of Figures

Chapter III – Theoretical Articles

3.1. Systematic review - *Pre-service teachers' learning and implementation of student-centred models in physical education: a systematic review.*

Figure 1. The selection process (Following PRISMA guidelines, Moher et al. 2015). 52

Chapter IV – Empirical Articles

4.2. Empirical article 2 - *Pre-service teachers' negotiation of meaning in their Physical Education Teacher Education programme: A two-year follow-up ethnography*

Figure 1. The duality of participation and reification in the process of negotiation of meaning – PETE culture (adapted from Wenger, 1998). 136

4.3. Empirical article 3 - *Challenges in generating value in the Pre-service teachers journey from learning to implementing Student-centred Approaches: an ethnography study along a two-year PETE.*

Figure 1. Value-creation cycles in the framework related to SCA in PETE (adapted from Wenger-Trayner & Wenger-Trayner (2020). 164

Index of Tables

Chapter I - Introduction

1.1. Thesis structure

Table 1. Summary of the structure, contents and studies included in the present thesis.	15
--	----

Chapter III – Theoretical Articles

3.1. Systematic review - *Pre-service teachers' learning and implementation of student-centred models in physical education: a systematic review.*

Table 1. Summary of data extraction from studies included.	54
---	----

Index of Supplements

Supplements

Supplement 1. Cycles of value creation – Types of value (1st column); value definition (2nd column) and value dimensions (adapted from Wenger- CCV Trayner & Wenger-Trayner (2020)).

Resumo

O objetivo da presente tese foi compreender o processo de desenvolvimento profissional de Professores Estagiários ao longo do seu Programa de Formação de Professores de Educação Física, bem como, de que modo o desenvolvimento de estratégias sociais de aprendizagem (por exemplo, comunidades de prática), contribuiu (ou não) para o seu desenvolvimento em direção à implementação de abordagens centradas no aluno. Este estudo desenvolveu-se através de um referencial etnográfico longitudinal que acompanhou todo o percurso do programa de formação de professores, abarcando um conjunto naturalista de métodos para captar a real essência das interações sociais e dinâmicas entre os participantes (professores estagiários e os seus mentores) na espontaneidade da sua ocorrência. O recurso a esta metodologia permitiu uma exploração integrativa, abrangente e profunda do processo de desenvolvimento de professores em formação dentro de estruturas colaborativas. Este estudo reconheceu, também, o desenvolvimento da posição ontológica do etnógrafo, expondo e interpretando os desafios e estratégias utilizadas pela autora para se tornar uma etnógrafa na área da Educação Física. Adicionalmente, os resultados revelaram que os programas de Formação de Professores de Educação Física que defendem as comunidades de prática como uma estratégia de aprendizagem para promover a implementação de pedagogias inovadoras, como abordagens centradas no aluno, enfrentam grandes desafios. Especificamente, (i) Desafios na Negociação do Significado de experiências de aprendizagem social e (ii) Desafios na geração de valor nas experiências de aprendizagem social ao longo da jornada da aprendizagem para a implementação de abordagens centradas no aluno. Foram propostas aplicações práticas para o desenho dos programas para o reforço do cultivo eficaz de estratégias sociais de aprendizagem com o objetivo de contribuir para um desenvolvimento mais amplo da implementação de abordagens centradas no aluno no futuro por professores em formação.

PALAVRAS-CHAVE: COMUNIDADES DE PRÁTICA, ESTRATÉGIAS SOCIAIS DE APRENDIZAGEM, ABORDAGENS CENTRADA NO ALUNO, ESTUDANTE ESTAGIÁRIO, EDUCAÇÃO FÍSICA, ETNOGRAFIA.

Abstract

The aim of the present thesis was to understand the professional development process of Pre-service Teachers in a Physical Education Teacher Education programme and how the development of social learning strategies (e.g., communities of practice), was contributing (or not) for their development towards student-centred approaches implementation. This study was developed throughout a longitudinal ethnographic approach that followed-up the entire course of the pre-service teachers' programme, embracing a naturalistic set of methods to capture the real essence of the intricacies of the social dynamic interactions between the participants (pre-service teachers and their mentors) in its spontaneous occurrence. This data was captured mainly throughout an immersive participant-observation from the ethnographer that build a field diary, a reflexive log and audio recordings and further analysed through a constructivist revision of Grounded Theory. This methodology allowed a comprehensive in-depth integrative exploration of the process of pre-service teachers' development inside collaborative structures. This study acknowledged the development of the ontological position of the ethnographer, therefore, challenges and strategies to become an ethnographer in a Physical Education field were interpreted. Additionally, findings revealed that Physical Education Teacher Education programmes that advocate for communities of practice as a learning strategy to promote the implementation of innovative pedagogies such as student-centred approaches are experiencing major challenges in the cultivation of such practices. Specifically, (i) Challenges in Negotiating Meaning of their social learning experiences and (ii) Challenges in generating value in social learning experiences along the journey from learning to implementing student-centred approaches were deeply analysed. Practical applications for Physical Education Teacher Education design towards the reinforcement of effective cultivation of social learning strategies were proposed aiming to contribute to a broader development of student-centred approaches implementation in the future by pre-service teachers.

KEYWORDS: COMMUNITIES OF PRACTICE, SOCIAL LEARNING STRATEGIES, STUDENT-CENTERED APPROACHES, PRE-SERVICE TEACHERS, PHYSICAL EDUCATION, ETHNOGRAPHY.

List of Abbreviations

CoP – Community of Practice

CT – Cooperative Teacher

GT- Grounded Theory

NofM – Negotiation of meaning

PE – Physical Education

PETE – Physical Education Teacher Education

PLC – Professional Learning Communities

PST – Pre-service Teacher

SCA – Student-centred approaches

SCM – Student-centred models

SLS – Social Learning Spaces

TE – Teacher Educator

US – University Supervisor

CHAPTER I – INTRODUCTION

1.1. Rationale

- *Physical Education towards pedagogical innovation*

In past several decades, education has undergone tremendous change with the focus shifting from mastering skills to solving problems, creativity and student centredness, with the evolution of learning theory from behaviourism to constructivism¹ (Day, 2002; Huba & Freed, 2000; Schoenfeld, 2006). Thereupon, this constructivist approaches emphasize that learning is an active and developmental process, situated in social and cultural contexts, involving interactions between an individual learner and others (Kirk & Macdonald, 1998).

In the process of meeting the requirements of curriculum innovation and to enhance its implementation, studies on SCAs based on constructivism have begun to attract worldwide attention from both teachers and researchers (Garet et al., 2001). In many countries, the curriculum for PE has been reformed as well, focusing on multiple dimensions like skills, knowledge and understanding (Penney & Jess, 2004). Furthermore, problem-solving, lifelong learning and health issues are all major concerns of most PE curricula (Penney, 2008; Penney & Jess, 2004). To meet the curriculum's objectives, a variety of SCAs based on constructivism have been designed and tested (Ennis, 2006).

Despite these advancements, and the high quality, standards-based programmes being coordinated in specific contexts across the world (e.g., Prusak, et al., 2010), traditional multiactivity approaches² continue to dominate the PE scenario at the middle and high

¹ Constructivism draws heavily on the cognitive constructivism of Piaget (1970) and social constructivism of Vygotsky (1978). Piaget (1970) claimed that knowledge was created by individuals actively based on their previous knowledge and experience. By contrast, Vygotsky (1978) emphasized the role of culture and context in developing personal and shared interpretations of reality. In recent decades, with the shift of educational focus from skills mastery and application to a pupil-centred, problem-solving, and creativity-focused curriculum (Huba & Freed, 2000), a host of approaches premised on a constructivist philosophy has emerged and attracted increasing interest from researchers and teachers (Richardson, 1997; Rosenfeld & Rosenfeld, 2006).

² These practices are exemplified by multiactivity style curricula delivered using direct instruction and the command and practice teaching styles (Mosston & Ashworth, 2008). Characterized by short units of instruction focused on team sports, multiactivity curricula have been criticized in the literature for several reasons, including limited opportunities for skills development, lack of meaning and relevance, and the marginalization of nonathletic students (Ennis, 2014).

school levels (Ennis, 2014; Ferry & McCaughtry, 2013; Kirk, 2013). It has been suggested that one of the factors contributing to this longstanding predominance of multiactivity curricula in PE is teachers' lack of training regarding the implementation of innovative curriculum and instructional models (Ennis, 2014).

Therefore, a narrative of student-centeredness has penetrated through educational policies, national curricula, and teacher education where such approaches to learning have been positioned as a 'recipe for development, success, and productive learning' (Le Ha, 2014, p. 1). While interpretations of student-centeredness vary across disciplines, contexts, settings, and through different conceptions of 'good pedagogy', SCAs entail developing students ability to become their own teachers, and supporting them to know how to evaluate knowledge claims, how to learn, how to collaborate, how to seek help, how to become assessment capable, how to be resilient (particularly in the face of cognitive challenges), and aiding students to know what to do when they do not know what to do (Hattie, 2012; Jones, 2007).

In PE and sport pedagogy, student-centred models (Jewett et al., 1995; Haerens et al., 2011; Kirk, 2013; Metzler, 2011), student-centered forms of inquiry (Enright & O'Sullivan, 2010; Oliver & Kirk, 2014), critical pedagogies (Macdonald, 2002), and peer-assisted learning approaches (Barker, Quennerstedt, & Annerstedt, 2015) have all been advocated as effective ways to promote a broad range of educative and health outcomes (O'Sullivan, 2013). Fundamentally, much has been written about the need for teachers to move from direct instruction and adopt, develop, and transform their curriculum programmes through SCAs (Dyson, 2014; O'Sullivan, 2013).

Authors are now stating that the time to ask if SCAs work has passed (Casey, 2014). Along with strong philosophical and historical arguments (e.g. Kirk, 2013), there is a developing base of evidence to support its role in a vision for reform and renewal in PE. As a result, it is suggested that there is a need to better understand how such an approach might be sustained in the long-term (Casey, 2014).

- *The complex challenges of Physical Education Teacher Education programmes*

Nevertheless, the PE destiny relies on the future of PSTs and teachers that are now engaging in their professional development towards SCAs. Notwithstanding, the journey of becoming a teacher encompasses an intertwined process between the inward expedition of self-as-teacher and the outward conceptions of teaching, that together form complex developmental trajectories of learning to teach (Lee & Schallert, 2016). There is a growing body of research (Davis & Sumara 1997; Britzman, 2012; Opfer & Pedder 2011; Strom, 2015) that attests to the complex, non-linear nature of PSTs and teachers learning and practice because various areas of knowledge growth occur at the same time (Calderhead, 1991).

Here, PETE programmes can be conceptualized as an intervention charged with developing the next generation of PE teachers and working towards this change. A key implication for PETE programmes is to move away from a one-size-fits-all approach and develop PSTs capable of successfully implementing a variety of curricular and instructional models as a means to better meet the learning needs of all students (Dyson et al., 2004; Ennis, 2014; Gurvitch et al., 2008; Kirk, 2013; Metzler, 2017). Thus, PSTs process of learning is contextual, social interactive, including multiple and complex forms of learning due to its developmental process (Calderhead, 1991; Lee & Schallert, 2016). Accordingly, to provide PSTs with the knowledge, skills, and dispositions needed to teach using a variety of curriculum and instructional models, SCAs have reportedly been provided in some PETE programmes (Deeniham et al., 2011; Gurvitch, et al., 2008; McMahon & MacPhail, 2007).

The effectiveness of this intervention is, however, often attenuated by the perspectives that PSTs bring with them based on their own school-based PE experiences (Curtner-Smith et al., 2008), as well as the realities of schools that PSTs will enter upon graduation, which often do not embrace PE as part of the core mission of schooling (Kougioumtzis et al., 2011). Hereafter, PETE programmes must make well-planned and deliberate attempts that challenge PSTs' preconceived ideas about learning and teaching

to increase the likelihood that they will later utilize approaches influenced by constructivist views on learning, such as SCAs (Gurvitch et al., 2008).

Toward this end, PETE programmes have been encouraged to provide PSTs with multiple opportunities to learn, experience, observe, and think critically about different curriculum and instructional models (Gurvitch et al., 2008). Furthermore, scholars have argued that PSTs should be given ample opportunities to teach using these models in early field experiences and during student teaching (McMahon & MacPhail, 2007). More specifically, researchers encouraged PETE faculty members to create authentic opportunities that allow PSTs to experience SCAs both as participants and as teachers (Gurvitch et al., 2008).

This shift toward a SCA in PETE is certainly accompanied with the challenges inherent to any paradigm change, including the need to understand how PSTs learn to employ these models. However, while researchers have reported PSTs' enjoyment of teaching SCAs (Deenihan & MacPhail, 2013), they tend to experience multiple struggles and misunderstandings. By recognizing this challenges, general education (Cochran-Smith, 2005), as well as PETE (McEvoy et al., 2015), researchers urge us to contribute to a broader research agenda by developing a 'chain of evidence' that strengthens the link between PETE programmes, PSTs' learning, PSTs' delivery during school placement and as a novice teacher, and the subsequent effect on the learning experiences of students.

As a result, in order for PSTs to effectively utilize a variety of SCAs, PETE programmes must find ways to help them make a conceptual shift that leads to viewing PE learning and teaching in new ways (Dyson et al., 2004). An important first step toward a conceptual shift is to learn in environments utilizing models that are consistent with constructivist learning principles. 'In fact, learning in the ways they are expected to teach may be the most powerful form of teacher education' (Bransford et al., 2005, p.76).

Similarly, thoughtful facilitation is one of the features of effective professional development (Le Fevre & Richardson 2002; Poekert, 2011). Teacher educators, Cooperative teachers and University supervisors are led to engage in processes of facilitation when teaching constructivist PETE programmes. Facilitators are persons, teachers, teacher educators or other professionals who mediate collaborative learning

strategies (e.g., CoPs, SLS, PLC) (Hunuk, 2017; Patton et al., 2012; Poekert, 2011). To be effective, facilitators must understand the institutional pressures, cultures and expectation that separate them from teachers (Fletcher et al., 2020). Within the role of facilitation, the importance of understanding teachers' contexts, listening to their voices, enhancing their self-esteem, observing, and being observed during their practice, and building a community of teachers are seen as essential for teachers' development (Patton et al., 2012). In this type of social learning strategies, the presence of a facilitator who dialogues with the teachers, analyses their context with them and mediates negotiation among members which is important, for example, for initiating and maintaining the implementation of SCAs (Goodyear & Casey, 2015).

- *The role of Communities of Practice in the PSTs' professional development in PETE programmes*

Likewise, learning becomes significant when learners share their knowledge and help each other advance through the interpersonal interactions that occur in the learning process and in the assessment of its results. Here, the concept of social learning strategies enters in PETE as a key to evolve towards pedagogical innovation. Hence, many scholars believe that there are new opportunities for understanding learning within SCAs by engaging with the notion of Communities of Practice (Lave & Wenger, 1991; Wenger, 1998; Wenger & Wenger-Trayner, 2015).

Situated learning theory underpins the concept of CoP and provides a meaningful framework for examining professional learning. A key premise of this framework is that learning is social and comes from our daily experiences. Lave and Wenger's (1991) model of situated learning proposes that learning involves a process of engagement in CoP emphasizing the relationship between knowledge and the situations in which it is acquired and used. Situated learning theory has been developed by Lave and Wenger (1991) by presenting a key concept: 'legitimate peripheral participation in communities of practice'. In this context, learning is embedded within the activity, context and culture, and the prime unit of social practice is a 'community of practice'. Kirk & Macdonald (1998) provide a helpful definition by suggesting that a CoP pertains to 'any collectivity or group who together contributed to shared or public practices in a particular sphere of

life' (p.380). Moreover, Lave and Wenger (1991) described legitimate peripheral participation as the process by which newcomers move toward full participation in the CoP. It is at this critical stage of interaction in a CoP that the PSTs are inserted, with the beginning of their school placement. It is widely acknowledged that teachers have the need to interact in school, as well as the fact that this collaboration promotes their professional development (Ostovar-Nameghi & Sheikahmadi, 2010). According to Duncombe and Armour (2004) and Patton et al. (2005), PSTs and their mentors could develop a CoP, in which PSTs assume partial yet meaningful roles (legitimate peripheral situation) on the way to becoming full participants (full participation in a community).

Lave and Wenger's (1991) framework has been applied as a theoretical base in PE teaching and teacher education. The theory connects with the SCAs and instruction models who have a collaborative base (e.g., sport education, tactical games and cooperative learning). This concept also has clear relevance to an analysis of mentoring in schools (e.g., role of facilitator from TEs, CTs and USs) because it provides a conceptual framework and may help demonstrate the potential value of mentoring in professional learning.

The evolution of the capacities and knowledge of the PSTs in their field of activity is also recognized in numerous studies that associate this development with the effective interaction in a CoP. Though, the literature on the impact of PE CoPs on PSTs concentrates broadly on social aspects around the development of teacher identity and power differentials between agents (Keay, 2009). Whilst notions of apprenticeship learning and legitimate peripheral participation (Lave & Wenger, 1991) are explored within that literature, there is a relative lack of explicit emphasis on the development of knowledge generally and subject knowledge specifically. This lack of consideration on the development of PSTs knowledge highlights again the need within a PETE context to address the insufficient attention paid to the influence of CoP, the associated legitimised practices, and their role in the development of the subject knowledge of PE PSTs.

However, the need for more learning opportunities to improve teacher quality continues to be a pervasive research theme in the teacher education literature. A growing number of studies have claimed professional learning communities and CoPs for teachers

as effective forms of teachers' professional development (Armour & Yelling, 2007; Lieberman & Mace, 2009; Little, 1993; Patton et al., 2015; Tannehill & Murphy, 2010; Wenger, 1998). Regardless of type (e.g., PLC, teacher inquiry communities, or CoPs), these community structures provide teachers opportunities to learn from and with one another by creating a collaborative, social culture focused on teachers' needs (Goodyear & Casey, 2015; Grossman et al., 2001; Parker et al., 2012; Patton & Parker, 2015).

Therefore, working as a CoP has been a major learning strategy, stated in literature as powerful for teachers process of professional learning, specially, innovative practices such as SCAs. However, in PE, CoPs have been used primarily as a professional learning strategy for in-service teachers (Hunuk, 2017; Parker & Patton, 2017; Parker et al., 2021). In this body of research, teachers in CoPs demonstrated changes in attitudes and beliefs (Deglau & O'Sullivan, 2006; Oliver et al., 2018) and professional identities (Luguetti et al., 2018); and development of a sense of community and empowerment (Goodyear & Casey, 2015; Tannehill & MacPhail, 2017; Gonçalves et al., 2021). Furthermore, CoPs have been a way to overcome traditional professional development in PE by developing teacher agency and constant collaboration between stakeholders (e.g., teachers, PSTs, and TEs). In Parker et al. (2021) review about CoPs and PE professional development, teachers were the focus of 75% of the studies, revealing that fewer studies focused on PETE programmes and PSTs' professional development. Similarly, some studies explored CoPs as a professional learning strategy aimed at supporting PSTs' learning (Herold & Waring, 2018; Luguetti, Oliver, & Parker, 2020). This body of research explored what crucial aspects of CoPs cultivation were being supported or neglected during PETE programmes, particularly the interactions between PSTs, CTs, US, and others on school placements.

Although considerable research has shown the benefits of cultivating CoPs as a means for in-service teachers' professional learning (Deglau & O'Sullivan, 2006; Goodyear et al., 2014; MacPhail et al., 2014; Menter & McLaughlin, 2015; Hunuk, 2017; Tannehill & MacPhail, 2017; Luguetti et al., 2020), much less is known about how a CoP framework can be used to understand how PSTs progress to become teachers in their PETE programmes. There is a dearth of examination of PSTs' engagement in CoPs during the entire course of their PETE programmes and of how CoP involvement might represent

an important role in their professional development (Parker et al., 2021), particularly, regarding how PSTs are (or not) implementing SCAs (Stran & Curtner-Smith, 2009).

Henceforth, a complex conceptualization of teaching encourages researchers to focus on the processes of teaching and learning rather than the outcomes alone (Strom, 2015). Strom and Martin (2016) asserted that PST learning does not directly transfer into classroom practices and suggest that multiple enabling and constraining elements influence the pedagogical decision-making and the enactment of teaching practices. Such ideas can assist researchers to push beyond linear, simplistic ways of studying teaching, and instead advocate for a shift toward conceptualizing PSTs' learning and the enactment of instructional practice in more complex ways (Strom, 2015). Having this in mind, an ethnographic stance has been shown (Gonçalves et al., 2021; Alves et al., 2019) to be a powerful tool in order to achieve an in-depth, interpretative analysis of this complex learning culture that is still a world to discover in every aspect. PE scholars are increasingly employing ethnographic methods in an attempt to better conceptualize the socio-behavioural processes and lived contextual contingencies (Atkinson, 2014). Hence, ethnography is particularly suitable to examine the problematic within PETE programmes for its epistemological capability to keep pace and grasp the complex, dynamic and on-going nature of teaching and learning (Pill et al., 2012).

To further add, there is a scarce basis of in-depth information regarding internal social dynamic inside of a CoP development and about how those processes could lead to SCAs ultimate implementation for PSTs. Thus, there is still a lot to uncover regarding the specificities of CoP cultivation as a learning strategy towards innovative pedagogies, which could be vital to inform not only theory on the development of effective PETE programmes but also, to provide valuable practical applications for professional development practices that pursuit innovation with change towards a constructivist future for PE. This research project brings novelty and relevance, due to its long-term follow-up longitudinal design by employing an ethnographic approach for the exploration of the in-depth intricacies of the whole process of professional development of PE PSTs during an entire PETE programme. To the best of our knowledge, this is the first time that research has analysed the internal dynamics of collaborative social learning strategies throughout an entire course of a teacher education programme, and what impact this might have in the PSTs professional development towards SCAs.

1.2. Research problems and aims

To step further into an in-depth comprehension about the role of CoPs in the professional development of PSTs towards SCAs implementation, it was important to acknowledge that the culture in study was highly unpredictable and vastly influenced by the context. First, despite this study was based upon the premise that the process of development of PSTs in PETE (particularly in school placement) was encouraged by the host University to be developed through their engagement in a CoP (*The regulatory policy in the university states that “It is in this contact [school placement] that the PST gets to know the contours of the career, becoming, little by little, a member of this educational community, called by the authors [Lave and Wenger (1991)], the community of practice. Thus, it is understood that the school placement work group, constituted by the PSTs, Cooperating Teacher and University Supervisor, should function as communities of practice, leading the PSTs to generate new knowledge and new skills.”*). Furthermore, it is important to acknowledge that, for a CoP to strive genuine collaborative efforts are needed and the supervisors are required to actively adopt facilitative strategies to support PSTs’ ongoing teaching-learning (Robinson & Taylor, 2007). Secondly, the implementation of SCAs adds increasing complexity to PETE as PSTs need to develop specialized pedagogical content knowledge and a more versatile instructional set to efficiently empower autonomous and critical thinking skills development of their students. Moreover, despite learning SCAs and through SCAs in the curricular year and being encouraged by their PETE institution and respective mentors, the PSTs were not obligated to use SCAs in their teaching practice in school placement. Hence, due to the naturalistic approach of this research, a CoP cultivation was not previously ensured or motivated, contrariwise, the intend was to understand if it was happening as recommended by the University policy. Additionally, the same happened with the PSTs engagement with SCAs in their school placement. For that reason, the aim of this study was to understand the professional development process of PSTs from the first year (curricular year – course units) to the second year (school placement) and how the dynamic of their social interactions, towards the cultivation of a CoP, was contributing

(or not) for their development towards SCAs implementation. Specifically, it was aimed to:

- Provide a long-term examination of the social and collaborative interactions of PSTs during the entirety of their PETE programme, from the first year (curricular year where they engage in the learning of SCAs through SCAs) till the second and final year (school placement where they engage in a real school practicum experience with assigned pupils and were the ones responsible for planning the teaching-learning process).
- Provide a self-analysis of the main challenges faced by a novice ethnographer in the field of PETE.
- Identify constraining or facilitating factors to the CoP development in both the work groups of the curricular year, and in school placement with their supervising team and colleagues.
- Understand the role, influence of specific facilitative and collaborative processes used by the supervising team (TEs, CT and US) to mediate PSTs' professional development and implementation of SCAs.
- Understand how the meaning of collaborative experiences was negotiated towards CoP cultivation along the PETE process.
- Comprehend how PSTs generated value to the strategies used in PETE to their implementation of SCAs.
- Assess and summarize how PSTs are learning and implementing student-centred models in PETE programmes.
- Provide an updated analysis of the literature surrounding CoPs as a teacher learning strategy.

1.3. Thesis structure

This thesis was written in accordance with the requirements and presentation guidelines of the Faculty of Sport University of Porto (FADEUP, 2009). Specifically, it uses the configurations of the Scandinavia model, that was chosen due to its ability to develop specific competences related to this knowledge domain and to engage in the opportunity to produce scientific research submitted to indexed international peer-

reviewed journals with impact factor. The inherent process of scientific publication, that comprises – analysis, writing, preparation in accordance with the journal guidelines, submission, peer-review, and final publication, contributed substantially for the development of critical thinking and sharing of distinct points of view that contributed to enhance the quality of the present research. Hereafter, this document is composed by a set of chapters that include scientific manuscripts that each address the overall objectives of the project. In sum, this thesis is constituted by one systematic review, one narrative review and three empirical investigations, (see Table 1 for further details).

Chapter I entails the introduction of the thesis, that include the theoretical lenses that supports the scientific investigation conducted. Moreover, the relevance and main aspect of this research project are justified in accordance with the current published scientific literature. Also, this chapter outlines the general and specific aims of this research project, followed by a description of the thesis structure.

Chapter II includes a general methodology of the present scientific project. Specifically, an exploration of ethnography, the ethnographer ontological position, context and participants, data gathering and data analysis throughout grounded theory are presented. Additionally, research quality and methodological rigour are addressed.

Chapter III presents one systematic review (published) and one narrative review (published), that integrate the theoretical components of the thesis. The theoretical article entitled “Pre-service teachers’ learning and implementation of student-centred models in physical education: a systematic review”, aimed to provide a systematic review of empirical research on PSTs course units learning and school placement implementation of SCMs in PETE programmes. Specifically, this study discussed how PSTs learn about SCMs in their curricular years and how they implement SCMs in their school placement. Additionally, an overview of the educational impact of PSTs’ SCMs implementation is presented while highlighting empirical gaps and future research suggestions. Hence, this study suggests that offering a theoretical basis is insufficient to develop PSTs’ understanding of SCMs and, that PSTs construct their professional development by experiencing the SCMs in first-hand. Also, highlights the scarcity of knowledge about specific mentoring processes employed by CTs and USs than can support PSTs’ delivery of SCMs, and in-depth phenomenological, longitudinal and follow-up analysis with a high range of designs is encouraged. The narrative review article is entitled “A narrative

review about Physical Education learning strategies towards innovative teachers' professional development: are Communities of Practice being romanticized?". This review article provides a summary of international research perspectives and findings regarding how CoPs are working as a learning strategy towards PE pedagogical innovation, as well as to develop a summary for conducting further research. Specially, this article acknowledged the need for additional research on the occurring transformations inside of a CoP and/ or a report of the main challenges faced by members while engaging in it, especially in PETE contexts.

Chapter IV includes the empirical component of the thesis. Specifically, it contains three empirical qualitative studies that are either published or under review (at the time of thesis submission). The first empirical study is titled "Becoming an ethnographer in a Physical Education Teacher Education culture: a challenging self-knowledge journey". This autoethnography uncovered my transformative journey as a novice ethnographer, as I encountered the field of ethnographic research in PETE culture. Particularly, this study presented crucial experiences recognized as fieldwork dilemmas and encounter the strategies developed in order to address them. The main intends was to motivate other novice ethnographers to do self-analysis through autoethnography during their research journey. The second empirical article has the title "Pre-service teachers' negotiation of meaning in their Physical Education Teacher Education programme: A two-year follow-up ethnography". This ethnographic study, based on the CoP theory, and specifically, on the concept of Negotiation of Meaning, sought to understand how PSTs negotiated meaning during a two-year PETE programme. In particular, the focus was on the challenges faced by PSTs throughout the PETE social interactive process. Specifically, this study analysed: three key challenges during the course units, for PSTs in the first year of their PETE programme: (a) the diversity and disconnections within the course units; (b) (the lack of) membership; and (c) the absence of democratic spaces in PETE class discussions. In the year two of PETE during the school placement, three challenges were identified for the NofM: (a) the lack of dialogue with and focus on pedagogical practice by the cooperating teacher; (b) working together and the pressure to individualise PSTs' education process; and (c) unreachable support and supervision from the university. The third empirical study was titled "Challenges in generating value in the Pre-service teachers journey from learning to implementing Student-centred Approaches:

an ethnography study along a two-year PETE”. This ethnographic study aimed to comprehend the internal dynamics of the social learning interactions inside a PETE programme where PSTs were learning and implementing SCAs. Specifically, what type of challenges and difficulties they face while going throughout the cycles of value creation regarding SCAs throughout their PETE programme. This study entails several challenges to value creation faced by PSTs along the process regarding: feelings of isolation in work groups; utopic experience of peer-teaching; PSTs implementing SCAs to brighten up their performance; PSTs prioritizing their individual process; PSTs relation with the main stakeholders (TEs, CTs and US); and, the lack of a practical example of SCAs implementation.

Chapter V incorporates the general discussion and the final considerations. The discussion within this chapter is framed upon the theoretical assumptions investigated and supported by the main findings of each empirical article. Specifically, the results of each study are combined, interpreted and discussed in an attempt to understand the relevance of self-analysis in ethnography and extend current knowledge about the dynamic of social and collaborative processes inside PETE programmes towards the implementations of SCAs. Finally, practical implications for PETE programmes are considered and future avenues for scientific research are recommended.

The supplements section includes one table as supplement during the submission of the third empirical study. The references of each chapter are presented at the end of each respective chapter. In addition, the references of each study are presented at the end of the manuscript according to the publication guidelines of the journal in which each study was published or submitted. Table 1 provides a summary of the structure, contents, and studies included in the present thesis.

Table 1. Summary of the structure, contents and studies included in the present thesis.

Chapter I	Introduction
	Key-concepts, pertinence of the investigation, research questions and purposes as well as the structure of the thesis.
Chapter II	General Methodology

	General methodology, exploring ethnography, ethnographer ontological position, context and participants, data gathering and analysis and research quality and methodological rigour.
Chapter III	Theoretical Articles
Systematic Review	Pre-service teachers' learning and implementation of student-centred models in physical education: a systematic review <i>Valério, F., Farias, C., & Mesquita, I.</i> Published: Journal of Physical Education and Sport DOI:10.7752/jpes.2021.06452
Narrative Review	A narrative review about Physical Education learning strategies towards innovative teachers' professional development: are Communities of Practice being romanticized? <i>Valério, F., Farias, C., & Mesquita, I.</i> Published: Revista Portuguesa de Ciências do Desporto
Chapter IV	Empirical Articles
Empirical Study 1	Becoming an ethnographer in a Physical Education Teacher Education culture: a challenging self- knowledge journey <i>Valério, F., Farias, C., & Mesquita, I.</i> Published: Sport, Education and Society DOI:10.1080/13573322.2021.1958773
Empirical Study 2	Pre-service teachers' negotiation of meaning in their Physical Education Teacher Education programme: A two-year follow-up ethnography <i>Valério, F., Farias, C., Luguetti, C., & Mesquita, I.</i> Under revision: Physical Education and Sport Pedagogy
Empirical Study 3	Challenges in generating value in the Pre-service teachers journey from learning to implementing Student-centred Approaches: an ethnography study along a two-year PETE <i>Valério, F., Farias, C., & Mesquita, I.</i> Under revision: European Physical Education Review
Chapter V	Final considerations
	General discussion, practical applications for PETE programmes, and future avenues scientific research.

1.4. References

- Alves, M., MacPhail, A., Queirós, P., and Batista, P. (2019). "Becoming a physical education teacher during formalised school placement: A rollercoaster of emotions". *European Physical Education Review*, 25(3), 893-909.
- Armour, K. M., & Yelling, M. (2007). Effective professional development for physical education teachers: The role of informal, collaborative learning. *Journal of teaching in physical education*, 26(2), 177-200.
- Atkinson, P. (2014). *For ethnography*. Sage.
- Barker, D., Quennerstedt, M., & Annerstedt, C. (2015). Inter-student interactions and student learning in health and physical education: A post-Vygotskian analysis. *Physical Education and Sport Pedagogy*, 20(4), 409-426.
- Bransford, J., Derry, S., Berliner, D., Hammerness, K., & Beckett, K. L. (2005). Theories of learning and their roles in teaching. *Preparing teachers for a changing world: What teachers should learn and be able to do*, 40-87.
- Britzman, D. P. (2012). *Practice makes practice: A critical study of learning to teach*. Suny Press.
- Casey, A. (2014). Models-based practice: Great white hope or white elephant?. *Physical education and sport pedagogy*, 19(1), 18-34.
- Calderhead, J. (1991). The nature and growth of knowledge in student teaching. *Teaching and teacher education*, 7(5-6), 531-535.
- Cochran-Smith, M. (2005). Studying teacher education: What we know and need to know. *Journal of Teacher education*, 56(4), 301-306.
- Curtner-Smith, M. D., Hastie, P. A., & Kinchin, G. D. (2008). Influence of occupational socialization on beginning teachers' interpretation and delivery of sport education. *Sport, Education and Society*, 13(1), 97-117.
- Day, C. (2002). School reform and transitions in teacher professionalism and identity. *International journal of educational research*, 37(8), 677-692.
- Davis, B., & Sumara, D. (1997). *Cognition, complexity, and teacher education*. Harvard educational review, 67(1), 105-126.

Deenihan, J. T., & MacPhail, A. (2013). A preservice teacher's delivery of sport education: Influences, difficulties and continued use. *Journal of Teaching in Physical Education*, 32(2), 166-185.

Deenihan, J. T., McPhail, A., & Young, A. M. (2011). 'Living the curriculum': Integrating sport education into a Physical Education Teacher Education programme. *European Physical Education Review*, 17(1), 51-68.

Deglau, D., & O'Sullivan, M. (2006). The effects of a long-term professional development program on the beliefs and practices of experienced teachers. *Journal of Teaching in Physical Education*, (25), 379-396.

Duncombe, R., & Armour, K. M. (2004). Collaborative professional learning: From theory to practice. *Journal of in-service education*, 30(1), 141-166.

Dyson, B., Griffin, L. L., & Hastie, P. (2004). Sport education, tactical games, and cooperative learning: Theoretical and pedagogical considerations. *Quest*, 56(2), 226-240.

Ennis, C. D. (2014). What goes around comes around... or does it? Disrupting the cycle of traditional, sport-based physical education. *Kinesiology Review*, 3(1), 63-70.

Ennis, C. D. (2006). Curriculum: Forming and reshaping the vision of physical education in a high need, low demand world of schools. *Quest*, 58(1), 41-59.

Enright, E., & O'Sullivan, M. (2010). 'Can I do it in my pyjamas?' Negotiating a physical education curriculum with teenage girls. *European Physical Education Review*, 16(3), 203-222.

Ferry, M., & McCaughtry, N. (2013). Secondary physical educators and sport content: A love affair. *Journal of Teaching in Physical Education*, 32(4).

Fletcher, T., Beckey, A., Larsson, H., & MacPhail, A. (2020). Better aligning teachers' and teacher educators' needs, priorities and demands. *School Physical Education and Teacher Education: Collaborative Redesign for the 21st Century*. Routledge.

Garet, M. S., Porter, A. C., Desimone, L., Birman, B. F., & Yoon, K. S. (2001). What makes professional development effective? Results from a national sample of teachers. *American educational research journal*, 38(4), 915-945.

Gonçalves, L., Parker, M., Luguetti, C., & Carbinatto, M. (2021). 'We united to defend ourselves and face our struggles': nurturing a physical education teachers'

community of practice in a precarious context. *Physical Education and Sport Pedagogy*, 1-14.

Goodyear, V. A., Casey, A., & Kirk, D. (2014). Tweet me, message me, like me: Using social media to facilitate pedagogical change within an emerging community of practice. *Sport, Education and Society*, 19(7), 927-943.

Goodyear, V. A., and Casey, A. (2015). "Innovation with change: Developing a community of practice to help teachers move beyond the 'honeymoon' of pedagogical renovation". *Physical Education and Sport Pedagogy*, 20(2), 186-203.

Grossman, P., Wineburg, S., & Woolworth, S. (2001). Toward a theory of teacher community. *Teachers college record*, 103(6), 942-1012.

Gurvitch, R., Blankenship, B. T., Metzler, M. W., & Lund, J. L. (2008). Student teachers' implementation of model-based instruction: facilitators and inhibitors. *Journal of Teaching in Physical Education*, 27(4), 466-486.

Haerens, L., Kirk, D., Cardon, G., & De Bourdeaudhuij, I. (2011). Toward the development of a pedagogical model for health-based physical education. *Quest*, 63(3), 321-338.

Hattie, J. (2012). *Visible learning for teachers: Maximizing impact on learning*. Routledge.

Herold, F., & Waring, M. (2018). An investigation of pre-service teachers' learning in physical education teacher education: Schools and university in partnership. *Sport, Education and Society*, 23(1), 95-107.

Huba, M. E. and Freed, J. E. (2000) *Learner-Centered Assessment on College Campuses*. Allyn & Bacon.

Hunuk, D. (2017). A physical education teacher's journey: From district coordinator to facilitator. *Physical Education and Sport Pedagogy*, 22(3), 301-315.

Jewett, A. E., Bain, L. L., & Ennis, C. D. (1995). *The curriculum process in physical education*. Brown & Benchmark.

Jones, R. (2007). Coaching redefined: An everyday pedagogical endeavour. *Sport, Education and Society*, 12(2), 159-173.

Keay, J. (2009). Being influenced or being an influence: New teachers' induction experiences. *European Physical Education Review*, 15(2), 225-247.

Kirk, D. (2013). Educational value and models-based practice in physical education. *Educational Philosophy and Theory*, 45(9), 973-986.

Kirk, D., & Macdonald, D. (1998). Situated learning in physical education. *Journal of Teaching in Physical education*, 17(3), 376-387.

Kougioumtzis, K., Patriksson, G., & Stråhlman, O. (2011). Physical education teachers' professionalization: A review of occupational power and professional control. *European physical education review*, 17(1), 111-129.

Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge university press.

Lee, S., & Schallert, D. L. (2016). Becoming a teacher: Coordinating past, present, and future selves with perspectival understandings about teaching. *Teaching and Teacher Education*, 56, 72-83.

Le Fevre, D., & Richardson, V. (2002). Staff development in early reading intervention programs: The facilitator. *Teaching and Teacher Education*, 18(4), 483-500.

Le Ha, P. (2014). The politics of naming: Critiquing "learner-centred" and "teacher as facilitator" in English language and humanities classrooms. *Asia-Pacific Journal of Teacher Education*, 42(4), 392-405.

Lieberman, A., & Pointer Mace, D. H. (2009). The role of 'accomplished teachers' in professional learning communities: Uncovering practice and enabling leadership. *Teachers and Teaching: theory and practice*, 15(4), 459-470.

Little, J. W. (1993). Teachers' professional development in a climate of educational reform. *Educational evaluation and policy analysis*, 15(2), 129-151.

Lugueti, C., Oliver, K. L., & Parker, M. (2020). Facilitation as an act of love: A self-study of how a facilitator's pedagogy changed over time in the process of supporting a community of learners. *Journal of Teaching in Physical Education*, 40(2), 207-214.

Lugueti, C., Aranda, R., Enriquez, O. N., & Oliver, K. L. (2018). Developing teachers' pedagogical identities through a community of practice: Learning to sustain the use of a student-centered inquiry as curriculum approach. *Sport, Education and Society*, (24)8, 855-866.

Macdonald, D. (2002). Critical pedagogy: what might it look like and why does it matter? *The sociology of sport and physical education*, 167.

MacPhail, A., Patton, K., Parker, M., & Tannehill, D. (2014). Leading by example: Teacher educators' professional learning through communities of practice. *Quest*, 66(1), 39-56.

McEvoy, E., MacPhail, A., & Heikinaro-Johansson, P. (2015). Physical education teacher educators: A 25-year scoping review of literature. *Teaching and Teacher Education*, 51, 162-181.

McMahon, E., & MacPhail, A. (2007). Learning to teach sport education: The experiences of a pre-service teacher. *European Physical Education Review*, 13(2), 229-246.

Menter, I., & McLaughlin, C. (2015). What do we know about teachers' professional learning. *Making a difference: Turning teacher learning inside out*, 31-52.

Metzler, M. (2017). *Instructional models in physical education*. Routledge.

Mosston, M., & Ashworth, S. (1986). *Teaching physical education* (3rd ed.). Columbus: Merrill.

Oliver, K. L., & Kirk, D. (2015). *Girls, gender and physical education: An activist approach*. Routledge.

Oliver, K. L., Luguetti, C., Aranda, R., Nuñez Enriquez, O., & Rodriguez, A. A. (2018). 'Where do I go from here?': learning to become activist teachers through a community of practice. *Physical Education and Sport Pedagogy*, 23(2), 150-165.

Opfer, V. D., & Pedder, D. (2011). Conceptualizing teacher professional learning. *Review of educational research*, 81(3), 376-407.

Ostovar-Nameghi, S. A., & Sheikahmadi, M. (2016). From Teacher Isolation to Teacher Collaboration: Theoretical Perspectives and Empirical Findings. *English Language Teaching*, 9(5), 197-205.

O'Sullivan, M. (2013). New directions, new questions: Relationships between curriculum, pedagogy, and assessment in physical education. *Sport, Education and Society*, 18(1), 1-5.

Parker, M., Patton, K., Gonçalves, L., Luguetti, C., and Lee, O. (2021). Learning communities and physical education professional development: A scoping review. *European Physical Education Review*.

Parker, M., & Patton, K. (2017). *Elementary 1 Physical Education in the United States*. In *Routledge Handbook of Primary Physical Education* (pp. 242-254). Routledge.

Parker, M., K. Patton, and Tannehill, D. (2012). "Mapping the Landscape of Communities of Practice as Professional Development in Irish Physical Education." *Irish Educational Studies*, 31 (3): 311–327.

Patton, K., Parker, M., & Tannehill, D. (2015). Helping teachers help themselves: Professional development that makes a difference. *NASSP bulletin*, 99(1), 26-42.

Patton, K., Parker, M., & Neutzling, M. M. (2012). Tennis shoes required: The role of the facilitator in professional development. *Research quarterly for exercise and sport*, 83(4), 522-532.

Patton, K., Griffin, L. L., Sheehy, D., Arnold, R., Gallo, A. M., Pagnano, K., ... & James, A. (2005). Navigating the mentoring process in a research-based teacher development project: A situated learning perspective. *Journal of Teaching in Physical Education*, 24(4), 302-324.

Patton, K., & Parker, M. (2015). "I learned more at lunchtime": Guideposts for reimagining professional development. *Journal of Physical Education, Recreation and Dance*, 86(1), 23-29.

Penney, D. (2008). Playing a political game and playing for position: Policy and curriculum development in health and physical education. *European Physical Education Review*, 14(1), 33-49.

Penney, D., & Jess, M. (2004). Physical education and physically active lives: A lifelong approach to curriculum development. *Sport, education and society*, 9(2), 269-287.

Piaget, J. (1970) *Biology and Knowledge: An Essay on the Relations between Organic Regulations and Cognitive Processes*. Chicago: University of Chicago Press.

Pill, S. (2008). A teacher's perceptions of the Sport Education model as an alternative for upper primary school physical education. *ACHPER Australia Healthy Lifestyles Journal*, 55(2-3), 23-29.

Poekert, P. (2011). The pedagogy of facilitation: Teacher inquiry as professional development in a Florida elementary school. *Professional development in education*, 37(1), 19-38.

Prusak, K. A., Pennington, T., Graser, S. V., Beighle, A., & Morgan, C. F. (2010). Systemic success in physical education: The East Valley phenomenon. *Journal of Teaching in Physical Education*, 29(1), 85-106.

Richardson, V. (1997) *Constructivist teacher education: building new understandings*. Washington, DC, Falmer Press.

Robinson, C., & Taylor, C. (2007). Theorizing student voice: Values and perspectives. *Improving schools*, 10(1), 5-17.

Rosenfeld, M. & Rosenfeld, S. (2006) Understanding teacher responses to constructivist learning environments: challenges and resolutions, *Science Education*, 90, 385-399.

Schoenfeld, A. H. (2006). What doesn't work: The challenge and failure of the What Works Clearinghouse to conduct meaningful reviews of studies of mathematics curricula. *Educational Researcher*, 35(2), 13-21.

Stran, M., & Curtner-Smith, M. (2009). Influence of Occupational Socialization on Two Preservice Teachers' Interpretation and Delivery of the Sport Education Model. *Journal of Teaching in Physical Education*, 28(1).

Strom, K. (2015). Teaching as Assemblage: Negotiating Learning and Practice in the First Year of Teaching. *Journal of Teacher Education*, 66 (4), 321–333.

Strom, K., & A. D. Martin. (2016). Pursuing Lines of Flight: Enacting Equity-based Preservice Teacher Learning in First-year Teaching. *Policy Futures in Education* 14(2), 252–273.

Tannehill, D., & Murphy, G. (2010). *Urban Schools Initiative Final Reports*. Junior Cycle Physical Education Support Services.

Tannehill, D., & MacPhail, A. (2017). Teacher empowerment through engagement in a learning community in Ireland: Working across disadvantaged schools. *Professional development in education*, 43(3), 334-352.

Vygotsky, L. S. (1978) *Mind in Society: The Development of Higher Psychological Process*, tr. M. Cole. London: Harvard University Press.

Wenger, E. & Wenger-Traynor, B. (2015). *Communities of practice: A brief introduction*. <http://wengertrayner.com/introduction-to-communities-of-practice/>.

Wenger, E. (1998). Communities of practice: Learning as a social system. *Systems thinker*, 9(5), 2-3.

Huba, M. E. & Freed, J. E. (2000) *Learner-Centered Assessment on College Campuses*. Boston, MA: Allyn & Bacon.

CHAPTER II – GENERAL METHODOLOGY

2.1. An ethnographic study

This study employed an ethnographic framework in a two-year longitudinal design, throughout the PSTs' PETE programme courses since the beginning of the curricular year through school placement in the second year.

Since this study aimed to explore in-depth the intricacies of the process of development of an entire PETE programme, ethnography suited perfectly since it is a valuable resource to explore and conceptually develop research areas that have been under-researched and are devoid of an empirical, conceptual, or substantive basis, to "help gather rich, detailed data from participants in the social worlds under study" (Heyl 2001, p.369).

Moreover, since the intend was to capture the social interactive dynamics of participants and their context of collaboration (e.g., CoP), ethnography with its 'methodological eclectism' (Hammersley, 1996) allowed a profound capturing of the practical, interactional, and social nature of the research setting.

Ethnography is exploratory in nature, and it consists of in-depth fieldwork and active, prolonged involvement of the ethnographer with the local context being studied (Reeves et al., 2013), observing behaviour, listening to what is said in conversations both between others and with the fieldworker, and asking questions. For instance, this study covers the entire evolution of PSTs in their different phases of development and distinct types of interactions with the main stakeholders.

Also, ethnography is sometimes taken to refer to a study in which participant observation is the prevalent research method but that also has a specific focus on the culture of the group in which the ethnographer is immersed. Hence, the term 'ethnography' has an additional meaning, in that it frequently simultaneously refers to both a method of research of the kind outlined above and the written product of that research. Indeed, ethnography frequently denotes both a research process and the written outcome of the research. Therefore, in this ethnographic study the researcher was immersed in a social setting for an extended period of time; made regular observations of the behaviour of members of that setting; listened to and engages in conversations;

interviewed informants on issues that are not directly amenable to observation or that the ethnographer was unclear about (or indeed for other possible reasons); collected documents about the group; developed an understanding of the culture of the group and people's behaviour within the context of that culture; and wrote up a detailed account of that setting (Bryman, 2016).

Notwithstanding, ethnography means more than participant observation alone because an ethnographic study covers the round of life occurring within the given milieu and often includes supplementary data from different sources. It means recording the life of a particular group and thus entails sustained participation and observation in their milieu, community, or social world. (Charmaz, 2014). Hereafter, participant observers may limit their focus to one aspect of daily life. In contrast, ethnographers seek detailed knowledge of the multiple dimensions of life within the studied milieu and aim to understand members' taken-for-granted assumptions and rules (Charmaz & Olesen, 1997).

Inside of the culture in study I attempted to study whatever was happening there, regardless of previous intentions or possible expectations. By remaining open to the setting and the actions and people in it, I had the opportunity to work from the ground up and to pursue whatever I found to be of the greatest interest, which might have led to novel and relevant discoveries about the specific topic in study (Bryman, 2016).

2.2. Ethnographer ontological position

As a PhD student, I developed a research project about the role of CoPs in the professional development of PE PSTs in their PETE programmes. It is important to acknowledge that I completed my PETE master's degree in the same university and programme three years prior to initiating this research project. I experienced the PETE programme culture and for that reason, the development of my ethnographer positionality was constructed through a self-analysis process that is translated in an analytical autoethnographic study (see Chapter IV 1st empirical study).

Regarding field role and participation in this ethnographic research, I opted for an overt full member position, which means that my status as a researcher was known by the

participants. Additionally, I was a participant-observer, since I participated in group's core activities but not as a full member.

Moreover, a naturalistic set of methodological procedures were employed, since my goal as a researcher was to understand how individuals construct their own reality within their social context (Thyer, 2009) and focus on an authentically lived experience in their natural setting (Denzin, 2006). Hence, naturalism proposes that, as far as possible, the social world should be studied in its 'natural' state, undisturbed by the researcher, which also explains the roles chosen for this project. Furthermore, the research must be carried out in ways that are sensitive to the nature of the setting and that of the phenomena being investigated. Likewise, a requirement of social research according to naturalism, then, is fidelity to the phenomena under study, not to any set of methodological principles, however strongly supported by philosophical arguments or by the practice of natural scientists.

Furthermore, naturalists regard social phenomena as quite distinct in character from physical phenomena. In this respect, naturalism drew on a wide range of philosophical and sociological ideas, but especially on symbolic interactionism, phenomenology, and hermeneutics (these sometimes being collectively labelled 'interpretivism'). Thus, this research project was situated in the interpretative paradigm which argues that interpretation and knowledge is only considered significant as it is meaningful to stakeholders (Smith & McGannon, 2018). This is because human actions are based upon, or infused by, social or cultural meanings: that is, by intentions, motives, beliefs, rules, discourses, and values (Hammersley & Atkinson, 2007).

In this methodological umbrella, a social constructionist perspective was employed. It posits that there is no true genesis of the self, only continuous reconstitution, which makes the self a societal product (Al-Amoudi, 2007). This perspective emphasizes that 'reality is socially constructed' (Mertens, 2005, p. 8) which means that as an ethnographer working within a socio constructionist perspective, I advocated for an insider perspective of the culture in the study, and I did not engage in an objective and external positions.

Consequently, this ethnography was reinforced by my personal search towards a relativist ontology (Holstein & Gubrium, 2013). Relativist ontology is the belief that reality is a finite subjective experience (Denzin & Lincoln, 2011) and nothing exists outside of our thoughts. Reality from a relativist perspective is not distinguishable from the subjective experience of it (Guba & Lincoln, 2005). To state that the two cannot be separated is misleading because it implies there are two entities to separate. In this way of thinking, reality is human experience and human experience is reality. Universal “Truths” give way to negotiated truths in this antifoundational thought (Guba & Lincoln, 2005). With multiple interpretations of experience come multiple realities—there are as many different realities as there are people. Thus, the purpose of science from a relativist ontology is to understand the subjective experience of reality and multiple truths.

2.3. Context and participants

2.3.1. Approaching the field – Obtaining access

In ethnographic research, taking account of variations in context is as important as sampling across time and people. Within any setting people may distinguish between several quite different contexts that require different kinds of behaviour. Some of these will be obvious, others less so. In schools, for example, it is well known that the behaviour of teachers often differs sharply between classrooms and staffrooms (Hammersley, 1980). This is what a specific culture could entail – diversity and unpredictability. Here, culture appears as the broadest ethnographic concept (Fetterman, 2019). Definitions of culture typically espouse either a materialist or an ideational perspective. The classic materialist interpretation of culture focuses on behaviour. In this view, culture is the sum of a social group’s observable patterns of behaviour, customs, and way of life (Murphy & Margolis, 1995; O’Reilly, 2008).

One of the keys, and yet most difficult steps in ethnography, is gaining access to a social setting that is relevant to the research problem in which you are interested. Research participants allow ethnographers to see their worlds and their actions within them (Charmaz, 2014). The goal of much ethnography is to gain an insider's depiction of

the studied world, and this intend is what defines the ethnographer role inside of the culture in study. Van Maanen and Kolb (1985, p.11) observe that, ‘gaining access to most organizations is not a matter to be taken lightly but one that involves some combination of strategic planning, hard work and dumb luck’. In selecting a particular social setting to act as a case study in which to conduct an ethnographic investigation, the researcher may employ several criteria, that should be determined by the project aims.

2.3.2. *Field relations*

Access is not simply a matter of physical presence or absence. Knowing who has the power to open up or block off access, or who consider themselves and are considered by others to have the authority to grant or refuse access, is, of course, an important aspect of sociological knowledge about the setting.

One aspect of having *sponsors* (people in the field who seek to place or locate the ethnographer within their experience and often develop an appreciation of the research and direct the ethnographer to situations, events, or people likely to be helpful to the progress of the investigation) or *gatekeepers* (actors with control over key sources and avenues of opportunity and exercise control at and during key phases of the ethnographer status passage(s)) is that, the ethnographer relies a lot on informants, but certain informants may become particularly important to the research. Additionally, seeking the permission of gatekeepers or the support of sponsors is often an unavoidable first step in gaining access to the data. Furthermore, the relationships established with such people can have important consequences for the subsequent course of the research. Wherefore, even the most friendly and cooperative of gatekeepers or sponsors will shape the conduct and development of the research. To one degree or another, the ethnographer will be channelled in line with existing networks of friendship and enmity, territory and equivalent ‘boundaries’.

Two closely related models of the ethnographer tend to predominate in this context, the *expert* and the *critic*. Both images can conspire to make gatekeepers and sponsors uneasy as to the likely consequences of the research, and the effects of its conduct. The model of the expert often seems to suggest that the social researcher is, or should be, a person who is extremely well informed as to ‘problems’ and their ‘solutions’.

The expectation may be set up that the ethnographer seeking access is claiming such expertise and is expecting to ‘sort out’ the organization or community. This view therefore, leads directly to the second image, that of the ‘critic’. Gatekeepers may expect the ethnographer to try to act as an evaluator and for that reason, unlock the ethnographers’ access.

2.3.3. The culture and who run for sponsor or gatekeeper

The researched PETE programme in study was structured as a two-year master’s degree in northern Portugal, that receives approximately 120 students each year. The participants were students who have completed a sport science bachelor’s degree and intended to pursuit an official teaching licence if successfully finish the programme.

Despite this projects’ research focus was on following the course units where SCAs were experienced by PSTs, it is important to acknowledge that, this PETE programme was composed by a hybrid curriculum approach, and not only designed in its entirety by Models Based Practice. Thus, in this programme, PSTs experience not only theoretical classes about the pedagogical bases of teacher education as well as other practical course units that are not specifically aimed at implementing SCAs. Hence, this programme engages in a pursuit for pedagogical innovation throughout SCAs without losing focus of the specificities of the main content – sports. Therefore, since the data collection process was only in the course units that explored SCAs, the following descriptions and interpretations along this thesis are in reference to that.

The programme was mainly divided in two major moments – first year, corresponding to curricular year where they learn the basis of the teacher profession and also, the pedagogical insights of SCAs; and the second year, corresponding to the school placement where they engage in the implementation of the previous knowledge in a real school context, with their own assigned class. Therefore, in the first year, PSTs learn theoretical concepts and explore them in practical classes by taking on student and teacher roles through peer-teaching and collaborative microteaching with primary students.

Moreover, during the first year of the programme, to increase the opportunities of practical experience for every student, the programme is designed to divide students in

work groups of 4 or 5 students, that did not maintain their elements throughout the different course units. In the second year, PSTs engage in a full year of school placement, supported by a supervising team from the faculty (US) and the host school (CT). Here, the PSTs engaged in a different work context, where they had the possibility of discussing and reflecting about their pedagogical practice in assigned weekly meetings with the CT, and the work group remains the same for the whole school year. This moments of weekly conversation about their work (e.g., planning, written reflections, practical dilemmas, assessment, school policy documentations, etc.) were mainly guided by the CT and were the main space for collaborative engagement of the participants.

Thusly, throughout this ethnographic work, I engaged in first year of a class of 25 PSTs, where I observed PSTs' peer-teaching and micro-teaching experiences with PSTs. Moreover, participated in after class meetings where they planned their next classes as a group or reflected about previous teaching moments. Additionally, in the second year I followed two groups (one group with 3 elements and another with 2) of the original PSTs through their school placement with their CTs of the host school and their US (the same in both schools).

During the course of my first-year ethnographic engagement in the PSTs' course units, I also engaged in a pilot-study with 3 PSTs in school placement where I prepared myself for the intricacies of the second year of data gathering throughout self-study (see Chapter IV - Empirical study I).

2.4. Data gathering

Collecting data in 'natural' settings, in other words, in those that have not been specifically set up for research purposes (such as experiments or formal interviews), also gives a distinctive character to ethnographic work (Hammersley & Atkinson, 2007). Furthermore, as already noted, the data will usually be collected in an unstructured form, by means of fieldnotes written in concretely descriptive terms and through audio-recordings, plus the collection of documents. Given the nature of these data, a considerable amount of effort, and time, will need to go into processing and analysing them. In all these respects, ethnography is a demanding activity, requiring diverse skills,

including the ability to make decisions in conditions of considerable uncertainty. What is distinctive is that it involves a more deliberate and systematic approach than is common for most of us most of the time, one in which data are specifically sought to illuminate research questions and are carefully recorded; and where the process of analysis draws on previous studies and involves intense reflection, including the critical assessment of competing interpretations (Hammersley & Atkinson, 2007).

The whole process of data collection was a follow-up of two-year PSTs' development process throughout a PETE programme. Hence, to triangulate data, multiple data points were collected using the following methods:

Participant observation. At a basic conceptual level, ethnography in this project was understood as 'an inductive qualitative research endeavour that employs participant observation as a mainstay tool to delve into detailed descriptions and interpretations of practices, experiences and the inner workings of a particular group, sub-group, culture, or sub-culture' (Jachyra, 2014, p.62). Participant observation documented and interpreted the PSTs' learning and implementing phases and collaborative work during PETE (Denzin, 1978). It was ensured that the ethnographer was inside of the culture of study through participant observation for the researcher to experience the subjective dimensions of the phenomena. Accordingly, in qualitative research, the researcher is said to be the "instrument of data collection" (Johnson & Christensen, 2008).

Field diary. During the data collection period, I generated a field diary of PSTs' everyday activities. Additionally, this instrument served the purpose of generating debate topics and critical incidents to be discussed in the reflexive logs and, to channel the focus of my observations to the most relevant emerging issues. Ethnographers '...often experience deep ambivalence about whether, when, where and how to write jottings' (Emerson et al. 2001, p. 357). For that reason, there were no specific moments to collect notes.

Audio recording. Within the context of ethnographic research, this represents a particularly suited research method to explore and present human interaction and emotion (Harper, 1988). The aim was to capture the social complexity of teaching and how PSTs manage the problematic situations within the practice context. Furthermore, this method allowed me to record complementary information that could not be registered in specific

moments where I felt that taking notes could have change the natural occurrence of the events.

Reflexive log. Ethnography entails a lot of space for failing to guarantee that the researcher gathered rich information since everything could be seen as important data. Hence, social researchers should be reflective about the implications of their methods, values, biases, and decisions for the knowledge of the social world they generate. Relatedly, reflexivity entails a sensitivity to the researcher's cultural, political, and social context. As such, 'knowledge' from a reflexive position is always a reflection of a researcher's location in time and social space (Bryman, 2016). The main purpose of the reflexive log was to allocate together the main events of a work week in PETE (both years) and confront those events with my perception, as an ethnographer, of what had happened.

2.5. Data analysis

An ethnographic study based on grounded theory takes a different form than other types of ethnographies. Grounded theory ethnography gives priority to the studied phenomenon or process-rather than to a description of a setting. Thus, from the beginnings of their fieldwork, grounded theory ethnographers study what is happening in the setting and make conceptual rendering of these actions. A GT ethnographer likely moves across settings to gain more knowledge of the studied process. Charmaz and Mitchell (2006) considered that combining grounded theory's focused approach with ethnography's thick description in terms of an in-depth exploration of people's experiences forms a flexible strategy for collecting and analysing data. For Bambin et al., (2015), this alliance results in a 'potent methodology'. Additionally, grounded theory is claimed to work at its best when using data generated through naturalistic forms of inquiry, such as ethnography (Pettigrew, 2000). For Pettigrew (2000), both also frequently rely on participant observations and on similar sample selection to obtain understanding of behaviour.

As consistent with the stance about ethnography, a constructivist approach of GT places priority on the phenomena of study and sees both data and analysis as created from

shared experiences and relationships with participants and other sources of data (Charmaz, 2001). In this sense, constructivist GT lies squarely in the interpretive tradition. Constructivists study how and sometime why participants construct meanings and actions in specific situations. A constructivist approach means more than looking at how individuals view their situations. The logical extension of the constructivist approach means learning how, when, and to what extent the studied experience is embedded in larger and, often, hidden positions, networks, situations, and relationships. Subsequently, differences and distinctions between people become visible as well as the hierarchies of power, communication, and opportunity that maintain and perpetuate such differences and distinctions. A constructivist approach means being alert to conditions under which such differences and distinctions arise and are maintained. Having the material to anchor the experience takes rich data and entails having sufficient knowledge so one can see differences and distinctions.

Constructivist grounded theorists assume that both data and analyses are social constructions that reflect what their production entailed (Charmaz, 2014). In this view, any analysis is contextually situated in time, place, culture, and situation. Thus, constructivism fosters researchers' reflexivity about their own interpretations as well as those of their research participants. Hence, constructivist GT is problematic, co-constructed and layered, shaped by language, culture and prior meanings, examines positionality, explicates epistemology, and deals with data – nuances and complex (Charmaz & Belgrave, 2019).

For the reasons presented, the process of data analysis of this research project was operated by adopting a constructivist revision of GT (Charmaz & Belgrave, 2019). The data were analysed through an iterative approach, whereby the data collected were analysed shortly after prominent events, which allowed the ethnographer to fully capture central phenomena, and develop tentative themes. For example, after each meeting with the supervising team or a discussion between the PSTs and the TE, I described the events in my field diary and/ or reflexive log and read it repeatedly to capture the central phenomena in the field.

This analysis process allowed me to capture the evolution of this specific PETE culture over time.

Hence, along the process of analysis, the main tools of grounded theory are:

Theoretical sampling. A term used mainly in relation to GT to refer to purposive sampling carried out so that emerging theoretical considerations guide the selection of cases and/or research participants. Theoretical sampling is supposed to continue until a point of theoretical saturation is reached.

Coding. The key process in GT, whereby data are broken down into component parts, which are given names. It begins soon after the collection of initial data. As Charmaz (2000, p. 515) puts it: ‘We grounded theorists code our emerging data as we collect it. . . . Unlike quantitative research that requires data to fit into preconceived standardized codes, the researcher’s interpretations of data shape his or her emergent codes in grounded theory’. In GT, different types or levels of coding are recognized.

Theoretical saturation. Theoretical saturation is a process that relates to two phases in GT: the coding of data (implying that you reach a point where there is no further point in reviewing your data to see how well they fit with your concepts or categories) and the collection of data (implying that, once a concept or category has been developed, you may wish to continue collecting data to determine its nature and operation but then reach a point where new data are no longer illuminating the concept). In GT, this is the point when emerging concepts have been fully explored and no new theoretical insights are being generated.

Constant comparison. An aspect of GT that was prominent in Glaser and Strauss (1967) and that is often referred to as a significant phase by practitioners, but seems to be an implicit, rather than an explicit, element in more recent writings. It refers to a process of maintaining a close connection between data and conceptualization, so that the correspondence between concepts and categories with their indicators is not lost. More specifically, attention to the procedure of constant comparison enjoins the researcher constantly to compare phenomena being coded under a certain category so that a theoretical elaboration of that category can begin to emerge. Glaser and Strauss advised writing a memo (further explained below) on the category after a few phenomenon had been coded. It also entails being sensitive to contrasts between the categories that are emerging.

Coding is one of the most central processes in GT. It entails reviewing transcripts and/or field notes and giving labels (names) to component parts that seem to be of potential theoretical significance and/or that appear to be particularly salient within the social worlds of those being studied. Here, Charmaz (2006) prefers to distinguish between two main forms or phases of coding: *initial coding* and *selective* or *focused coding*. Initial coding tends to be very detailed and may even result in a code per line of text, whereby a code is assigned to every line of text to provide initial impressions of the data. It is crucial at this stage to be open-minded and to generate as many new ideas and hence codes as necessary to encapsulate the data. It is the qualitative researcher's first steps towards making sense of their data. Charmaz (2006, p. 57) suggests that it is important in initial coding to recognize that, although codes will reflect the perspectives of research participants, when the qualitative researcher makes sense of the codes, he or she may end up viewing their social world somewhat differently from them. Focused coding entails emphasizing the most common codes and those that are seen as most revealing about the data. This means that some, if not many, initial codes will be dropped. As Charmaz (2006) puts it: 'Focused coding requires decisions about which initial codes make the most analytic sense to categorize your data incisively and completely'. New codes may be generated by combining initial codes. The data are then re-explored and re-evaluated in terms of these selected codes.

Thus, the process of coding translates in:

Initial coding. When grounded theorists conduct initial coding, they remain open to exploring whatever theoretical possibilities they can discern in the data. This initial step in coding moves them toward later decisions about defining their core conceptual categories. Therefore, through comparing data with data, we learn what our research participants view as problematic and begin to treat it analytically.

Focused coding. Focused coding is the second major phase in coding. These codes are more directed, selective, and conceptual than word-by-word, line-by-line, and incident-by-incident coding (Glaser, 1978). After the researcher have established some strong analytic / directions through their initial line-by-line coding, a focused coding to synthesize and explain larger segments of data can begin. Focused coding means using

the most significant and/or frequent earlier codes to sift through large amounts of data. One goal is to determine the adequacy of those codes.

Theoretical coding/integration. Theoretical coding is a sophisticated level of coding that follows the codes selected during focused coding. Glaser (1978, p.72) introduced theoretical codes as conceptualizing 'how the substantive codes may relate to each other as hypotheses to be integrated into a theory.' In short, theoretical codes specify possible relationships between categories you have developed in your focused coding. Glaser (1992) argues that these codes preclude a need for axial coding because they 'weave the fractured story back together' (Glaser, 1978, p.72). Theoretical codes are integrative; they lend form to the focused codes collected. These codes may help in telling an analytic story that has coherence. Hence, these codes not only conceptualize how substantive codes are related, but also move the analytic story in a theoretical direction.

Moreover, one aid to the generation of concepts and categories is the *memo*. Memos in GT are notes that researchers might write for themselves and for those with whom they work concerning such elements of GT as coding or concepts. They serve as reminders about what is meant by the terms being used and provide the building blocks for a certain amount of reflection. Memos are potentially very helpful to researchers in helping them to crystallize ideas and not to lose track of their thinking on various topics.

Moreover, the different phases of GT generate different products, such as:

Concept(s). Refers to labels given to discrete phenomena; concepts are referred to as the 'building blocks of theory' (Strauss & Corbin, 1998, p.101). Concepts are produced through *open coding*.

Category, categories. A category is a concept that has been elaborated so that it is regarded as representing real-world phenomena. Also, a category may subsume two or more concepts. As such, categories are at a higher level of abstraction than concepts. A category may become a *core category* around which the other categories pivot.

Properties. Attributes or aspects of a category.

Hypotheses. Initial hunches about relationships between concepts.

Theory. According to Strauss and Corbin (1998, p.22): ‘a set of well-developed categories . . . that are systematically related through statements of relationship to form a theoretical framework that explains some relevant social . . . or other phenomenon.’ Since the inception of GT, writings have pointed to two types or levels of theory: *substantive theory* and *formal theory*. The former relates to theory in a certain empirical instance or substantive area, such as occupational socialization. A formal theory is at a higher level of abstraction and has a wider range of applicability to several substantive areas, such as socialization in a number of spheres, suggesting that higher-level processes are at work. The generation of formal theory requires data collection in contrasting settings.

2.6. Research quality and methodological rigour

This research quality and methodological rigor was reinforced by a relativist ontology (a belief that there are multiple social realities) (Holstein & Gubrium, 2013), by employing a naturalistic set of methodological procedures (Thyer, 2009) and, by focusing on an authentically lived experience in their natural setting (Denzin, 2006) (see 2.2 Ethnographer ontological position).

Moreover, data triangulation was utilised, which entails to the use of more than one approach (e.g., field diary, reflexive log, audio recordings and participant-observations) to the investigation of the research question to enhance confidence in the ensuing findings, so that slices of data at different times and social situations, as well as on a variety of people, are gathered (Flick, 2018). Additionally, according to Bryman, 2016), ethnographers often utilize other sources of data (e.g., audio-recordings, informal interviews) to check out their observations to determine whether they might have misunderstood what they had seen. In addition, data triangulation must account for time and space when examining social phenomena (Mathison, 1988). For that reason, a prolonged engagement from my immersion in the field was ensure by a two-year data collection. Moreover, I engaged in a process of dialogue with ‘critical friends’ that were invested in the successful outcome of the work and improvement of me as an individual, by understanding the context, dedicating time, and energy, and developing a trusting relationship, allowing a fluid connection between support and critique (MacPhail et al., 2021). My ‘critical friends’ accompanied me throughout the process, as they were also

involved in this project as supervisors in the research team, and one element that contributed to a subjective and external perspective of the context. One of them was also the US of the PSTs followed during this project. These individuals encouraged my interpretation by collaboratively dialoguing about the different perspectives of the data, the interactions between the participants and, also, supported critical reflection the potential influence of herself in the fieldwork.

In this study, ethical approval was sought from the University Ethics Committee. Confidentiality was assured for all individuals within the study as no real names were included, and no information that may lead to the identification of any individual was used (Silverman, 2016).

2.7. References

- Al-Amoudi, I. (2007). Redrawing Foucault's social ontology. *Organization*, 14(4), 543-563.
- Bamkin, M., Maynard, S., & Goulding, A.. (2016). *Grounded theory and ethnography combined: a methodology to study children's interactions on children's mobile libraries*. Loughborough University. [https://hdl.handle.net/2134/20748\(\[\]\)](https://hdl.handle.net/2134/20748([]))
- Bryman, A. (2016). *Social research methods*. Oxford university press.
- Charmaz, K. (2014). *Constructing grounded theory*. Sage.
- Charmaz, K. (2006). *Constructing grounded theory: A practical guide through qualitative analysis*. Sage.
- Charmaz, K. (2000). Looking backward, moving forward: Expanding sociological horizons in the twenty-first century: 2000 presidential address to the pacific sociological association. *Sociological Perspectives*, 43(4), 529-547.
- Charmaz, K., & Belgrave, L. L. (2019). Thinking about data with grounded theory. *Qualitative Inquiry*, 25(8), 743-753.
- Charmaz, K., & Mitchell, R. G. (1996). The myth of silent authorship: Self, substance, and style in ethnographic writing. *Symbolic interaction*, 19(4), 285-302.
- Charmaz, K., & Olesen, V. (1997). Ethnographic research in medical sociology: Its foci and distinctive contributions. *Sociological methods & research*, 25(4), 452-494.
- Charmaz, K., & Mitchell, R. G. (2001). Grounded theory in ethnography. *Handbook of ethnography*, 160, 174.

- Denzin, N. K. (2006). Analytic autoethnography, or déjà vu all over again. *Journal of contemporary ethnography*, 35(4), 419-428.
- Denzin, N. K. (1978). *The logic of naturalistic inquiry*. NK Denzin (Ed.) Sociological methods: A sourcebook.
- Denzin, N. K., & Lincoln, Y. S. (2011). The Sage handbook of qualitative research. Sage.
- Emerson, R. M., Fretz, R. I., & Shaw, L. L. (2001). Participant observation and fieldnotes. *Handbook of ethnography*, 352-368.
- Fetterman, D. M. (2019). *Ethnography: Step-by-step*. Sage publications.
- Flick, U. (2018). *Designing qualitative research*. Sage.
- Glaser, B. G. (1978) *Theoretical sensitivity*. Sociology Press.
- Glaser, B. G. (1992) *Basics of grounded theory analysis*. Sociology Press.
- Guba, E. E., & Lincoln, Y. S. (2005). *Paradigmatic controversies, contradictions, and emerging confluences*. In N. Denzin, & Y. Lincoln (Eds.), The SAGE handbook of qualitative research (3rd ed., pp. 191-216). Sage.
- Hammersley, M., and P. Atkinson. (2007). *Ethnography: Principles in practice*. Routledge.
- Hammersley, M. (1996). Post mortem or post modern? Some reflections on British sociology of education. *British Journal of Educational Studies*, 44(4), 395-408.
- Hammersley, M. (1980) *'A peculiar world? Teaching and learning in an inner city school'*, unpublished PhD thesis, University of Manchester.
- Harper, D. (1988). Visual sociology: Expanding sociological vision. *The american sociologist*, 19(1), 54-70.
- Heyl, B. S. (2001). Ethnographic interviewing. *Handbook of ethnography*, 1, 369-383.
- Holstein, J. A., & Gubrium, J. F. (Eds.). (2013). *Handbook of constructionist research*. Guilford Publications.
- Jachyra, P. (2014). *Exploring mechanisms of (dis) engagement in health and physical education class with adolescent boys*. University of Toronto (Canada).
- Johnson, B., & Christensen, L. (2008). *Methods of data collection. Educational research: Quantitative, qualitative and mixed approaches*, 199-219.

MacPhail, A., Tannehill, D., & Ataman, R. (2021). The role of the critical friend in supporting and enhancing professional learning and development. *Professional Development in Education*, 1-14.

Mathison, S. (1988). Why triangulate?. *Educational researcher*, 17(2), 13-17.

Mertens, D.M. (2005). *Research methods in education and psychology: Integrating diversity with quantitative and qualitative approaches*. (2nd ed.) Sage.

Murphy, M. F., & Margolis, M. L. (1995). *Science, materialism, and the study of culture*. University Press of Florida.

O'Reilly, K. (2008). *Key concepts in ethnography*. Sage.

Pettigrew, S. F. (2000). Ethnography and grounded theory: a happy marriage?. *ACR North American Advances*.

Reeves, S., Kuper, A., & Hodges, B. D. (2008). Qualitative research methodologies: ethnography. *Bmj*, 337.

Silverman, D. (2016). *Qualitative research*. Sage.

Smith, B., & McGannon, K. R. (2018). Developing rigor in qualitative research: Problems and opportunities within sport and exercise psychology. *International review of sport and exercise psychology*, 11(1), 101-121.

Strauss, A., & Corbin, J. (1998). *Basics of qualitative research techniques*. Sage Publications.

Thyer, B. (2009). *The handbook of social work research methods*. Sage Publications.

Van Maanen, J., and Kolb, D. (1985). 'The Professional Apprentice: Observations on Fieldwork Roles in Two Organizational Settings', *Research in the Sociology of Organizations*, 4, 1-33.

CHAPTER III – THEORETICAL ARTICLES

3.1. SYSTEMATIC REVIEW

Pre-service teachers' learning and implementation of student-centred models in physical education: a systematic review.

Valério, F.¹, Farias, C.¹, & Mesquita, I.¹

¹ Centre for Research, Education, Innovation and Intervention in Sport (CIFI²D), Faculty of Sport, University of Porto, Portugal.

Published in Journal of Physical Education and Sport (2021)

Abstract

This study provides a systematic review of empirical research on Pre-service Teachers' (PST) course units learning and school placement implementation of Student-Centred Models (SCM) in Physical Education Teacher Education (PETE) programs. A systematic review method was used, which included searching in electronic databases, selecting studies based on pre-established inclusion criteria and refining this selection to identify research-based papers. 39 studies were included for analysis and an overview was provided of the main research features (SCM researched, study purpose, study focus and context, and study design). Furthermore, this study discusses how PSTs learn about SCMs in their curricular years and how they implement SCMs in their school placement. Additionally, an overview of the educational impact of PSTs' SCMs implementation is also presented while highlighting empirical gaps and future research suggestions. Results showed that research has neglected the integrated analysis of the different phases of the PSTs' professional development during their PETE programs process. Mentoring programs applying social learning theory in practice and experiencing SCM as learners are key strategies for facilitating PSTs' professional development. Concluding, our findings suggest that offering a theoretical basis is insufficient to development PSTs' understanding of SCMs and PSTs construct their professional development by experiencing the SCMs in first-hand, which seems to contribute to their pedagogical and content knowledge development. A scarcity of knowledge about specific mentoring processes employed by CTs and USs than can support PSTs' delivery of SCMs is highlighted. Moreover, in-depth phenomenological, longitudinal and follow-up analysis with a high range of designs is encouraged.

Keywords: Physical Education Teacher Education, Professional Development, Learner Centred Models, Pedagogical Models.

Introduction

Quality teacher education is a critical mechanism for generating effective teacher professional development (TPD) (Avalos, 2011). However, research on general education

has consistently suggested that the in-depth understanding of teacher education processes and PSTs' learning how to teach, has long posed epistemological and methodological challenges to academics and practitioners (Cochran-Smith, 2005; Keay & Lloyd, 2009).

Research has noted a lack of evidence that supports the effectiveness of TPD processes due to the inexistence of a single method or strategy for TPD to ensure teacher quality (Kennedy, 2014). Despite of that, it is known that quality TPD should consider teaching contexts focused on teachers' needs and delivered in challenging ways, collaborative and social processes where working together is crucial (Guskey, 2000; Tannehill & MacPhail, 2017).

In the specific field of physical education (PE) teacher education (PETE), the need to guarantee the effective contribution of PE to student development of the 21st century most necessary interpersonal, communicative and cognitive skills (critical thinking, decision-making, creativity, problem-solving and cognitive development and resilience), triggered a worldwide renovation of the PE curriculum (Lund & Tannehill, 2014). Nonetheless, the consequent widespread implementation of student-centred models (SCM) has presented singular challenges to teacher training. Thus, a major mission of PETE is to support the renovation of PSTs' conceptual perspectives and professional praxis, to enable future teachers' transformative learning experiences and effective renovation of PE teaching practice in schools (Hordvik et al., 2019b).

Nonetheless, despite widespread acknowledgment of the marked educational benefits arising from school students' participation in SCM-PE experiences (Hattie, 2012; Le Ha, 2014), and although the curricular implementation of such pedagogical models is currently mandatory in many countries (Lund & Tannehill, 2014), there is still a notable dearth of knowledge about the educational mechanisms that best support professional development towards SCM implementation in schools (Fletcher & Casey, 2014; Hastie et al., 2015; Fletcher et al., 2019). Furthermore, most of the existing review studies on the topic have solely focused on the isolated examination of single SCMs (e.g., Bores-García et al., 2021; Bessa et al., 2019), or on the challenges faced by PSTs while implementing (Silva et al., 2021), showing a limited focus on the PETE process in its entirety, from learning to implementing the SCM. Thus, in light of the dynamic, multifaceted, situated and relational nature of teaching future teachers about SCM (e.g., teacher education strategies), and teaching future teachers how to

teach SCMs, this review respond to an increasingly forceful claim of PETE literature in multiple ways.

In agreement, the aim was to systematically review the research conducted to date on PSTs' journey towards the implementation of SCMs in schools. A thorough overview is provided of the different phases of PETE programs, namely, PSTs' learning during curricular years, their teaching practice during school placements and the educational impact of PSTs' implementation of SCM, a facet significantly overlooked in

PETE.

The research questions which guided the review of these studies were: (Q1) What are the main research

features (SCM researched, study focus and context, and methodology)? (Q2) How do PSTs learn about SCMs in their PETE curricular years? (Q3) How are PSTs implementing SCM in their PETE school placement? (Q4) What is the educational impact (i.e., PE students' learning outcomes) of PSTs' implementation of SCM? (Q5) What is missing and should be considered in future research and educational processes in PETE programs?

Methods

The protocol used by this systematic review follows the PRISMA statement recommendations (Moher et al. 2015) (see Figure 1.). This study was approved by the local Institutional Research Ethics Committee of the first author's institution, and followed the guidelines stated in the Declaration of Helsinki.

Eligibility criteria

Following the Preferred Reporting Items for Systematic Reviews (PRISMA) guidelines, P.I.C.O.S. was established as follows: Participants - Physical Education Pre-service Teachers; Interventions - related to the process of learning or teaching SCMs by PSTs; Comparisons - between methodologies applied in the studies and teaching or learning processes; Outcomes - in reference to: 1. PSTs learning SCMs process; 2. PSTs

implementing/ teaching SCMs process and, 3. Empirical gaps; Study design - empirical studies.

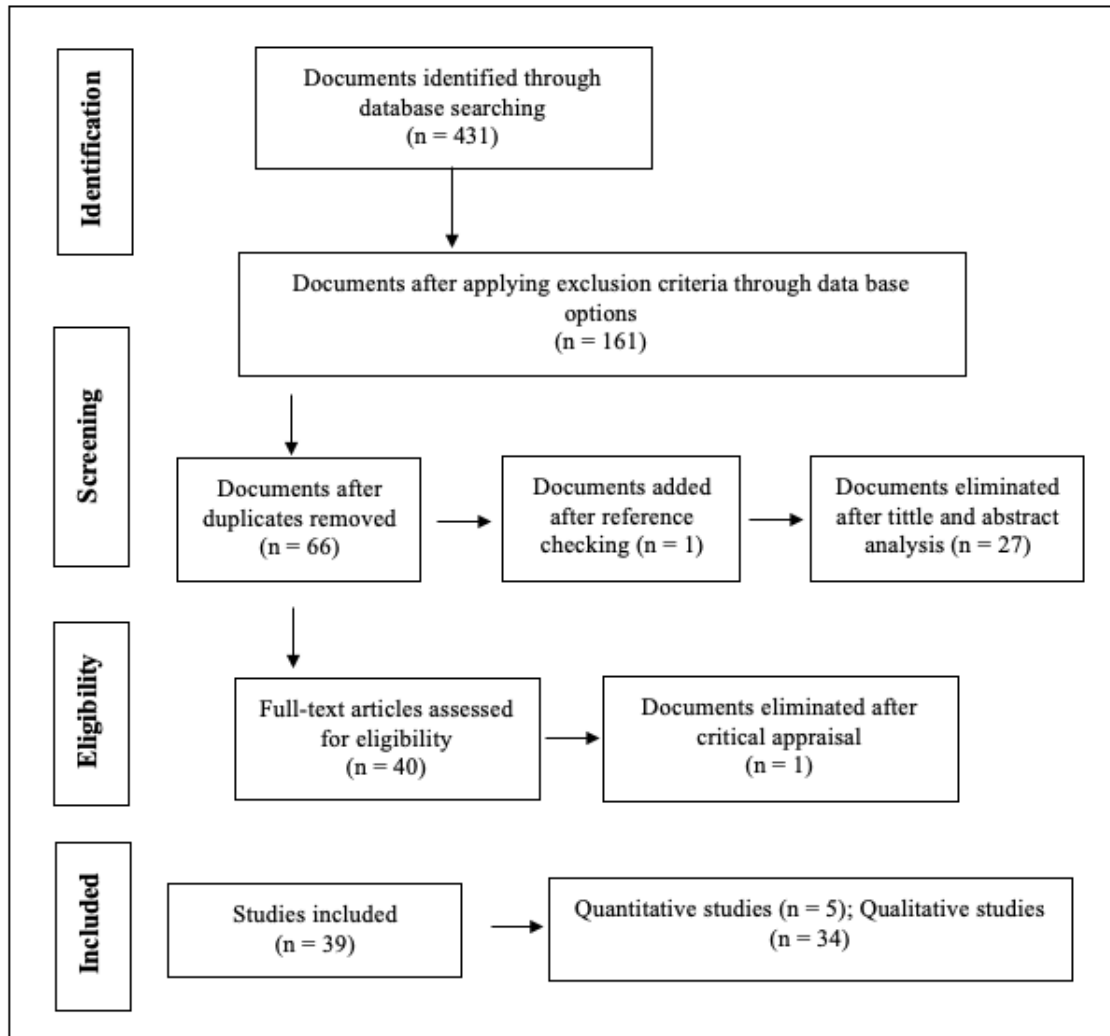


Figure 1. The selection process (Following PRISMA guidelines, Moher et al. 2015).

To be included, the studies had to be empirical articles collecting primary data, as we are interested in (a) Physical Education Teacher Education, (b) Pre-service teachers (c) Student Centred Models, (d) published in peer-reviewed international journals, (e) available in full-text and (f) written in English.

Moreover, all methodological features were allowed for the analysis, since this context comprehends a large social interaction complexity that demands a large spectrum of analysis to cover it.

Systematic reviews, conceptual articles, studies out of the field of PE or PETE, or with experienced teachers were not included. There were no restrictions applied to publication year, participants age, gender and research designs.

Several online data bases were consulted for this literature review: Academic Search Complete, ERIC, PsychInfo, Education Source, Web of Science, SCOPUS, Teacher reference center and Academic Search Ultimate.

Titles and abstracts of retrieved articles were individually evaluated by the research team to assess their eligibility to be included in this article. The study abstracts that did not provide enough information according to the eligibility criteria stabilized were retrieved for full-text evaluation. In a second phase, articles were excluded if, based on the full text, focused solely on concept analysis without empirical results of a SCMs or only about PSTs with no relation to SCMs. After both reviewers proceed to this analysis and disagreements were resolved through discussion, there were 40 articles remaining. The following step included the analysis of risk bias to define if the articles corresponded to the quality level required to integrate this systematic review.

Analysis of risk bias

The quality of the selected studies ($n = 40$) was evaluated using critical appraisal tools. The quality and validity of the qualitative and quantitative research studies included was assessed using the “Critical Appraisal Skills Programme (2018)” (CASP) toolkit, allowing the researchers to assess the appropriateness of the methodology, participants, study design, and data analysis, comprising 10 questions for qualitative studies and 12 for quantitative. We selected the CASP tool because it is a widely used for studies appraisal and user-friendly appraisal tool, despite its limitations in terms of sensitivity (Hannes et al., 2010). Each study was given a rating: low, medium, or high quality based on the average number of “YES” classifications. Low-quality studies were excluded from the analysis. After the critical appraisal, one article was excluded because of low quality, leaving 39 studies for analysis ($QN = 5$, $QL = 34$). The three authors assessed the quality of each study, discussing the any disagreements till consensus was achieved.

Data extraction

Included studies were analysed, by the first author, through a thematic analysis after creating a table of contents present in each study on an Excel database. The coding was reviewed by the second and third authors. Successively, summary tables were generated to summarize the data of the selected studies according to the following categories: authors and year, study purpose, SCM applied, study context and sample/ participants, study design, data collection and analysis, main findings of the study (Table 1.).

Results and Discussion

Authors (year)	Purpose	S C M	Focus and context	Study Design	Data collection and analysis
Curtner-Smith & Sofo (2004)	Determine PSTs conceptions of the teaching-learning process while teaching SE and Multi-activity units during an early field experience.	SE	Implementing SCMs – school placement	Exploratory Longitudinal	Critical incident technique and a reflective questionnaire. Analytic induction and frequency counts.
McCaughy et al. (2004)	Use cognitive-developmental learning theory to investigate how teachers learn to teach the SE.	SE	Learning SCMs – curricular years	Emergent design Longitudinal	Ethnographic observations (participant observation) and interviews. Constant comparison.
McMahon & MacPhail (2007)	Identify the mechanisms that facilitate or inhibit learning to teach SE from the perspective of PST.	SE	Learning SCMs – curricular years	Hybrid case study action research Longitudinal	Teacher interviews and diary entries. Constant comparative method.
Wang & Ha (2009)	Examine PSTs perception of TGfU.	TGfU	Implementing SCMs – school placement	Exploratory Longitudinal	Semi-structured interviews Inductive content analysis
Stran & Curtner-Smith (2010)	Discover the relative importance of different knowledge types in PSTs teaching of SE and the ways in which they acquired and developed this knowledge.	SE	Implementing SCMs – school placement	Exploratory Longitudinal	Non-participant observations, formal, numerous informal, and stimulated interviews, significant incident and journal reports were submitted via email; the teaching portfolio was reviewed. Analytic induction and constant comparison.

Deeniha n et al. (2011)	Implement the recommendations in the literature and examine PSTs' experiences of 'living the curriculum' in their PETE programme through SE.	SE	Learning SCMs – curricular years	Exploratory Longitudinal	Weekly observations, researcher and lecturer reflections and interviews and focus groups with the lecturer and PSTs. Thematic coding.
Parker & Curtner-Smith (2012)	Determine the extent to which PSTs employing the SE rejected and combatted or supported and reinforced masculine bias and sexism.	SE	Educational impact of PSTs implementing SCMs – school placement	Exploratory Longitudinal	Non-participant observations, formal and informal interviews, stimulated recall interviews and documents analysis. Analytic induction and constant comparison.
Perlman (2012)	Provide an initial examination into the influence of using the SE approach on PSTs autonomous instruction.	SE	Educational impact of PSTs implementing SCMs – school placement	Quasi Experimental Longitudinal	Learning Climate Questionnaire (LCQ) and Sport Motivation Scale (SMS). Repeated measure ANOVA's
Stran et al. (2012)	Examine PSTs perceptions teaching a SE-TGfU hybrid and identify facilitators and inhibitors that PSTs experienced when implementing the model.	SE/TGfU	Implementing SCMs – school placement	Exploratory Longitudinal	Focus group interviews, critical incident reflections, daily lesson plans, and field notes. Thematic analysis.
Wang & Ha (2012a)	Examine the approaches used in mentoring and investigate the interactions occurring between PSTs and mentors during the mentoring process.	TGfU	Implementing SCMs – school placement	Exploratory Longitudinal	Individual semi-structured interviews and written artefacts. Deductive content analysis
Wang & Ha (2012b)	Examine the factors influencing PE PSTs perception of TGfU.	TGfU	Implementing SCMs – school placement	Exploratory Cross-sectional	Individual semi-structured interview. Deductive content analysis.
Cohen & Zach (2013)	Examine whether the CL teaching model contributed to the teaching efficacy and planning skills of PSTs	CL	Learning SCMs – curricular year and Implementing SCMs – school placement	Experimental Longitudinal	All participants filled out PE teaching efficacy questionnaires before and after the intervention, at the end of the intervention, their unit plans were analysed using rubrics determining planning abilities. Two-way ANOVA
Deeniha n & MacPhail (2013)	Explore one PST's experiences delivering SE during a school teaching placement after undertaking a practical SE module in his PETE	SE	Implementing SCMs – school placement	Case study Longitudinal	Pre, mid- and post teaching placement interviews, observation reflections and interviews. Thematic coding.

Wang & Ha (2013a)	Examine factors determining the teaching behaviour of PSTs towards TGfU.	T G f U	Implementing SCMs – school placement	Exploratory Longitudinal	Documentation, systematic observation and interviews. Frequency counts and content analysis.
Wang & Ha (2013b)	Examine the views, learning experiences, and understandings of PSTs, cooperating teachers, and university supervisors of TGfU.	T G f U	Implementing SCMs – school placement	Exploratory Cross-sectional	Individual semi-structured interview. Deductive content analysis.
Glotova & Hastie (2014)	Introduce SE to students in a Russian PE pedagogical college and track their understanding of the model through a series of learning experiences.	S E	Implementing SCMs – school placement	Action-research Longitudinal	Quizzes, surveys, individual interviews, observations, field notes. Deductive data analysis.
Chen & Curtner-Smith (2015)	Examine whether and the degree to which SE delivered by PSTs with teaching orientations served to combat or reinforce sexism and masculine bias.	S E	Educational impact of PSTs implementing SCMs – school placement	Exploratory Longitudinal	Formal, informal and stimulated recall interviews, passive participant observation, and document analysis. Analytic induction and constant comparison.
James et al. (2015)	Examine PSTs' perceptions of an advanced basketball class that was taught by a PST using the SE curriculum model.	S E	Implementing SCMs – school placement	Exploratory Longitudinal	Formal interviews, document data, written assessments, sample practice plans, course syllabi, course outline, and grading plan were also collected. Thematic analysis.
Wahl-Alexander & Curtner-Smith (2015)	Examine the influence of negotiations between pupils and PSTs on PSTs' instruction within multi-activity (MA) teaching and SE.	S E	Implementing SCMs – school placement	Exploratory Longitudinal	Non-participant observation, formal, informal, stimulated recall interviews, critical incident reflections, document analysis. Induction and constant comparison.
Braga & Liversedge (2017)	Examine PSTs' perceptions of the challenges and facilitators associated with the implementation of a SE.	S E	Learning SCMs – curricular year and Implementing SCMs – school placement	Exploratory Longitudinal	Focus group semi-structured interviews. Induction and constant comparison.
Deenihaan & MacPhail (2017)	Examine the influence of organizational socialization on PSTs' delivery of SE.	S E	Implementing SCMs – school placement	Exploratory Longitudinal	Pre- and postteaching placement interviews and midteaching placement focus groups. Thematic coding and constant comparison.
Eriksson et al. (2017)	Examine the impact of using SE in a Finnish school context by analysing and	S E	Implementing SCMs – school placement	Action research	Personal reflective journal, video observations, student group interviews, and student diaries.

	understanding the PST teaching as well as his students' experiences.			Longitudinal	Induction and constant comparison.
Hordvik et al. (2017)	Analyse how did the PETE faculty member experience teaching about teaching SE and how did the PSTs experience learning about teaching SE.	SE	Learning SCMs – curricular years	Self-study Longitudinal	Open-ended reflective diary and focus groups. General inductive approach, content analysis and constant comparison.
Schwamberger & Curtner-Smith (2017)	Investigate the influence of a PETE on PSTs ability to promote moral and sporting behaviour in SE.	SE	Educational impact of PSTs implementing SCMs – school placement	Case study and action research Longitudinal	Formal, stimulated recall focus group, informal interview, nonparticipant observation, document analysis, entries into an electronic journal, critical incident reports. Analytic induction and constant comparison.
Burgueño et al. (2018)	Examine the influence of a SE intervention on basic psychological need satisfaction in school students in the sport teaching-learning process that takes place in PE.	SE	Educational impact of PSTs implementing SCMs – school placement	Quasi experimental Longitudinal	Psychological Needs in Exercise Scale; A priori, non-equivalent control group using pre- and post- intervention measures and intra- and inter-analyses; Mann-Whitney U test; Wilcoxon signed-rank test; Pearson's correlation
Mooney et al. (2018)	Explore PSTs experiences of a SE unit designed to support their transition into an initial teacher education degree and to consider how these experiences shaped perceptions of belonging and pedagogical practice.	SE	Learning SCMs – curricular years	Narrative Longitudinal	Semi- structured interviews, participant observations (field notes) and student evaluation data about their participation in this unit. Critical discourse analysis that specifically sought to identify discourse– power relations that shaped participants' perceptions of 'fitting in'.
Sinclair & Thornton (2018)	Explore the use of a 'living the curriculum' experience to influence PSTs' conceptions of learning and teaching in PE; and examine the usefulness of visual methods to further understand students' experiences in PETE.	SE/TA	Learning SCMs – curricular years	Visual Methods Longitudinal	PSTs created a photo-collage that depicted their experiences in the class. Semi-structured focus group interviews centered on discussion of the PSTs' photo collages. Open and axial coding.
Cañabate et al. (2019)	Identify the ways in which PSTs represented their professional learning through reflection, ascertain whether and how PSTs were reflective, and identify in which ways reflection by PSTs fostered personal critical professional competence.	CL	Learning SCMs – curricular years	Experimental Longitudinal	Reflective narrative assessment and the rubric for students' identity construction assessment. Mean, standard deviation, two-way ANOVA analysis and items correlation.

Hordvik et al. (2019a)	Examine PSTs experience of teaching a specific content (SE) in various school contexts.	S E	Implementing SCMs – school placement	Case study Longitudinal	Focus group interviews and PST coursework. Only 2 PSTs detailly analysed. Nonlinear analysis process: data walking, rhizomatic mapping, situational analysis, and memo writing.
Hordvik et al. (2019b)	Understanding how a PST's knowledge of teaching and learning SE develops.	S E	Learning SCMs – curricular year and Implementing SCMs – school placement	Case study Longitudinal	Interviews focus group and coursework. A hybrid approach of inductive and deductive theme development.
Legrain et al. (2019)	Examine the influence of a scaffolding procedure (CLS design) on PSTs knowledge, skills and self- efficacy in comparison to a Cooperative Learning (CL) and a direct instruction (DI) experience.	C L	Learning SCMs – curricular years	Experimental Cross sectional	Pre-test/post-test design was used to consider PE PSTs motor skill, knowledge for practice, and self-efficacy improvements. The post-test also examined participants' pedagogical knowledge. RM- ANOVAs HSD Tukey post hoc MANOVA
Luguetti et al. (2019a)	Explore both PSTs and youth's experiences of an APM for working with youth from socially vulnerable backgrounds and to interrogate the way in which a pedagogy of love emerged.	A P M	Implementing SCMs – school placement	Participatory action-research Longitudinal	Observations collected as field notes, collaborative group meetings, reflective diaries, generated artefacts, focus groups and interviews. Induction and constant comparison.
Luguetti et al. (2019b)	Capture the complexity, tensions and struggles of delivering and experiencing an authentic Artistic Gymnastics SE season within learning communities.	S E	Learning SCMs – curricular year	Action-research Longitudinal	Collaborative lecture group meetings; reflective diaries; lecturer observations collected as fieldnotes; Facebook posts; and focus groups. Induction and constant comparison.
Schwamberger & Curtner-Smith (2019)	Determine the extent to which a coaching-oriented PSTs, promoted or negated moral and sporting behaviour while teaching middle school girls within two 18-lesson SE.	S E	Implementing SCMs – school placement	Case study Longitudinal	Fieldwork, formal, informal, stimulated recall interview, critical incident reports, entries to a reflective electronic journal, document analysis, focus group interviews Analytic induction, constant comparison
Luguetti & Oliver (2020)	Explore the challenges PSTs faced when learning to use an activist approach across time.	A P M	Implementing SCMs – school placement	Participatory action-research Longitudinal	Collaborative group meetings, reflective diaries, observations collected as field notes, generated artifacts, interviews and focus groups. Inductive and constant comparison.

McEntyre et al. (2020)	Produce a quantified negotiation profile for one PSTs (George) while he taught three SE seasons.	S E	Implementing SCMs – school placement	Quasi Experi mental Longitu dinal	47 lessons in 6th, 7th and 8th grade SE season on handball were filmed and coded with the negotiation instrument. Descriptive analyses; Kruskal–Wallis test
Richards et al. (2020)	Understand the influence of a sequence of methods courses and early field experiences on U.S. PSTs understanding and implementation of the TPSR with youth from a community affected by poverty.	T P S R	Implementing SCMs – school placement	Pheno menolo gical Longitu dinal	Autobiographical essays, critical incident reports, reflective journals, non-participatory observations and field notes, and semi-structured interviews. Deductive analysis through the lens of occupational socialization theory, and inductively as theory divergent trends were sought. Open and axial coding.
Shiver et al. (2020)	Understand the ways in which socialization experiences influenced the development of culturally relevant PE through the TPSR while teaching in an afterschool program in a high-poverty school.	T P S R	Implementing SCMs – school placement	Pheno menolo gical, Case study Longitu dinal	Critical incident reflections, weekly online journal responses, writing assignments, field notes, systematic observations reflections, and semi-structured interviews. Inductive and deductive analysis, constant comparison, open and axial coding and theme development.
Nieves et al. (2020)	Examine PSTs experiences applying the TPSR at the elementary level.	T P S R	Implementing SCMs – school placement	Case study Longitu dinal	Focus group, observations, and diary reflections. A priori coding system (Fuller's Task Concern Stage), category coding and pattern matching.

Table 1. Summary of data extraction from studies included. In regarding the content of table two from left to right, the first column presents the ‘Author(s)/ year’, which provides the author(s) of the study and the year of publication. The second column, ‘SCM’, shows the model used (Sport Education (SE), CL (Cooperative Learning), TGfU (Teaching Games for Understanding), APM (Activist Pedagogical Model), TPSR (Teaching Personal and Social Responsibility), SE/ TGA (Sport Education/ Tactical Games Approach). The next two columns, ‘Study design’ and ‘Data collection and analysis’, provide the applied research design and the methods used. The last column ‘Focus and context’ is related to the phase of the PETE program ‘learning’ in ‘curricular years’ or ‘implementing’ in ‘school placement’ and ‘educational impact of implementation’.

PSTs' learning 'about' SCMs: examining experiences, perceptions and representations in the PETE curricular years

Regarding experiences, perceptions, and representations of PSTs on learning SCMs during PETE curricular years, 12 articles were analysed, in SE ($n = 8$), CL ($n = 3$) and SE/TGA ($n = 1$). Several research designs were employed: qualitative methodology (including exploratory, emergent design, hybrid case-study/ action-research, self-study, case study, action research, visual methods) and experimental, quantitative research.

Findings revealed that, when experimenting with SE and SE/ TGA in the role of 'students' during the course units, PSTs' interaction with the model's particular pedagogical features (e.g., persistent affiliation, teamwork) prompted an enhanced sense of belonging and social connectedness among them (Mooney et al., 2018). This aligns with the idea that PETE programs should allow their PSTs to experience the curriculum firsthand (i.e., in the role of 'students') (Oslin, 2002; Kinchin, 2003; McMahon & MacPhail, 2007). As suggested by Oslin et al. (2001), such 'Living the curriculum' experiences impact positively on PSTs' content knowledge development ("knowing how to perform an activity"; Hastie, 2021, p. 2), which, consequently, facilitates their development of pedagogical content knowledge ("what and how to teach particular content to particular students"; Ward & Ayzazo, 2016; Deenihan et al., 2011). Conversely, during the course units, some TEs were reluctant to invest in teaching SE to their PSTs for feeling it restricted their ability to input their expertise knowledge. The TEs felt that the introduction of the structural features of the SE (teamwork, peer-teaching tasks, formal championship, role playing, etc.) in the course units removed opportunities for PSTs experiencing the specialized content development (tactical/technical) of the subject-matter itself (e.g., sports-based activities) (Alexander & Penney, 2005; Deenihan et al., 2011). Furthermore, when experiencing an authentic SE season within learning communities TE and PSTs developed into two separate communities of learners, due to challenges that arise in the relationship between master and apprentices (Lugueti et al., 2019b). In this matter, Hordvik et al. (2017) offered a valuable insight on how to help PSTs bridge the theory and practice 'gap' by providing them with: (i) learning outcomes that focus on the how and why of teaching; (ii) course work in which PSTs need to reflect and discuss the different dimensions of the model while designing a SE season; and (iii)

teachable moments, with the TE explaining the how and why of practice in situ. Moreover, PSTs reported experiencing the model as a student in the 10 weeks preceding the field experience, establishing the routines pertinent to the SE model, and having knowledgeable and helpful supervisors as facilitators to future SE implementation (Braga & Liversedge, 2017).

In addition, during learning of SE, some TEs engaged PSTs in the planning, design, and teaching of sport content to their fellow higher education peers in a tactical-focused way (e.g., developing tactical concepts and small-sided games). Some PSTs felt frustrated as they were not capable of designing appropriate small-sided games and opted to teach less complex, decontextualized, traditional skills-drills tasks (McCaughtry et al., 2004).

Finally, an experimental study on CL aimed at identifying the ways in which PSTs represented their professional learning through reflection on instructional teaching approaches. Results showed that, engaging in systematic reflection processes helped PSTs identifying aspects of their professional identity that could best contribute to their sustainable and ongoing development of teaching competences (Cañabate et al., 2019).

PSTs' implementation of SCMs: assessing experiences, perceptions and representations in PETE school placements

Regarding the experiences, perceptions and representations of PSTs collected during their implementation of SCMs during school placement training, this review analysed 25 studies related to SE (n = 13), TGfU (n = 5), CL (n = 1), APM (n = 2), TPSR (n = 3) and hybrid SE/TGfU (n = 1). The range of research designs included mostly qualitative methodologies. Namely, exploratory studies, case studies, action-research, narrative and phenomenological, and one quasi experimental design (quantitative methodology).

Findings in PSTs' implementation of SE found a hierarchy in the importance of different knowledge types in their ability to teach SE. The effective implementation of SE did not seem to require high levels of content and pedagogical content knowledge from PSTs (Stran & Curtner-Smith, 2010). PSTs reported that, spending time and energy

on planning, establishing fair teams, and assessing student learning were challenges to the implementation of a SE season (Braga & Liversedge, 2017). Moreover, implementing a SE season for the first time and engaging in an action research project simultaneously, was described as a complex and time-consuming process for the PSTs, despite being a support for problem identification during the model implementation (Eriksson et al., 2017). Also, the school requirement of including multiple sports in one season of SE was found to rush PSTs toward disregarding the necessary time to train their students to master the ‘novel’ pedagogical features of SE (e.g., role playing, peer-teaching, and interpersonal cooperative social interactions, etc.) (James et al., 2015). Additionally, results indicated that PSTs’ occupational socialization, conceptual orientation, prior sporting experiences, their training experiences in the PETE programs, and specific circumstances of the school context (e.g., organizational socialization, Cooperating Teachers’ (CT) knowledge of SE) in which they were teaching influenced the nature of the SE season offered to students (Deenihan & MacPhail, 2013). PSTs also recognized structural and cultural advantages of SE in comparison with more conventional teaching approaches (Glotova & Hastie, 2014; Deenihan & MacPhail, 2017). Results suggest that offering a course on the theoretical basis of SE is insufficient to develop in PSTs an accurate understanding of the model. It is only after PSTs undergo appropriate planning and teaching during real-life conditions (e.g., during their school placement) that they fully experienced the pedagogical nature and intricacies of the model. According to the work of Deenihan and MacPhail (2017), the most influential factor the PSTs faced in terms of delivering SE was their CTs.

In fact, this was corroborated by TGfU studies. The PSTs felt they were appropriately supported by the ongoing help provided by their university supervisors (US) in the process of understanding TGfU conceptual features, to facilitate their implementation of the model in schools. The most beneficial support provided to PSTs was the one focused on developing ‘game modification’, ‘effective use of equipment and space’ and ‘posing appropriate tactical questions’ teaching skills. Conversely, the lack of TGfU-specific pedagogical knowledge of the school CTs was a core impediment to PSTs’ effective implementation of the model. The CTs were unable to help their PSTs beyond ‘general pedagogical issues’ faced by PSTs in relation to ‘classroom routines’, ‘lesson

planning’, ‘the organization of class content’, and ‘general classroom management’ (Wang & Ha, 2012b).

Still in TGfU, the PSTs acknowledge the educational benefits of teaching PE to students through this approach and expressed that they were likely to use it in their future teaching practice. Nonetheless, difficulties in understanding the nature and implementation of TGfU were also encountered (Wang & Ha, 2009). Negative attitude towards TGfU related to social norm issues (i.e., resistance of CTs, USs, school teachers and pupils to adhere to non-traditional pedagogies), and perceived inability to cope with behaviour control problems directly related to the TGfU activity organization (i.e., space, class duration, equipment, TGfU conceptual understanding, technical level of pupils and classroom discipline) negatively affected PSTs’ future intentions to adopt TGfU. In some cases, PSTs abandoned the use of TGfU in the course of the school placement in favour of teaching through skill-drills and direct instruction methods (Wang & Ha, 2013).

Regarding the hybrid SE/TGfU implementation, the unique, complementary nature, and perceived increased levels of student engagement in the class were strong attractors to this approach. Although the PSTs feel that they understood the pedagogical principles of this approach, the observations of their teaching practice exposed a superficial understanding of the hybrid model and the lack of knowledge of the pedagogical content necessary to make adjustments and solve emerging teaching problems (e.g., they were unable to efficiently balance the use of student-led activities and keeping a content-development focus on solving game problems) (Stran et al., 2012).

The implementation of APM afforded an opportunity for PSTs to challenge and renegotiated and reshape their own stereotypes and assumptions when facing a dissonance between what they thought they knew (assumptions about what a teacher should do) and what they were experiencing (learning how to teach) in their work with youth (Lugueti & Oliver, 2020). Moreover, a pedagogy of love emerged when the model was implemented across three semesters in a socially vulnerable. The PSTs learned to value the building of positive relationships and mutual respect with young students (Lugueti et al., 2019). Similarly, in TPSR, in ‘grappling’ with the discovery of ways to operationalize social relational concepts (mutual respect, self-determination, caring, etc.) through PE activities, the PSTs developed nurturing behaviours towards their students and became more skilful in adjusting their teaching practice for meeting their students’

needs (e.g., Richards et al., 2020; Shiver et al., 2020). Furthermore, PSTs reported that the TPSR changed their beliefs regarding PE and contributed to values and life skills development (Nieves et al., 2021).

Educational impact of PSTs implementation of SCMs

The educational impact of PSTs' implementation of SCMs was reported in 5 studies in SE. Exploratory, case study, action-research and experimental were the research designs used to fulfil the studies' purposes.

Results on SE reported that, the reinforcement of hegemonic masculinity occurred with middle school pupils due to the PSTs' orientations to teaching/coaching, interpretation of SE and teaching inexperience (Parker & Curtner-Smith, 2012). Contrarily, in Chen and Curtner-Smith (2015), results showed that masculine bias and sexism were largely combatted and rejected during the SE seasons and that the PSTs provided a relatively equitable experience to their students. Key reasons for the PSTs' success included their liberal views about sport, their willingness to 'fighting' negative sporting culture, and the fact that they were 'dealing' with very young, elementary-aged children (Chen & Curtner-Smith, 2015). PSTs were also capable of prompting their students to critically question unfair situations occurring in PE lessons and to engage in positive sport culture behaviours (Schwamberger & Curtner-Smith, 2017). The participation in SE also prompted students' basic psychological need satisfaction achievement, their effort and engagement in PE (autonomy, competence and relatedness) (Burgueño et al., 2018; Perlman, 2012).

What is missing in current research and what should be the future research and educational considerations for PETE programs

In making general considerations on the results found in what regards future research, it is suggested that the PETE community could push beyond linear ways of studying practice and instead encourage more complex conceptualizations of teaching. Following the encouragement of Strom (2015) regarding teacher education in general,

authors advocate for an ontological turn (Lather & St. Pierre, 2013) in PETE research that focuses on the process(es) from teaching to learning rather than the outcomes alone. By focusing on the different stage of PST's development on PETE programs (e.g., learning, implementation and educational impact of implementation), it is possible to examine the non-linear nature of the process through more holistic and integrated conceptual and methodologic frameworks (Hordvik et al., 2019b). Hence, this information would support PETE scholars with valuable resources, to inform the different stage of development of PSTs towards future effective SCMs implementation. The study by Wahl-Alexander and Curtner-Smith (2015) was exemplary in that it uncovered potential mechanisms through which PETE programs might provide effective support to PSTs' implementation of SCM (e.g., allowed PSTs to employ a variety of curricular models, fostered a focus on the patterns of negotiation taking place within each model, and called PSTs to reflect on the amount, degree, nature and consequences of their negotiations with pupils).

Wirth respect to what is missing in SE research, there is a need for additional studies examining different approaches to teaching the model in PETE. Here, knowledge on the strategies that could best prepare PSTs for the field teaching, so that PSTs have some understanding of what to expect, are currently missing. Additional research within the SE context is needed to examine the effectiveness of a community of learners and understand how PSTs and TEs can work together, learning from, and with, each other (Lugueti et al., 2019b).

Regarding TGfU, the analysed studies acknowledge the importance of improving the ability of PSTs to clarify tactics and to manage class time efficiently and effectively in order to support their implementation (Wang & Ha, 2013a). Moreover, author suggested that a TGfU professional community among PSTs, CT, and US is needed to promote open communication among these groups, to facilitate the implementation of this approach (Wang & Ha, 2013b).

In respect to the CL model, it is suggested that future studies should expand the number of physical challenges in relation to each of the planned instructional approaches (structured, semi-structured, and non-structured), to carry out longitudinal studies that would allow to understand how the development of individual professional identities evolves. Hence, additional exploration is needed in PETE integrating different physical

activities to better identify the conditions under which a scaffolding integrated into a CL environment would favour the instructional improvement of PSTs (Cañabate et al., 2019).

In TPSR more in-depth research could be conducted to address racial issues and the systemic racism occurring based on normalizing White culture since this is an essential component to socio-political consciousness (Shiver et al., 2020). In addition, research on APM suggested that PETE programs could support relationships with the dynamic communities that surround them by engaging PSTs in taking actions that contribute to the community's development. This type of experiences could contribute for PSTs' acknowledgment of other stakeholders that are essential in their teaching and learning experiences (Lugueti & Oliver, 2020).

Overall, research is required to uncover the collaboration work culture taking place between PSTs, their fellow in-service teachers, the CTs and the USs. Likewise, the contextual constraints within each school context and the specific scaffolding and mediation processes employed by CTs and USs to support PSTs' delivery of SCM should be further studied (Sinclair & Thornton, 2018). Likewise, it would be useful to further investigate on the best PETE mechanism to reshape PSTs' (an in-service teachers) coaching-based orientations (predominant use of authoritarian styles and direct instruction methods) toward self-determined and embodied adherence to SCM-based teaching practices (Schwamberger & Curtner-Smith, 2017). It is also suggested that training programs should be provided for in-service teachers to develop their knowledge to support PSTs first experiences. In addition, an examination of the effect of the collaborative mentoring model between pre- and in-service teachers and among PSTs, CT and USs on the professional development of these groups of teachers is needed as this approach is known to provide PSTs and mentors with mutually beneficial opportunities to gain deeper understanding of the SCM and improve its implementation (Wang & Ha, 2012b).

Moreover, additional studies might conduct longitudinal follow-up research, including, in the same study, an integrated analysis of PSTs' experiences of learning about the SCMs and their following implementation in the school placement and the subsequent impact these experiences have on their PE teaching practice (Perlman, 2012). In addition, longitudinal research is needed to determine if social cohesion fostered during single learning course units persists over time, since the model presents specific features that

allow social development opportunities (e.g., team affiliations forged through the membership of persisting small groups). This would be particularly valuable in those PETE programs in which PSTs are placed in the same school to develop their practice as a community of practice (Ferraz et al., 2020). Notwithstanding action research being considered a powerful framework to help PSTs connect their practice with theory (Eikeland, 2012), there is a need to provide PSTs with preparation, understanding, support and extended the research cycles (from the beginning of PETE and not a single project at the very end of the programme) (Eriksson et al., 2017).

Conclusions

Our findings suggest that offering a theoretical basis is insufficient to development PSTs' understanding of SCMs. PSTs construct their professional development by experiencing the SCMs in firsthand, which seems to contribute to their pedagogical and content knowledge development. For that reason, PETE programs should be able to engage PSTs in planning, designing and implementing a variety of SCMs. Furthermore, the ability to teach SCM does not seem to require high levels of content knowledge development, instead, occupational socialization and specific context circumstances appear to be main influences in their approach to SCM implementation. Hence, there is still a scarcity of knowledge about specific mentoring processes employed by CTs and USs than can support PSTs' delivery of SCMs. Teacher education training such as mentoring programs interventions (e.g., setting PSTs to learn as a community of learners) that seek to apply social learning theory in practice and course units that promote experiences with the SCM curriculum in the role of learners (i.e., learning how to do) are key strategies for facilitating PSTs' professional development (Byrd-Blake & Hundley, 2012; Collinson, 2012). In addition, most research has consistently neglected the integrated analysis of the different stages of PSTs' professional development during their PETE programs, by studying either course units' development or PSTs' school placement teaching practice in isolation. Future research should examine PSTs' development across all stages of their PETE training in an integrated manner. This could bridge the gap between university course work learning and peer teaching experiences and the unpredictable future school implementation as a future professional (learning,

implementing, educational impact of implementation, mentoring processes, etc.) (Moy et al., 2021). By employing longitudinal protocols that could have the potential to both capture, and prompt transformatory professional development across extended periods of time. Special interest should be placed on uncovering, mapping, and understanding the impact of particular contextual constraints mediation processes employed by TEs, USs and CTs to support the PSTs from learning to implementation of SCMs. Namely, by adhering to in-depth phenomenological, longitudinal and follow-up analysis with a high range of designs, studies could conduct an integrated analysis of PSTs' experiences of learning about SCMs, their following implementation in school placements and the subsequent impact that these experiences have on their PE teaching practice. Importantly, considering those who should benefit the most from any pedagogical interchange, voice should be given to children who participate in SCM-PE lessons as implemented by PSTs, as this has been a topic consistently neglected by research.

Funding

This work was supported by the Foundation for Science and Technology (FCT, Portugal) through the SFRH/BD/141505/2018 grant awarded to the first author.

References

- Alexander, K., & Penney, D. (2005). Teaching under the Influence: Feeding Games for Understanding into the Sport Education Development-Refinement Cycle. *Physical Education and Sport Pedagogy*, 10(3), 287-301.
- Avalos, B. (2011). Teacher professional development in teaching and teacher education over ten years. *Teaching and teacher education*, 27(1), 10-20.
- Bessa, C., Hastie, P., Araújo, R., & Mesquita, I. (2019). What do we know about the development of personal and social skills within the sport education model: A systematic review. *Journal of sports science & medicine*, 18(4), 812.
- Bores-García, D., Hortigüela-Alcalá, D., Fernandez-Rio, F. J., González-Calvo, G., & Barba-Martín, R. (2021). Research on cooperative learning in physical education:

Systematic review of the last five years. *Research quarterly for exercise and sport*, 92(1), 146-155.

Braga, L., & Liversedge, P. (2017). Challenges and facilitators to the implementation of a sport education season: The voices of teacher candidates. *Physical Educator*, 74(1), 19.

Burgueño, R., Cueto-Martín, B., Morales-Ortiz, E., da Costa Silva, P. C., & Medina-Casabón, J. (2018). Clarifying the influence of sport education on basic psychological need satisfaction in high school students. *Motricidade*, 14(2-3), 48-58.

Byrd-Blake, M., and Hundley, E. (2012). Promoting teacher development in a racially/ethnically, socioeconomically, linguistically and academically diverse school: a US case study. *Professional Development in Education*, 38 (4), 551–570.

Cañabate, D., Serra, T., Bubnys, R., & Colomer, J. (2019). Pre-Service Teachers' Reflections on Cooperative Learning: Instructional Approaches and Identity Construction. *Sustainability*, 11(21), 18.

Chen, Y., & Curtner-Smith, M. D. (2015). Hegemonic masculinity in sport education: case studies of pre-service physical education teachers with teaching orientations. *Sport, Education & Society*, 20(4), 546-563.

Cochran-Smith, M. (2005). Studying teacher education: What we know and need to know. *Journal of Teacher Education*, 56(4), 301–306.

Collinson, V. (2012). Leading by learning, learning by leading. *Professional Development in Education*, 38 (2), 247–266.

Curtner-Smith, M. D., Hastie, P. A., & Kinchin, G. D. (2008). Influence of Occupational Socialization on Beginning Teachers' Interpretation and Delivery of Sport Education. *Sport, Education and Society*, 13(1), 97-117.

Deenihan, J. T., & MacPhail, A. (2017). The influence of organizational socialization in preservice teachers' delivery of Sport Education. *Journal of Teaching in Physical Education*, 36(4), 477-484.

Deenihan, J. T., & MacPhail, A. (2013). A Preservice Teacher's Delivery of Sport Education: Influences, Difficulties and Continued Use. *Journal of Teaching in Physical Education*, 32(2), 166.

Deenihan, J. T., McPhail, A., & Young, A.-M. (2011). "Living the Curriculum": Integrating Sport Education into a Physical Education Teacher Education Programme. *European Physical Education Review*, 17(1), 51-68.

Eikeland, O. (2012). Action research-applied research, intervention research, collaborative research, practitioner research, or praxis research?. *International Journal of Action Research*, 8(1), 9-44.

Eriksson, N., Romar, J. E., & Dyson, B. (2017). The Action Research story of a student-teacher: Change is not easy and it takes time, effort, and critical reflection. *International Journal of Action Research*, 13(1), 11-12.

Ferraz, O. L., Vidoni, C., & Boas, M. V. (2020). Bridging the gap between theory and practice: the impact of school-university partnership in a PETE program. *Sport, Education and Society*, 1-12.

Fletcher, T., Ní Chróinín, D., & O'Sullivan, M. (2019). Developing deep understanding of teacher education practice through accessing and responding to pre-service teacher engagement with their learning. *Professional development in education*, 45(5), 832-847.

Fletcher, T., & A. Casey (2014). The Challenges of Models-based Practice in Physical Education Teacher Education: A Collaborative Self-study. *Journal of Teaching in Physical Education*, 33 (3): 403-421.

Glotova, O. N., & Hastie, P. A. (2014). Learning to Teach Sport Education in Russia: Factors Affecting Model Understanding and Intentions to Teach. *Sport, Education and Society*, 19(8), 1072-1088.

Guskey, T. (2000). *Evaluating professional development*. Thousand Oaks, CA: Corwin Press.

Hastie, P. A. (2021). A Primer on Content Knowledge in Physical Education Research. *Journal of Teaching in Physical Education*, 1(aop): 1-6.

Hastie, P. A., MacPhail, A., Calderón, A., & Sinelnikov, O. A. (2015). Promoting professional learning through ongoing and interactive support: Three cases within physical education. *Professional development in education*, 41(3), 452-466.

Hattie, J. (2012). *Visible learning for teachers: Maximizing impact on learning*. London, UK: Routledge.

Hordvik, M., MacPhail, A., & Ronglan, L. T. (2019b). Negotiating the Complexity of Teaching: A Rhizomatic Consideration of Pre-Service Teachers' School Placement Experiences. *Physical Education and Sport Pedagogy*, 24(5), 447-462.

Hordvik, M. M., MacPhail, A., & Ronglan, L. T. (2017). Teaching and Learning Sport Education: A Self-Study Exploring the Experiences of a Teacher Educator and Pre-Service Teachers. *Journal of Teaching in Physical Education*, 36(2), 232.

James, A. R., Collier, D., & Brusseau, T. (2015). Preservice Physical Educators' Perspectives of Sport Education. *Physical Educator*, 72(5), 342-358.

Keay, J., & Lloyd, C. (2009). High-quality professional development in physical education: the role of a subject association. *Professional Development in Education*, 35(4), 655-676.

Kennedy, A., 2014. Models of continuing professional development: a framework for analysis'. *Professional Development in Education*, 40 (3), 336–351.

Kinchin, G. D. (2003) Sport education and the student teacher. *PE and Sport Today*, 13, 40–42.

Lather, P., and St. Pierre E. (2013). Post-qualitative Research. *International Journal of Qualitative Studies in Education*, 26 (6), 629–633.

Le Ha, P. (2014). The politics of naming: Critiquing “learner-centred” and “teacher as facilitator” in English language and humanities classrooms. *Asia-Pacific Journal of Teacher Education*, 42, 392–405.

Luguetti, C., & Oliver, K. L. (2020). 'I became a teacher that respects the kids' voices': challenges and facilitators pre-service teachers faced in learning an activist approach. *Sport, Education & Society*, 25(4), 423-435.

Luguetti, C., Kirk, D., & Oliver, K. L. (2019a). Towards a Pedagogy of Love: Exploring Pre-Service Teachers' and Youth's Experiences of an Activist Sport Pedagogical Model. *Physical Education and Sport Pedagogy*, 24(6), 629-646.

Luguetti, C., Lopes, P., Sobrinho, D. R. D. S., Carbinatto, M. V., & MacPhail, A. (2019b). The complexity, tensions and struggles in developing learning communities throughout a Sport Education season. *European Physical Education Review*, 25(4), 1075-1092.

Lund, J. L., & Tannehill, D. (2014). *Standards-Based Physical Education Curriculum Development*: Jones & Bartlett Learning.

McCaughtry, N., Sofo, S., Rovegno, I., & Curtner-Smith, M. (2004). Learning to Teach Sport Education: Misunderstandings, Pedagogical Difficulties, and Resistance. *European Physical Education Review*, 10(2), 135-155.

McMahon, E., & MacPhail, A. (2007). Learning to Teach Sport Education: The Experiences of a Pre-Service Teacher. *European Physical Education Review*, 13(2), 229-246.

Moher, D., Shamseer, L., Clarke, M., Ghersi, D., Liberati, A., Petticrew, M., & Stewart, L. A. (2015). Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015 statement. *Systematic reviews*, 4(1), 1-9.

Mooney, A., Moncrieff, K., & Hickey, C. (2018). Exploring Pre-Service Teachers' Experience of Sport Education as an Approach to Transition Pedagogy. *Physical Education and Sport Pedagogy*, 23(6), 545-558.

Moy, B., Rossi, T., & Russell, S. (2021). Supporting PETE students to implement an alternative pedagogy. *Physical Education and Sport Pedagogy*, 1-18.

Moy, B., Renshaw, I., & Davids, K. (2016). The impact of nonlinear pedagogy on physical education teacher education students' intrinsic motivation. *Physical Education and Sport Pedagogy*, 21(5), 517-538.

Nieves, A. M., Oliver, L. E., & Vargas, A. (2021). Preservice Physical Education Teachers' Experiences Implementing the Teaching Personal and Social Responsibility Model. *Physical Educator*, 78(2).

Oslin, J. (2002) Sport education: cautions, considerations, and celebrations. *Journal of Teaching in Physical Education*, 21, 419-426.

Oslin, J., Collier, C., & Mitchell, S. (2001). Living the curriculum. *The Journal of Physical Education, Recreation & Dance*, 72(5), 47-51.

Parker, M., & Curtner-Smith, M. (2012). Preservice Teachers' Use of Production and Reproduction Teaching Styles within Multi-Activity and Sport Education Units. *European Physical Education Review*, 18(1), 127-143.

Perlman, D. (2012). The Influence of the Sport Education Model on Developing Autonomous Instruction. *Physical Education and Sport Pedagogy*, 17(5), 493-505.

Richards, K. A. R., Jacobs, J. M., Ivy, V. N., & Lawson, M. A. (2020). Preservice teachers perspectives and experiences teaching personal and social responsibility. *Physical Education & Sport Pedagogy*, 25(2), 188-200.

Schwamberger, B., & Curtner-Smith, M. (2017). Influence of a Training Programme on a Preservice Teacher's Ability to Promote Moral and Sporting Behaviour in Sport Education. *European Physical Education Review*, 23(4), 428-443.

Shiver, V. N., Richards, K. A. R., & Hemphill, M. A. (2020). Preservice teachers' learning to implement culturally relevant physical education with the teaching personal and social responsibility model. *Physical Education and Sport Pedagogy*, 25(3), 303-315.

Silva, R., Farias, C., & Mesquita, I. (2021). Challenges faced by preservice and novice teachers in implementing student-centred models: A systematic review. *European Physical Education Review*, 1356336X21995216.

Sinclair, C., & Thornton, L. J. (2018). Exploring Preservice Teachers' Conceptions after 'Living a Hybrid Curriculum'. *European Physical Education Review*, 24(2), 133-151.

Stran, M., & Curtner-Smith, M. (2010). Impact of Different Types of Knowledge on Two Preservice Teachers' Ability to Learn and Deliver the Sport Education Model. *Physical Education and Sport Pedagogy*, 15 (3), 243–256.

Stran, M., Sinelnikov, O., & Woodruff, E. (2012). Pre-service teachers' experiences implementing a hybrid curriculum: Sport education and teaching games for understanding. *European Physical Education Review*, 18(3), 287-308.

Tannehill, D., & MacPhail, A. (2017). Teacher empowerment through engagement in a learning community in Ireland: Working across disadvantaged schools. *Professional development in education*, 43(3), 334-352.

Strom, K. (2015). Teaching as Assemblage: Negotiating Learning and Practice in the First Year of Teaching. *Journal of Teacher Education*, 66 (4), 321–333.

Wahl-Alexander, Z., & Curtner-Smith, M. D. (2015). Influence of Negotiations between Preservice Teachers and Pupils on Instruction within Multi-Activity and Sport Education Units. *Sport, Education and Society*, 20(7), 838-854.

Wang, L., & Ha, A. (2013a). The theory of planned behaviour: predicting pre-service teachers' teaching behaviour towards a constructivist approach. *Sport, Education and Society*. 18(2), 222-242.

Wang, L., & Ha, A. (2013b). Three groups of teachers' views, learning experiences, and understandings of teaching games for understanding. *Physical education and sport pedagogy*, 18(3), 336-350.

Wang, L., & Ha, A. (2012b). Mentoring in TGfU Teaching: Mutual Engagement of Pre-Service Teachers, Cooperating Teachers and University Supervisors. *European Physical Education Review*, 18(1), 47-61.

Wang, C. L., & Ha, A. (2009). Pre-Service Teachers' Perception of Teaching Games for Understanding: A Hong Kong Perspective. *European Physical Education Review*, 15(3), 407-429.

Ward, P., & Ayvazo, S. (2016). Pedagogical content knowledge: Conceptions and findings in physical education. *Journal of Teaching in Physical Education*, 35(3), 194-2

3.2. NARRATIVE REVIEW

A narrative review about Physical Education learning strategies towards innovative teachers' professional development: are Communities of Practice being romanticized?

Valério, F.¹, Farias, C.¹, & Mesquita, I.¹

¹ Centre for Research, Education, Innovation and Intervention in Sport (CIFI²D), Faculty of Sport, University of Porto, Portugal.

Published in Revista Portuguesa de Ciências do Desporto (2022)

Abstract

Physical Education (PE) teachers in all their levels of career development experience complex processes of professional learning. Moreover, educational policies worldwide have moved towards a student-centred learning which highly increases the density of teacher's professional development. Communities of Practice (CoP) have been highly reported in literature as a powerful learning strategy for professional development concerning pedagogical innovation with the ability to promote change.

Thus, the present narrative review aims at reporting specific work on how CoPs work as a teacher learning strategy towards the implementation of innovative pedagogical practices. To that end, we firstly overview the theoretical framework used on CoPs fieldwork in order to clarify the main concepts. Secondly, we present an analysis of the CoPs benefits and CoPs challenges and the literature on Teacher Educators development and PSTs development inside of a Physical Education Teacher Education (PETE) context, as well as how CoPs are used as a learning strategy towards student-centred approaches. Additionally, the article offers a summary and possibilities for future research. To conclude, it is acknowledged the need for additional research on the occurring transformations inside of a CoP and/ or a report of the main challenges faced by members while engaging in it, especially in PETE contexts.

Resumo

Os professores de Educação Física (EF), em todos os seus níveis de desenvolvimento de carreira vivenciam processos complexos de aprendizagem profissional. Além disso, as políticas educativas avançaram para uma aprendizagem centrada no aluno, o que amplifica a densidade do desenvolvimento profissional do professor. As Comunidades de Prática (CoP) têm sido mencionadas na literatura como uma estratégia de aprendizagem para o desenvolvimento profissional e inovação pedagógica com capacidade de promover mudanças educativas. Por este motivo, a presente revisão narrativa tem como objetivo relatar estudos específicos sobre como as CoPs funcionam enquanto estratégia de aprendizagem de professores com vista à

implementação de práticas pedagógicas inovadoras. Em primeiro lugar, apresentamos os conceitos teóricos utilizados no campo das CoPs. Em segundo lugar, apresentamos uma análise dos benefícios das CoPs e desafios que as mesmas representam, bem como a literatura sobre o desenvolvimento de professores educadores e o de professores estagiários dentro de um contexto de programa de formação de professores de EF (PFPEF) e ainda, como as CoPs são usadas como uma estratégia de aprendizagem para abordagens centradas no aluno foram apresentados. Além disso, o artigo oferece possibilidades para pesquisas futuras. Concluindo, reconhece-se a necessidade de efetuar investigação adicional sobre as transformações ocorridas dentro de uma CoP e/ou relatar os principais desafios enfrentados pelos membros aquando do seu envolvimento, especialmente em PFPEF.

Keywords: Physical Education, Communities of Practices, Teacher Professional Development

Introduction

Research attests the highly complex nature of teachers and pre-service teachers (PSTs) learning and practice (Davis & Sumara, 1997; Opfer & Pedder, 2011; Strom, 2015). Additionally, in the past two decades or more, education has moved in a direction that considers student-centred learning to be most effective, adding complexity to the teacher's professional development process (Hattie, 2012; Le Ha, 2014). Thus, a narrative of student-centeredness has spiked through educational policies, national curricula, and teacher education where such approaches to learning have been positioned as effective ways to promote a broad range of educative and health outcomes (O'Sullivan, 2013). Physical Education Teacher Education (PETE) has been considered one of the most important factors in enhancing the quality of Physical Education (PE) (Armour et al. 2017). However, several studies have indicated that different PETE programmes developed for professional learning are unlikely to be effective, since learning does not directly transfer into school practicum and suggest that multiple enabling and constraining elements influence the pedagogical decision-making and the enactment of teaching practices (Strom & Martin, 2016).

Hence, to fulfil the complex and inherent demands of teacher education, literature has been enhancing communities of practice (CoP), or, professional learning communities, as an effective tool for teachers' professional development (Wenger, 1998; Parker et al., 2010). In PE research, teachers' have been highly encouraged to work collaboratively as CoP (Armour & Yelling, 2007; Armour et al., 2017; Deglau & O'Sullivan, 2006; Luguetti et al., 2019; Oliver et al., 2017; Parker et al., 2010; Patton et al., 2015). A CoP is presented as an opportunity for teachers to inquire into their respective practices and to develop a collaborative understanding of how to use new pedagogical approaches (Gonçalves et al., 2021). Thus, this literature acknowledgment place CoPs as a powerful strategy for a professional development based on innovative practices such as student-centred approaches (SCA), which centres this learning strategy as one of the most valuables regarding contemporary PETE demands.

In PE, studies have been developed in relation to how CoP emerge and develop (Goodyear & Casey, 2015; MacPhail et al., 2014; Parker et al., 2010), how teachers participation in CoP supported their own professional development (Parker et al., 2012; Patton & Parker, 2017; Tannehill & MacPhail, 2017), and how CoP improve teachers' pedagogy (Goodyear & Casey, 2015; Oliver et al., 2017; Yoon & Armour, 2017), teachers' content knowledge (Hunuk et al., 2013) and impact on pupil learning (Yoon & Armour, 2017).

Despite the many benefits associated with effective teacher development through participation in CoPs, many questions about how these groups are developed and who benefits from these structures remain unanswered (O'Sullivan, 2007). Therefore, further investigation on understanding the processes that examine the intricacies of effective CoPs is vital. Additionally, while much is known about CoP potential to enhance professional learning substantially less is known about the processes with respect to how they function, especially in PETE programmes. To date, little research (MacPhail et al. 2014; Tannehill et al., 2015) has been conducted specifically examining PETE CoPs.

Therefore, in light of the reported relevance of Communities of Practice in PE teachers' development towards a student-centred curriculum and the marked lack of evidence regarding the intricacies of its development, the present narrative review addresses literature perspectives and findings regarding this social learning strategy.

Particularly, this study addresses an in-depth report of a body of literature including its critical interpretation, by engaging in a comprehensive reflection about the way literature is exploring CoPs as an effective means to achieve teachers' professional development.

What a CoP entails – Theoretical-based clarification of key concepts

Literature examining CoPs as a teacher learning strategy has been connected to a base terminology related to the main concepts of the development and cultivation of a CoP (e.g., core elements of its constitution), how to progress in terms of learning and participation (e.g., base theory and theory of development) and the stakeholders involved (e.g., the ones responsible for managing relations, discussions, reflection). A broader acknowledgement of these concepts allows a deeper analysis and interpretation of the empirical findings.

Situated learning theory

Drawing from Lave and Wenger (1991), situated learning theory guided by the notion that learning is an active process that occurs via an individual's engagement of practice in sociocultural contexts. The authors stated that situated learning is a form of participation in a CoP, which indicates that a person's knowledge is acquired and constructed by their active participation in a social context rather than by the internalisation of knowledge by an individual (Wenger, 1998). In the framework of *situated learning theory*, participation entails not merely 'local events of engagement in certain activities with certain people, but a more encompassing process of being active participants in the practices of social communities and constructing identities in relation to these communities' (Wenger, 1998, p. 4). Here, learning is a process of meaning-making through forms of social practices and identity building in CoP (Wenger, 1998).

Communities of practice

Lave and Wenger (1991) coined the term *community of practice* to refer to groups of people who shared related concerns, faced interrelated problems, or had a shared passion about a topic, and who as a community sought to strengthen their knowledge and expertise through regular social interactions.

According to Wenger and Wenger-Traynor (2015) to establish a CoP it is necessary to develop three core elements: domain, community and practice. First, the domain refers to a group's identity which is defined by a shared area of interest. Participants pledge allegiance to the *domain*, and “therefore a shared competence that distinguishes members from other people” (Wenger & Wenger-Trayner, 2015, p. 2). Next, the *community* insinuates that members pursue their interests through engagement in purposeful activities and meaningful discussions, facilitating learning from and with each other. Finally, the *practice*, represents a shared repertoire of resources including experiences, stories, tools, and processes of addressing any stumbling blocks the group may encounter along the way. Creation of these resources takes considerable time and sustained interaction.

Wenger (1998) suggests CoPs are important places of negotiation, learning, meaning, and identity that together with three dimensions ensure coherence of a community: *Joint enterprise*, a sense of mutual accountability, interpretations, and rhythms; *Mutual engagement*, the act of doing things together, developing relationships, establishing norms and working to maintain the community; and *Shared repertoire*, the community's accumulated stories, artifacts, historical events, language, routines or concepts.

Moreover, CoPs are often distinguished as a specialized form of professional development involving members who share self-defined common learning/professional interests, in which interaction and discourse take place over time through discussion, analysis, and problem solving, resulting in professional learning (MacPhail et al. 2014). They are meaningful, purposeful, and revolve around authentic tasks, which contribute to a professional learning process that is valuable and relevant to individual members (Parker et al., 2010).

Legitimate peripheral participation

In order to articulate the learning as process inside of a CoP, Lave and Wenger (1991) coined the term *legitimate peripheral participation*, referring to ‘the development of knowledgeably skilled identities in practice and to the reproduction and transformation of a CoP’ (p. 55). In essence, learning to talk the language of the community is foundational to legitimate peripheral participation (Lave & Wenger, 1991) and is representative of the process of newcomers (Goodyear et al., 2019). Moreover, CoPs are groups that evolve as members come and go and as old members leave, and new ones join (Lave & Wenger, 1991). Hence, the notion of legitimate peripheral participation describes how newcomers become fully participating community members, such as the case of PSTs in PETE (newcomers) that are completing their professional development programme in order to become recognized teachers with the help of teacher educators (TE), cooperative teachers and university supervisors (full-members). When newcomers actively participate in CoPs and interact with old-timers, learning can occur naturally (Lave & Wenger, 1991). Thus, the newcomers develop their trajectory of participation towards becoming independent participants by interacting with the experts (Gonçalves et al., 2022).

According to Wenger (1998), participants may be peripheral rather than full members of a CoP, though over time, they may become more fully recognized. For PSTs, their experiences in PETE are those of peripheral participants and they actively work toward acceptance as full members of the PE teachers’ culture (Sirna et al., 2008).

Facilitator

Literature entails that a PE CoP with professional learning intentions is characterised as: (a) based on teachers’ needs and interests; (b) understanding learning as a social process; (c) including collaborative opportunities; (d) ongoing and sustained; (e) viewing teachers as active learners; (f) improving pedagogical skills and content knowledge; (g) facilitated with care and (h) focused on improving students’ outcomes (Armour et al., 2017; Patton & Parker, 2017). Furthermore, this ad the importance of the role of a *facilitator* inside of a CoP during teachers’ development (Hunuk, 2017).

Facilitators are persons, teachers, TEs or other professionals who mediate professional learning CoPs (Hunuk, 2017; Patton et al., 2012). To be effective, facilitators must understand the institutional pressures, cultures and expectation that separate them from teachers (Fletcher et al., 2020). Within the role of facilitation, the importance of understanding teachers' contexts, listening to their voices, enhancing their self-esteem, observing and being observed during their practice, and building a community of teachers are seen as essential for teachers' development (Patton et al., 2012). In CoPs, the presence of a facilitator who dialogues with the teachers, analyses their context with them and mediates negotiation among members is important, for example, for initiating and maintaining a CoP (Goodyear & Casey, 2015).

Review of existing literature on Communities of Practice as a teacher learning strategy

Regarding the latest developments in PETE literature, CoPs have been recognized as an important learning strategy to contribute to the development of a constructivist curriculum and implementation of innovative pedagogies. For instance, understanding the internal social development of the dynamic inside of a CoP and comprehend its broader effect in the teachers' professional development may be of great interest for PETE scholars. Despite not being common in narrative reviews to disclose the types of databases and the inclusion criteria (e.g., Collins & Fauser, 2005), providing some key elements about the search strategy allows the readers to better judge the transparency of the work (Collins & Fauser, 2005).

Therefore, to comprehensively represent research investigation CoPs as a learning strategy, we undertook an exhaustive search of the literature to locate relevant published work, using data bases including Academic Search Ultimate, Education Source, ERIC, APA PsycInfo, Teacher Reference Center (combined via EBSCO host and screened for peer reviewed academic journals only), Scopus and Web of Science. As a first step to locate papers published in the field of PE related to CoPs, we used the keywords *physical education*, *physical education teacher education*, *communities of practice*, *learning communities*, *teacher communities* and *professional communities*.

In this narrative review, we developed criteria that better suited the purpose of tracking scientific principles and practical usefulness related to our research purpose. The lead author read the full papers and recommended criteria for developing the narrative review. The criteria proposed were reviewed by the co-authors', all of whom had expertise Physical Education Teacher Education. The primary categories addressed the theoretical framework about situated learning theory, CoPs, legitimate peripheral participation, and the role of the Facilitator.

Given the proposed criteria, this narrative review begins with setting the scope of the topic via definitions and theories used to enable understanding Communities of Practice as a learning strategy, followed by an explanation of the CoPs benefits and CoPs challenges. It then presents the literature on TEs development and PSTs development inside of a PETE context as well as how CoPs are used as a learning strategy towards SCA. Finally, a summary and possibilities for future research are addressed.

Research perspectives on Communities of Practice as a learning strategy

CoPs recognized powers and benefits

Literature denotes that CoPs can hold the key to real transformation by being 'a locus of engagement in action, interpersonal relations, shared knowledge, and negotiation of enterprises' (Wenger, 1998, p.85), and had the power to initiate change in institutions by the conscious confrontation of competing values (Sachs, 2001; Watson, 2014).

Hence, a lot of positive outcomes arise in literature about CoPs, that include teachers informally and collaboratively learning from each other (Armour & Yelling, 2007), forming strong identities as teaching professionals (Deglau & O'Sullivan, 2006), developing a commitment to advocate for their subject at a wider policy level (O'Sullivan, 2007), and creating new images of themselves as teachers (Deglau & O'Sullivan, 2006). Furthermore, studies show that teachers participating in a CoP were highly motivated to reconsider their own practices for improving student learning and developing their programmes (O'Sullivan, 2007). Moreover, teacher participation in a CoP based on teachers' specific needs increased their students' learning and changed teachers' teaching culture positively (Hunuk, et al., 2013). Also, CoPs can contribute to micro change in

schools, by being a democratic space for teachers' professional development (Gonçalves et al., 2021; Sachs, 2001; Tannehill & MacPhail, 2017). Results indicated the development of a democratic CoP in a precarious situation through an ongoing and dynamic progression where teachers built their own practice to overcome the marginalization, by creating a space for the negotiation of what was meaningful and useful for these teachers in their reality (Gonçalves et al., 2021). Likewise, research suggest that participation in CoPs based programme may promote teachers' learning of disability to help them make sense of teaching in PE context (An, 2021).

Nevertheless, studies argue that contemporary PE CoPs must challenge teachers to become critical and innovative learners in the context of dynamic learning communities (Atencio et al., 2012), since teachers' professional learning in the CoP impacted on the development of teachers' pedagogies which then influenced pupils' learning (Yoon & Armour, 2017).

Furthermore, results of a prolonged study in a continuous CoP context highlight the support that teachers provide one another, the empowerment they developed to address issues posed by their challenging work situations and the motivation that being a member of a CoP afforded them to persevere in teaching in difficult settings and how it contributed to their professional development and learning-over-the-continuum (Tannehill & MacPhail, 2017; You et al., 2018).

Additionally, social media-based CoPs are presented in literature as a 'new' method for professional learning that supports pedagogical change and overcomes some of the financial and time implications of facilitators and teachers working together. Studies results show that through social media, the facilitator re-enforced teachers changing practice, aided the development of the practices of an emerging CoP, and by the CoP situating their use of the innovation in the virtual world, teachers were supported in changing their practice over time, and the use of the pedagogical innovation was sustained. Interactions promoted teacher inquiry, challenged teachers to develop their existing use of the innovation further and encouraged them to work together and develop shared practices (Goodyear et al., 2014). Furthermore, established virtual PE CoPs have also highlighted shared values, our shared impact, professional and personal rewards and challenges (Goodyear et al., 2019; Wardd et al., 2021). Facilitator or moderator training

could support the development of social media-based CoPs that subsequently and positively impact on teachers' practices (Goodyear et al., 2019).

CoPs recognized challenges and struggles

While the benefits of CoPs are evident, research still debates the effectiveness of this learning strategy despite less prominently. Although CoPs, in a very real sense, are self-organising, emerging in response to local conditions and to the needs of their members (Barab et al., 2004; Goodyear & Casey, 2015), it is important to acknowledge how complex are such structures and their internal dynamics.

Though CoPs have been widely used as a strategy for teachers' professional development (Parker & Patton, 2017; Vangrieken et al. 2017), their efficiency has been debated twofold. On one hand, as Wenger (1998) highlighted, asserting, '[...] these kinds of communities produce their own practices is not asserting that communities of practice are in any essential way an emancipatory force' (85). The community might be a place where participants, in a functionalist view, only reproduce social world conditions instead of questioning and transforming it (Lave & Wenger, 1991). Moreover, it has been debated that these communities may 'function as a means to silence dissatisfaction through the hegemonic appeal to "community" and its normalising function as arbiter of ideological control' (Watson, 2014, p.27).

Another critique that literature presents to CoPs is that the notion of a CoP was foregrounded by Lave and Wenger (1991), based upon an anthropological perspective, where CoPs were examined in everyday society and not environments intentionally designed to support learning (Barab & Duffy 2012; Hoadley, 2012). Indeed, studies suggests that there has been a shift in the way of thinking about CoP from one which naturally occurs to one where a CoP can be supported and fostered to situate learning in an authentic context (Hoadley, 2012). The difference between a naturally occurring community and a community which is fostered, is that naturally occurring communities do not have pre-defined learning goals (Barab & Duffy, 2012; Hoadley, 2012). Yet importantly, a CoP cannot be created. Instead, communities must have some form of history for them to emerge from, and members must share a form of history with one another (Barab & Duffy, 2012; Hoadley, 2012). Indeed, a CoP can emerge as a result of

a collective group of individuals working towards achieving the same pre-defined learning goal(s) (Barab & Duffy, 2012; Hoadley, 2012). In the process of working towards achieving the same pre-defined learning goal(s), individuals can develop a shared history with one another, members can develop a unique identity and a CoP can emerge where a community holds its own leadership and agenda(s) (Barab & Duffy, 2012; Hoadley, 2012). Nonetheless, different understandings of a collaborative project may affect mutual engagement in learning groups, which affect the group qualities and may hinder the development of a CoP. Hence, research argues for the importance of making learning goals explicit for all the CoP members (Johannesson, 2020).

Regarding virtual-based communities, despite presenting their recognized benefits and participants foresaw a great potential, they also entail challenges related participation would drop off for reasons such as laziness and lack of time, caution when posting texts to an online site, fear of being judged and inhibition when other, more academically advanced participants engaged in commentary (Garcia-Monge et al., 2019).

Even though CoPs seem to be a successful learning strategy in PETE programmes, research also demonstrate that scholars should address responsibilities in sending PSTs into contexts that might even be described as toxic. Complex contexts where PSTs must negotiate in striving for an excellent evaluation should warrant specific attention in PETE programs. Research results show that PSTs had to make a considerable effort, attention, and spend energy on various interrelated social tasks aimed at building positive relationships with their supervisor and other PE teachers at the school, raising questions about how prepared programmes are to receive PSTs in a welcoming context (Sirna et al., 2008).

Communities of Practice as a learning strategy in PETE

TEs development through CoPs

Engagement in CoPs may address teachers' particular needs and interests and encourage them to strive for what is deemed to be a worthwhile, relevant, and meaningful PE experience for their students, by engaging in on-going dialogue, individual and group reflection, systematic action, and mutual respect (MacPhail & Tannehill, 2012; Tannehill

et al., 2015). The importance of TEs modelling the development of learning skills and involvement in a CoP with the aim to engage PSTs' in continued professional learning as part of a community is noted in literature (Armour, 2010; MacPhail, 2011). Gillette and Schultz (2008, p.236) state that "TEs must develop a vision of emancipatory teacher education practice and act on that vision through the creation of CoPs [. . .] We must be willing to practice what we preach if we expect to foster [related capacities] in our teacher candidates [. . .] If we are serious about fostering an environment that encourages our teacher candidates to take action and teach for change in the roles as teachers, we must not only facilitate environments that encourage such practice, but also model what we envision in our own daily practice as TEs".

Research results indicated that engagement in CoP provided a foundation for collaboration and reduced isolation, allowing participants to extend their teaching and research capacities. Hence, significant social dynamics and group processes that shaped their practice included a common focus, personal and professional relationships, safe but challenging spaces, and shared commitment (Patton & Parker, 2017). Moreover, in TE CoPs contexts were the focus on the 'needs of participants', results revealed that they considered it an excellent context for learning and professional development, since the CoP seem to have acknowledged and satisfied the members' requests. However, in cases where hierarchical pressure affected relationships between CoP members could present a negative influence on teachers' professional learning (Yoon et al., 2021).

Thus, since CoPs call for a break from traditional forms of professional development, the typical role of TEs is also challenged. While CoPs benefit from continued support and input, TEs need to strike a balance between being leaders in facilitating collaboration and sharing their expertise while simultaneously being followers who are sensitive to group members' needs (Armour & Yelling, 2007). Thus, the TEs as providers take on the role of facilitator, with an aim to 'guide rather than direct, question rather than show the way, and listen rather than tell . . . not to impose vision, but listen and hear, gently push and pull' (Parker et al., 2012, p. 324).

Additionally, literature facilitator's actions reveal how they can support teachers' empowerment. Those include creating a horizontal relationship with teachers through dialogue; understanding and respecting teachers' learning and struggling with teachers in their reality as an act of solidarity. These facilitator actions contributed primarily to

building a democratic space where the teachers could name, critique and negotiate the barriers they faced helping them seek better professional conditions, organising themselves as a community and pursuing social change (Gonçalves et al., 2021).

Accordingly, literature suggests that the aim of successful facilitation is for facilitators to become part of the group (Patton, et al., 2012). However, research entails that in these higher education communities all active members could collaboratively facilitate the functioning of the community. At various junctures in the community's work, and depending on the community's current focus, facilitation would, perhaps, be led by one member, yet this quickly became a cohesive and joint facilitation (MacPhail et al., 2014).

PSTs development through CoPs

The literature on the impact of CoP in PE on PSTs concentrates broadly on social aspects around the development of teacher identity and power differentials between agents (Keay, 2009; Rossi, 2013). Whilst notions of apprenticeship learning and legitimate peripheral participation (Lave & Wenger, 1991) are explored within that literature, there is a relative lack of explicit emphasis on the development of knowledge generally and subject knowledge specifically.

Conversely, there continues to be a paucity of interest in research, particularly within the PE domain, in examining TEs roles and practices in embedding the professional responsibility for professional learning for both TE and PSTs in a PETE programmes (MacPhail, 2011). The concern with this is that such a lack of interrogation may contribute to the evidence that PETE programs are overly concerned with producing teachers who pursuit innovative pedagogies rather than lead it by being the main example (O'Sullivan, 2003).

Nevertheless, there is some research that highlights that the process of knowledge development in PETE is socially constructed and complex and the PSTs' development might be influenced by various CoPs, particularly their school placements' PE departments and, their university-based learning community. A case study reported in MacPhail et al. (2014) reveals that PSTs' professional learning involved participating in a CoP, in which different pedagogical principles were created. Here, PSTs acknowledged

the University-based learning as enhancing their holistic understanding of the learning process, developing those aspects of critical pedagogy that were under-developed in schools. There were found significant gains in the knowledge bases of PSTs engaged in a CoP context where learning took place (Herold, 2019). This enhances the capability of school/university partnerships to facilitate enhanced knowledge development in PETE, by encouraging TEs to consider whether opportunities undertaken in a PETE program, and with colleagues external to the PETE program, encourage an authentic CoP (Herold & Waring, 2018; MacPhail et al., 2014).

In the other hand, research reveals a tendency for TEs and PSTs to developed into two separate CoPs (Lugueti et al., 2019). Several authors describe the challenges that arise in the relationship between master and apprentices (Lave & Wenger, 1991; Wenger & Wenger-Trayner, 2015; Wenger et al., 2002). Accordingly, it seems typical that PSTs learn mostly in relation to other apprentices, mostly due to their lack of engagement with TEs, despite the efforts of TEs to show the possibilities of an ‘open classroom’ type of interaction (Lugueti et al., 2019).

Communities of Practice as a learning strategy towards student-centred approaches

Researchers are expressing that, if PE is to move beyond the traditional pedagogies, then CoPs are a professional learning strategy that can support pedagogical innovation with change (Goodyear & Casey, 2015). Introducing teachers to innovations using a CoP has the potential to promote a sense of co-ownership of the innovation and reduce the likelihood of teachers’ resistance (De Jong, 2012). Literature shows that, CoPs have contributed to introduce teachers to innovative practices (e.g., SCAs) and, in recent years CoPs have been used by university TEs to introduce PSTs to pedagogical innovations in PE (e.g., the activist approach (Oliver et al., 2018); cooperative learning model (Goodyear & Casey, 2015); sport education (Lugueti et al., 2018)). Moreover, a CoP allows teachers to come together to inquire into their respective practices and to develop their understanding of how to use new pedagogical approaches (Oliver et al., 2015) which, supports the fact that this learning strategy could lead to sustained pedagogical innovation (Parker & Patton, 2016).

Studies referring to PE teachers state that they are typically willing to change their pedagogical practice, however, innovations are rarely sustained beyond initial implementation (Goodyear & Casey, 2015). This had led scholar to raises questions about the common format and quality of professional development opportunities that support teachers in implementing innovations (Brown, 2011; Penuel et al., 2007). The use of a CoP contrasts with the common approach to professional development in that it provides teachers with ongoing, collaborative opportunities grounded in their local contexts and experiences, which can result in a sense of growth and empowerment in their teaching practice (McLaughlin & Talbert, 2006; Tannehill & MacPhail, 2017).

Moreover, regarding SCAs, results of a study were participants created a shared instructional model in the CoP indicate that it helped members to form a strong bond, which ensured the sustainability of the CoP. However, a limitation was that the professor, who originally developed the instructional model, was too heavily involved in decision-making, which weakened the teachers' autonomous professional learning. This study indicates that creating and cultivating a PE-CoP with a shared instructional model can help in making strong bonds among members and sustainability of the CoP (Yoon et al., 2021).

Additionally, literature entail that, a challenge that emerged was learning how to move from a theoretical understanding of SCAs to the practice of student-centred pedagogy.

Specifically, the amount of time that was necessary to build a foundation that allowed for student and teacher understanding, respect, and comfort, negotiating teacher and student assumptions that were embedded in the status quo of PE, and the struggle to gather and use meaningful data to guide pedagogical decisions. In this study, authors used a CoP to negotiate these challenges whereby they worked to all be able to see and name what was happening in their individual classes and collectively planned what was needed to move forward through those challenges (Oliver et al., 2018).

Furthermore, studies referring to a CoP were TEs implemented a SCA, revealed that they developed a relationship of trust and interdependence. Also, their PSTs created a safe environment that allowed them to overcome fear. Moreover, TEs and PSTs were able to negotiate the different levels of students' engagement during the season and the associated feeling of frustration. Despite of that, TEs and PSTs developed into two

separate CoPs and did not engage in many moments of sharing between the two groups (TEs and PSTs) (Luguetti et al., 2018).

Further research reveals that culture, values, beliefs and professional background were critical for the development of the teachers' pedagogical identities in the process of learning to use a SCA within a CoP. These experiences created for some, places to further develop their ideas about teaching, whereas for others they caused great discomfort and a sense of personal loss. The CoP facilitated the development of the teachers' pedagogical identities, changing positionalities, and negotiating culture, values, beliefs and professional backgrounds (Luguetti et al., 2019).

Furthermore, recent literature reinforced the power that a well-planned and structured inquiry-oriented CoP, has on empowering teachers to enact a new SCAs framework, and the student learning that emerged (Calderón & Tannehill, 2021).

Summary and future directions

The purpose of this review was to address the current state of research perspectives and findings referring to how Communities of Practice are working as a learning strategy towards PE pedagogical innovation.

As we noted in the theoretical framework, the concepts entail the relevance of CoPs as an active process of social involvement towards a learning goal (Lave & Wenger, 1998). Moreover, the participation of members entails overtime involvement, which means that to create learning transformation, active on-going participation must be guaranteed (Gonçalves et al., 2022). Hence, to help with the participation of the newcomers (e.g., PSTs) and provide them with powerful knowledge resources, facilitators must acknowledge the importance of their mediation of the learning process, to initiate and maintain a CoP (Goodyear & Casey, 2015). Accordingly, we believe that the base knowledge of CoP development entails further complexity to the process of teacher education. Thus, despite CoP being highly recognized in literature as a powerful learning strategy, research reveals both its benefits and challenges.

While benefits highlighted in literature entail mainly impact on in-service teachers learning development (Armour & Yealling, 2007; Denglau & O'Sullivan, 2006), some results are also seen on positive impact of pupils, precarious contexts, disability,

innovative pedagogies and virtual-based CoPs (An, 2021; Gonçalves et al., 2021; Goodyear et al., 2019; Yoon & Armour, 2017).

However, in the opposite side of the coin are revealed as CoP negative points mainly the fact that studies are considering CoPs a spontaneous and naturally occurring, instead of acknowledging the possible need to foster specific learning goals to succeed (Barab & Duffy, 2012; Hudley, 2012). This might explain why some results report different acknowledgments of the purpose of the collaborative project and how that affected the opportunities for CoPs to prosper (Johannesson, 2020). Furthermore, some studies assumed their interest in analysing negative or contrary findings for the CoP process. However, no negative or contrary finding were found from the available data, since the CoP experience was new and enriching to participants with an opportunity to share their professional experiences for the first time (Hunuk et al., 2012).

Therefore, we believe that researchers should address and report crucial information such as dilemmas faced in the intricacies of a social interaction process. Due to its problematic nature, challenges faced by CoP participants could engage researchers in the development of sustained solutions, which will contribute to a broader theoretical knowledge supporting CoPs development and inform PETE programmes.

Furthermore, regarding particularly the development of CoPs in PETE programmes context, results entail a major focus on the TEs development (MacPhail, 2011; Patton & Parker, 2017; Tannehill et al., 2015). Many benefits were pointed in the TEs professional development, such as, CoPs providing contexts for collaboration where teachers can extend their teaching capacities. Also, the fact that a common and shared purpose and shared commitment was, once again, pointed as relevant for ensuring CoP flourishing (Patton & Parker, 2017). Additionally, despite not revealing specific processes, literature entails directions for the development of TEs role as facilitators, highlighting the importance of establishing a balance between being a leader and expert, and simultaneously, comprehending and being sensitive to the group member's needs (Armour & Yelling, 2007).

However, in PETE context, the attention that research has been giving to the PSTs' development inside of a CoP structure is still scarce. Mainly, studies focus was on teachers' identity construction and how CoPs influenced PSTs development in PETE, however, without in-depth insights about the intricacies of the process. Moreover,

research denotes that in PETE, TEs and PSTs often engage in different and disconnected CoPs (Luguetti et al., 2019) which might happen due to the lack of literature support for their shared development. Adding this information to the previous reported fact that few unsuccessful CoPs are reported in literature made us believe that, assuming that this learning strategy has the means to promote PSTs development is little supported by empirical research. Furthermore, the fact that PSTs experience multiple enabling and constraining elements that can influence their professional development, adds further complexity to the development and cultivation of a CoP that calls for active social interactions with stakeholders that might have power over PSTs (e.g., TEs that have to evaluate PSTs). Accordingly, it can be argued that PSTs involvement in CoPs adds further complexity to the process of analysis of this collaborative structure and it is precisely in this point that information is scarce.

Additionally, when analysing the connection between CoPs and the development of SCAs, many scholars support the notion of CoPs being an effective learning strategy to pursuit pedagogical innovation (Goodyear & Casey, 2015). Here, authors pointed the relevance of the facilitator role towards positive engagement of the newcomers (e.g., PSTs) in the CoP (Yoon et al., 2021). Nonetheless, literature in this topic reinforced the importance of a well-structured and purposeful CoP (Calderón & Tannehill, 2021). Henceforth, we argue that PETE programmes would benefit from an investment not only in a professional development towards SCAs, but also in a knowledge base support from CoPs development. Namely, support strategies for mentors, planning and structuring process of CoPs domains and continuous moments of facilitation during the process that could be intentionally designed to support learning and based on the specific contexts of its occurrence.

Accordingly, PE teachers in every level of development must embrace and be full participants in existing CoPs or other social collaborative approaches, to establish the programmes they envision while working collaboratively (Beddoes et al., 2019). Moreover, it is added that success in the change process requires all stakeholders being ready to engage in change: prepared and willing to do what it takes to make effective change happen (Calderón & Tannehill, 2021).

Nevertheless, since most of the research on CoP as professional development learning strategy has focused of PE teachers, we reinforce that research is still needed to

address PSTs and how PETE programmes are designed to promote CoPs with learning intentionality. This would assist the renewal of PETE programmes designs to support, not only curriculum innovation but also, the means to achieve it.

Accordingly, this compels the rethinking of the organization and structure of professional learning in higher education, calling into question the necessity for meaningful reflection for true transformation in PSTs professional learning and practice and how that transformation could translate into their future practice toward educational change. Finally, we believe that literature will enrich if scholars invest on in-depth longitudinal studies (Hunuk et al., 2012) that follow the occurring transformations inside of a CoP and/ or reported the main challenges faced by members while engaging in it. This might help PE and PETE community to predict possible problems and avoid a theoretical romanticization of CoPs as a learning strategy that always works.

Funding

This work was supported by the Foundation for Science and Technology (FCT, Portugal) through the (SFRH/BD/141505/2018) grant awarded to the first author.

References

An, J. (2021). Learning to teach students with disabilities through community service-learning: physical education preservice teachers' experiences. *International Journal of Disability, Development and Education*, 68(3), 442-455.

Armour, K., Quennerstedt, M., Chambers, F., & Makopoulou, K. (2017). What is 'effective' CPD for contemporary physical education teachers? A Deweyan framework. *Sport, education and society*, 22(7), 799-811.

Armour, K. M. (2010). The physical education profession and its professional responsibility... or... why '12 weeks paid holiday' will never be enough. *Physical Education and Sport Pedagogy*, 15(1), 1-13.

Armour, K. M., & Yelling, M. (2007). Effective professional development for physical education teachers: The role of informal, collaborative learning. *Journal of Teaching in Physical Education*, 26(2), 177-200.

Atencio, M., Jess, M., & Dewar, K. (2012). 'It is a case of changing your thought processes, the way you actually teach': Implementing a complex professional learning agenda in Scottish physical education. *Physical Education & Sport Pedagogy*, 17(2), 127-144.

Barab, S. A., and T. Duffy. (2012). "From Practice Fields to Communities of Practice." In *Theoretical Foundations of Learning Environments*. 2nd ed. edited by D. Jonassen and S. Lund, 29–65. Routledge.

Barab, S. A., MaKinster, J. G., & Scheckler, R. (2004). Designing system dualities: Characterizing an online professional development community. *Designing for virtual communities in the service of learning*, 53-90. Cambridge University Press.

Beddoes, Z. E., Prusak, K. A., & Barney, D. (2019). Taking the helm: Physical educators managing change through professional learning communities. *Quest*, 71(4), 479-496.

Brown, T. D. (2011). More than glimpses in the mirror: An argument for self-study in the professional learning of physical education teachers. *Asia-Pacific Journal of Health, Sport and Physical Education*, 2(1), 19-32.

Calderón, A., & Tannehill, D. (2021). Enacting a new curriculum models-based framework supported by digital technology within a learning community. *European Physical Education Review*, 27(3), 473-492.

Casey, A., & Goodyear, V. A. (2015). Can cooperative learning achieve the four learning outcomes of physical education? A review of literature. *Quest*, 67(1), 56-72.

Collins, J. A., & Fauser, B. C. (2005). Balancing the strengths of systematic and narrative reviews. *Human reproduction update*, 11(2), 103-104.

Davis, B., & Sumara, D. (1997). Cognition, complexity, and teacher education. *Harvard educational review*, 67(1), 105-126.

Deglau, D., & O'Sullivan, M. (2006). The effects of a long-term professional development program on the beliefs and practices of experienced teachers. *Journal of Teaching in Physical Education*, (25), 379-396.

De Jong, O. (2013). Empowering teachers for innovations: The case of online teacher learning communities. *Creative Education*, 3(08), 125.

Fletcher, T., Beckey, A., Larsson, H., & MacPhail, A. (2020). Better aligning teachers' and teacher educators' needs, priorities and demands. *School Physical*

Education and Teacher Education: Collaborative Redesign for the 21st Century. Routledge.

García-Monge, A., González-Calvo, G., & Bores-García, D. (2019). 'I like the idea but...': the gap in participation in a virtual community of practice for analysing physical education. *Open Learning: The Journal of Open, Distance and e-Learning*, 34(3), 257-272.

Gillette, M. D., & Schiltz, B. D. (2008). Do you see what I see? Teacher capacity as vision for education in a democracy. In M. Cothran-Smith, S. Feiman-Nemser, D. J. McIntyre, & K. E. Demers (Eds.), *Handbook of research on teacher education. Enduring questions in changing contexts* (3rd ed.), 231–237. Routledge.

Gonçalves, L., Parker, M., Luguetti, C., & Carbinatto, M. (2021). 'We united to defend ourselves and face our struggles': nurturing a physical education teachers' community of practice in a precarious context. *Physical Education and Sport Pedagogy*, 1-14.

Gonçalves, L. L., Parker, M., Luguetti, C., & Carbinatto, M. (2022). The facilitator's role in supporting physical education teachers' empowerment in a professional learning community. *Sport, Education and Society*, 1-14.

Goodyear, V. A., Parker, M., & Casey, A. (2019). Social media and teacher professional learning communities. *Physical Education and Sport Pedagogy*, 24(5), 421-433.

Goodyear, V. A., & Casey, A. (2015). Innovation with change: Developing a community of practice to help teachers move beyond the 'honeymoon' of pedagogical renovation. *Physical education and sport pedagogy*, 20(2), 186-203.

Goodyear, V. A., Casey, A., & Kirk, D. (2014). Tweet me, message me, like me: Using social media to facilitate pedagogical change within an emerging community of practice. *Sport, Education and Society*, 19(7), 927-943.

Hattie, J. (2012). *Visible learning for teachers: Maximizing impact on learning*. Routledge.

Herold, F. (2019). Shulman, or Shulman and Shulman? How communities and contexts affect the development of pre-service teachers' subject knowledge. *Teacher Development*, 23(4), 488-505.

Herold, F., & Waring, M. (2018). An investigation of pre-service teachers' learning in physical education teacher education: Schools and university in partnership. *Sport, Education and Society*, 23(1), 95-107.

Hoadley, C. (2012). "What Is a Community of Practice and How Can We Support It?." In *Theoretical Foundations of Learning Environments*. 2nd ed. edited by D. Jonassen and S. Lund, 286–300. Routledge.

Hunuk, D. (2017). A physical education teacher's journey: From district coordinator to facilitator. *Physical Education and Sport Pedagogy*, 22(3), 301-315.

Hunuk, D., Ince, M. L., & Tannehill, D. (2013). Developing teachers' health-related fitness knowledge through a community of practice: Impact on student learning. *European Physical Education Review*, 19(1), 3-20.

Johannesson, P. (2020). "Development of Professional Learning Communities through Action Research: Understanding Professional Learning in Practice." *Educational Action Research*, 1-16.

Keay, J. (2009). Being influenced or being an influence: New teachers' induction experiences. *European Physical Education Review*, 15(2), 225-247.

Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge university press.

Le Ha, P. (2014). The politics of naming: Critiquing "learner-centred" and "teacher as facilitator" in English language and humanities classrooms. *Asia-Pacific Journal of Teacher Education*, 42(4), 392-405.

Luguetti, C., Kirk, D., & Oliver, K. L. (2019). Towards a pedagogy of love: exploring pre-service teachers' and youth's experiences of an activist sport pedagogical model. *Physical Education and Sport Pedagogy*, 24(6), 629-646.

Luguetti, C., Aranda, R., Enriquez, O. N., & Oliver, K. L. (2018). Developing teachers' pedagogical identities through a community of practice: Learning to sustain the use of a student-centered inquiry as curriculum approach. *Sport, Education and Society*, (24)8, 855-866.

MacPhail, A., Patton, K., Parker, M., & Tannehill, D. (2014). Leading by example: Teacher educators' professional learning through communities of practice. *Quest*, 66(1), 39-56.

MacPhail, A., & Tannehill, D. (2012). Helping pre-service and beginning teachers examine and reframe assumptions about themselves as teachers and change agents: “Who is going to listen to you anyway?”. *Quest*, 64(4), 299-312.

MacPhail, A. (2011). Professional learning as a physical education teacher educator. *Physical Education and Sport Pedagogy*, 16(4), 435-451.

McLaughlin, M. W., & Talbert, J. E. (2006). *Building school-based teacher learning communities: Professional strategies to improve student achievement*. Teachers College Press.

Oliver, K. L., Luguetti, C., Aranda, R., Nuñez Enriquez, O., & Rodriguez, A. A. (2018). ‘Where do I go from here?’: learning to become activist teachers through a community of practice. *Physical Education and Sport Pedagogy*, 23(2), 150-165.

Oliver, K. L., Luguetti, C. N., Aranda, R., Nuñez-Enriquez, O., & Rodriguez, A. A. (2017). *"OK, We Need Solutions": Learning to Be Student-Centered Activist Teachers*. AERA Online Paper Repository.

Oliver, K. L., Oesterreich, H. A., Aranda, R., Archeleta, J., Blazer, C., de la Cruz, K., ... & Robinson, R. (2015). ‘The sweetness of struggle’: Innovation in physical education teacher education through student-centered inquiry as curriculum in a physical education methods course. *Physical Education and Sport Pedagogy*, 20(1), 97-115.

Opfer, V. D., & Pedder, D. (2011). Conceptualizing teacher professional learning. *Review of educational research*, 81(3), 376-407.

O’Sullivan, M. (2013). New directions, new questions: Relationships between curriculum, pedagogy, and assessment in physical education. *Sport, Education and Society*, 18(1), 1-5.

O’Sullivan, M. (2007) Creating and sustaining communities of practice among physical education professionals. *Journal of Physical Education New Zealand*, 40(1), 10–13.

O’Sullivan, M. (2003). Learning to teach physical education. In S. J. Silverman & C. D. Ennis (Eds.), *Student learning in physical education: Applying research to enhance instruction*, 2nd edition, 275–294. Human Kinetics.

Parker, M., & Patton, K. (2016). What research tells us about effective continuing professional development for physical education teachers. *Routledge handbook of physical education pedagogies*, 465-478. Routledge.

Parker, M., Patton, K., & Tannehill, D. (2012). Mapping the landscape of communities of practice as professional development in Irish physical education. *Irish Educational Studies*, 31(3), 311-327.

Parker, M., Patton, K., Madden, M., & Sinclair, C. (2010). From committee to community: The development and maintenance of a community of practice. *Journal of Teaching in Physical Education*, 29(4), 337-357.

Patton, K., & Parker, M. (2017). Teacher education communities of practice: More than a culture of collaboration. *Teaching and Teacher Education*, 67, 351-360.

Patton, K., Parker, M., & Tannehill, D. (2015). Helping teachers help themselves: Professional development that makes a difference. *NASSP bulletin*, 99(1), 26-42.

Patton, K., Parker, M., & Neutzling, M. M. (2012). Tennis shoes required: The role of the facilitator in professional development. *Research quarterly for exercise and sport*, 83(4), 522-532.

Penuel, W. R., Fishman, B. J., Yamaguchi, R., & Gallagher, L. P. (2007). What makes professional development effective? Strategies that foster curriculum implementation. *American educational research journal*, 44(4), 921-958.

Rossi, A. J., & Lisahunter. (2013). Professional spaces for pre-service teachers: sites of reality, imagination and resistance. *Educational Review*, 65(2), 123-139.

Sachs, J. (2001). Teacher professional identity: Competing discourses, competing outcomes. *Journal of education policy*, 16(2), 149-161.

Sirna, K., Tinning, R., & Rossi, T. (2008). The social tasks of learning to become a physical education teacher: considering the HPE subject department as a community of practice. *Sport, Education and Society*, 13(3), 285-300.

Strom, K. (2015). Teaching as Assemblage: Negotiating Learning and Practice in the First Year of Teaching. *Journal of Teacher Education*, 66 (4), 321–333.

Strom, K., & A. D. Martin. (2016). Pursuing Lines of Flight: Enacting Equity-based Preservice Teacher Learning in First-year Teaching. *Policy Futures in Education* 14(2), 252–273.

Tannehill, D., & MacPhail, A. (2017). Teacher empowerment through engagement in a learning community in Ireland: Working across disadvantaged schools. *Professional development in education*, 43(3), 334-352.

Tannehill, D., Parker, M., Tindall, D., Moody, B., & MacPhail, A. (2015). Looking across and within: Studying ourselves as teacher educators. *Asia-Pacific Journal of Health, Sport and Physical Education*, 6(3), 299-311.

Vangrieken, K., Meredith, C., Packer, T., & Kyndt, E. (2017). Teacher communities as a context for professional development: A systematic review. *Teaching and teacher education*, 61, 47-59.

Watson, C. (2014). Effective professional learning communities? The possibilities for teachers as agents of change in schools. *British educational research journal*, 40(1), 18-29.

Wenger, E. & Wenger-Traynor, B. (2015). *Communities of practice: A brief introduction*. <http://wengertrayner.com/introduction-to-communities-of-practice/>.

Wenger, E., McDermott, R., & Snyder, W. M. (2002). *Cultivating communities of practice: A guide to managing knowledge*. Harvard Business School Press.

Wenger, E. (1998). Communities of practice: Learning as a social system. *Systems thinker*, 9(5), 2-3.

Yoon, K., Lee, C., & Jung, H. (2021). Creation of an instructional model in a community of practice and its impact on relationships between members. *Physical Education and Sport Pedagogy*, 26(5), 504-516.

Yoon, K., & Armour, K. M. (2017). Mapping physical education teachers' professional learning and impacts on pupil learning in a community of practice in South Korea. *Physical Education and Sport Pedagogy*, 22(4), 427-444.

You, J., Lee, E. J., Craig, C. J., & Kim, H. S. (2018). Exploring professional learning styles of beginning physical education teachers in learning community. *The Asia-Pacific Education Researcher*, 27(5), 419-429.

CHAPTER IV – EMPIRICAL ARTICLES

4.1. EMPIRICAL ARTICLE 1

Becoming an ethnographer in a Physical Education Teacher Education culture: a challenging self-knowledge journey

Valério, F.¹, Farias, C.¹, & Mesquita, I.¹

¹ Centre for Research, Education, Innovation and Intervention in Sport (CIFI²D), Faculty of Sport, University of Porto, Portugal.

Published in Sport, Education and Society (2022)

Abstract

The aim of this article is to uncover a transformative journey of a novice ethnographer, as she encountered the field of ethnographic research in a Physical Education Teacher Education culture. Particularly, through an analytical autoethnography, this study will present crucial experiences recognized as fieldwork dilemmas and encounter the strategies developed in order to address them.

Data was generated through a field diary and a reflexive log from participant-observations, Pre-service Teachers classes, formal and informal group meetings and conversations that occurred during the 8-month internship in a school context.

The findings are mainly theorized through the Foucaultian lens of power and knowledge, governmentality, ethics and care of the self, Lofland et al. (2006) strategies of 'Getting along' in the fieldwork and the importance of the role of 'Critical friends'.

The conclusion emphasizes: the novice ethnographer self-assumptions about fieldwork; confrontation with the researcher natural desire to intervene and how this aspect was managed by purposely unplugging those desires; how the 'access' bounces were understood and how they were used in her benefit to generate information; and, how she dealt with failure in materializing the initial expectations of the project. Finally, this study intends to motivate other novice ethnographers to do self-analysis through autoethnography during their research journey, in order to help gather better insights of their practice and enrich their research quality.

Keywords: Novice ethnographer, Autoethnography, Physical Education Teacher Education

Introduction

Reflexive log, 12 October

While we were watching one of the Pre-service Teachers (PSTs) in action (teaching one of the classes), the Cooperative teacher (CT) told me many things about how he thought the PSTs' internship process should be carried out, as well as his personal opinion regarding the teaching competence of these particular

PSTs. It was something spontaneous and I felt he was giving me an honest opinion...I did not even have to ask him anything! That made me wonder about the power of such 'easily' delivered ideas. At that moment, I knew that a journey was about to begin and, I felt more relaxed in the midst of all the doubts that I clogged in my thoughts. Despite of that, there was still a question posed in my head: why is he anticipating my questions? Does he have something to prove? Why did he care so much about showing me that?

In the beginning of my fieldwork as an ethnographer, I felt the overwhelming power of doubting myself and most of my observations, even when the information was simple and clear. I kept questioning the meaning of everything, despite believing that I would be able to maintain a naturalistic perspective, which presupposes embedding myself in a culture analysis, without any intervention on the spontaneous occurrence of the events (Denzin, 2006). Developing my field analysis skills turned out to be more complex than I expected, as I was required to grapple with a number of issues that I had not anticipated. Being confronted with the complex and intricate Physical Education Teacher Education (PETE) culture settings, and the demand of the ethnographic methodology features, I soon realised the impact that turning myself into an object of study could have in my research development. Specially, acknowledging that I recently had experienced myself the same PETE program and that this could be a relevant feature in my engagement on this self-analysis.

Although I would strive to ensure that meanings were as much a function of the participants' construction, reconstruction and reflection, I had to recognize that meaning would be, in some degree, a function of the participants' interaction with me, the 'instrument' (Fernandez-Balboa & Brubaker, 2012, 2009; Seidman, 1998). In this article, instead of decrying the fact that the instrument used to generate the data affects the process, I have assumed that the human can be a smart and adaptable instrument who can respond to situations with skill and, for that reason, I engaged in a self-reflection related to those challenges (Chang, 2016). Furthermore, I acknowledge that careful attention to the role of the researcher is widely regarded as a quality mark in ethnography. Ethnography commentators encourage researchers to consider how their background influences their interpretations of people's behaviour and to acknowledge that their presence may affect the very phenomena being studied (Reeves et al., 2008).

Ellis et al. (2010) study to introduce autoethnography in the field of research in education,

have led to the increase in references to this methodology in published articles, revealing their contributions for research in numerous pedagogical practices (Enriquez & Oliver, 2021; Varea, 2019; etc.). Nonetheless, apart from Sperka (2018) and Lynch and Kuntz (2019) there is a dearth of published studies from Doctoral students in a PETE field, documenting their research journey, fact that also sparked my will of starting to think about my own involvement on the process.

Accordingly, through an analytical autoethnography, the aim of this study is to uncover a transformative journey of myself, as a novice ethnographer, as I encountered the field of ethnographic research in a PETE culture. This study sought to reveal a sight of the metamorphosis process, by identifying crucial experiences that I recognised as challenges and how I developed strategies to suppress them. This work is an ongoing self-analysis about what concepts helped me recognize my fieldwork dilemmas. Importantly, in following a naturalist perspective, there were no pre-programmed strategies but instead, these emerged as I conceptually reflected on the dilemmas as a self-analysis avenue to improve my autoethnography journey.

Analytic autoethnography

According to Anderson (2006), analytic autoethnography refers to ethnographic work that has the following five key features: complete member researcher status, analytic reflexivity, narrative visibility of the researcher's self, dialogue with informants beyond the self, and a commitment to theoretical analysis.

This methodology required me to be visible by spending time enrolled with the participants in all of their activities related to PETE in the school environment; active in the role of participant-observer interacting with the participants; and reflexively engaged in my own experience and how that could have been influential on my data generating and future analysis (Anderson, 2006).

For this reason, I defined the purpose of engaging in an analytic ethnography “not simply to document personal experience, to provide an ‘insider’s perspective’, or to evoke emotional resonance with the reader” (Anderson, 2006, p. 386). Rather, I intended to use empirical data to gain insight into some broader set of social phenomena than those provided by the data themselves. Despite acknowledging that the autoethnographer is the inventor and executor of their own process, in most of the autoethnographic works, the

reader is not aware of how the research is conducted. Chang (2016, p. 448) argued that autoethnographic research ‘must explicitly describe and reflect on the research process’. As I believed this could be an important feature of my own development as a novice researcher, I will share my process.

Hence, the generated information derives from participant-observation, a field diary and a reflexive log that I maintained after each day events. Furthermore, I engaged in the process of data analysis simultaneously with the data collection, within constant-comparative grounded theory (Glaser & Strauss, 1967), particularly by adopting the Charmaz (2006) analysis procedure. Firstly, I engaged in an ‘Initial coding’ with a line-by-line coding strategy, followed by a ‘Focused coding’ phase where I selected the most prominent codes of the initial phase (e.g., codes related to my fieldwork experience, my feelings as an ethnographer, etc.). Through this process, I started to code on more larger segments of data and being more selective and direct (e.g., challenging moments, dilemmas, struggles on fieldwork). Lastly, I engaged in a process of ‘Theoretical integration’ where the previously identified categories were integrated with theoretical concepts (e.g., Foucault concepts related to my fieldwork struggles and Lofland et al. (2006) strategies for the way I handled them). Grounded theory privileges the data and the field of study, which allowed me to constantly construct supported assumption of the events (Charmaz, 2006).

Research paradigm

This research is situated in the interpretative paradigm which argues that interpretation, and knowledge is only considered significant as it is meaningful to stakeholders (Smith & McGannon, 2018). In this methodological umbrella, a social constructionist perspective was used. This espoused a Foucault framework as it posits that there is no true genesis of the self, only continuous reconstitution, which makes the self a societal product (Al-Amoudi, 2007). This perspective emphasises that ‘reality is socially constructed’ (Mertens, 2005, p. 8) which means that ethnographers working within a socio constructionist perspective advocate for an insider perspective of the culture in study and do not engage in an objective and external positions.

Furthermore, this research was reinforced by a personal search towards a relativist ontology (a belief that there are multiple social realities) (Holstein & Gubrium, 2013).

Moreover, a naturalistic set of methodological procedures were employed, since the goal of the researcher was to understand how individuals construct their own reality within their social context (Thyer, 2009) and focus on an authentically lived experience in their natural setting (Denzin, 2006).

Research quality and methodological rigour

Regarding research quality, this study was guided by a relativist perspective (a belief that there are multiple social realities) (e.g., Holstein & Gubrium 2013; Sparkes & Smith, 2009). Therefore, I engaged in a process of dialogue with ‘critical friends’, that accompanied me throughout the process, as they were also involved in this project as my supervisors in the research team (second and third authors). One of them was also the University Supervisor (US) of the PSTs that I followed during this project, which saw the process from an external perspective and, another who knew the participants and often engage with the participants. These individuals encouraged my interpretation by collaboratively dialoguing about the different perspectives of the data, the interactions between the participants and, also, supported critical reflection about my role as an ethnographer and the potential influence of my self in the fieldwork. Moreover, I also considered some specific interactions with the ‘critical friends’ a strategy for problem-solving (see ‘Facing reality and dealing with ‘failure’).

It is hoped that this study is judged on whether it makes a meaningful contribution to the field of PETE. The main intention is to demonstrate that the reflective narratives represented in this study deepens our understanding of how a novice ethnographer might have experienced PETE cultures, particularly in school placement.

In this study, ethical approval was sought from the University Ethics Committee. Confidentiality was assured for all individuals within the study as no real names were included, and no information that may lead to the identification of any individual was used (Silverman, 2016).

Foucauldian perspective on myself analysis

The McCuaig (2007) study revealed that Foucault’s ideas could be used valuably

by PETE scholars in facilitating them to comprehend their process of becoming researchers. As McCuaig (2007, p. 290) states ‘Since discovering Foucault’s work, I have grappled with the resources he provides to make sense of complex and shifting terrains and in the process, I have been both captivated and charmed.’ Similarly, while I was uncovering the fieldwork problems I was facing, Foucault’s ideas supported my comprehension of the continuous transformations I was experiencing as a novice ethnographer.

Since the main aim of this study was to interpret the PETE culture interactions and experiences in light of the ethnographer perspective, this article will draw on a very brief depiction of some main characteristics of a Foucauldian conceptualization of power and knowledge, governmentality, ethics and care of the self. Therefore, I would like to bring some ideas to the forefront, that I see as particularly pertinent in order to address my own interaction with a PETE culture, PSTs and SCAs research questions.

Starting with power and knowledge domains, Foucault (1980, p. 52) ascertain that ‘it is not possible for power to be exercised without knowledge, it is impossible for knowledge not to engender power’. For instance, power in an education program does not merely flow from the top-down. On the contrary, it circulates in a relational fashion through PETE programs, with the PSTs and their supervisors or in the relation of teacher-student (Foucault, 2008).

Additionally, Foucault (1995) expresses about discourses, which he believed that encompassed more than just what is said, they are also about what is thought, who can speak, when and with what authority. This notion will be helpful to uncover the limits of my participation on the research field since the meanings of discourses are not limited to spoken language but arise from institutions and those power relations.

Moreover, Foucault’s concept of governmentality feature is a form of governance that presupposes that individuals are co-actors in their own governance, that is, ‘a form of activity aiming to shape, guide or affect the conduct of some person or persons’ (Gordon, 1991, p. 2). According to Foucault (1991), self-governance involves the ways in which individuals learn, apprehend, judge, and regulate themselves in relation to what is generally accepted. One aspect in which the subject is not entirely self-creating, is in its use of techniques and models that are simultaneously suggested and imposed on it by its own culture to constitute itself (Youdell, 2006). Self-governance concept will be essential to comprehend how a PETE background could influence the ethnographer

perceptions about another different context.

This could unveil some ethics concerns. Foucault and several contemporary thinkers recognize that we cannot escape from social structures, regulatory institutions and the normalizing discourses in which we are constituted. Yet we can identify and understand some of them and discover self-care tactics to fashion ourselves in ethical ways that maximize the aesthetics of our existence (Foucault, 1998). Throughout the results, I will use this concept to clarify how I engage in self-care tactical strategies to maintain my ontological position.

Strategies for confronting my fieldwork struggles

The struggles I encountered during fieldwork were similar to what other ethnographers faced during their research. Regarding this issue, many qualitative scholars have reported different types of strategies for dealing with those fieldwork dilemmas. In my case in particular and giving my proximity to PETE, I founded helpful support my fieldwork with Lofland et al. (2006, p. 54) interactional strategies for ‘getting along’. According to these authors, fieldwork strategies can be organized into two types in order to build access, rapport and trust.

First, strategies to ‘facilitate the development and maintenance of field relations’ which could be presentational or exchange (Lofland et al. 2006, p. 68). Hence, presentational strategies encompass techniques to adopt a fieldwork identity for purposes of building rapport with informants, such as ‘nonthreatening demeanor’, ‘acceptable incompetence’ and selective competence’. Additionally, exchange strategies that are mechanisms of providing assistance to informants in exchange for access to field sites.

Secondly, strategies to ‘control relational closeness’ focus on how researchers can ward off anticipated fieldwork dilemmas that could be through ‘preemption’ (Lofland et al. 2006, p. 73) or ‘finessing’ to avoid participation in certain tasks. According to Lofland et al. (2006), preemption is one strategy to ‘ward off these offers of inclusion before they begin’.

While exploring the results, I will use these concepts in order to explain my strategic choices of dealing with the issues I faced.

Research context and participants

The PETE program where I developed this ethnography was structured as a two-year course that I followed entirely during my doctoral project. In the first year of my data collection, I was either present in first year classes and, also, accompanying a group of PSTs in a school placement. The purpose of my involvement as a participant-observer in this school placement was to prepare myself to deeply understand the PETE features and work on my development as a researcher. The aim of this pilot-study was to have a first real fieldwork experience before follow-up a group of PSTs for the entire PETE program. This present study is the mirror of that first school placement experience.

In this PETE program, the first year is when PSTs learn about SCAs and how to teach these approaches, by studying the concepts and exploring them in practical classes as students, and also, as teachers through peer-teaching and collaborative microteaching to primary students. In the second year, PSTs engage in a full year of teaching practicum internship in a school, supported by a supervising team from the faculty (US) and the host school (CT).

Each PST was assigned full responsibility for teaching a class, whereby they engage in all the necessary teaching activities: from planning to implementing suitable learning activities which are aligned with the curriculum guidelines, consequent assessment and continual reflection about their professional development and teaching ‘upbringing’. To provide further context, in the first year of the PETE course, the PSTs are trained to teach through the implementation of SCAs. Therefore, during the second year’s school placement, there are strong institutional expectations (namely, from the US) that the PSTs implement these models in their classes.

The data collection occurred throughout an eighth month period; the entire duration of the PSTs’ school placement. During this time, the PSTs’ professional development was mediated through day-by-day supportive supervision from the CT and regular lesson observations from the US. Moreover, the entire team, including me, met on a weekly basis to engage on collaborative reflection about the PSTs’ pedagogical practice. Based on the events taking place during the PE lessons taught by the PSTs, there was debate on the level of compliance between proposed tasks (planning, reflection, evaluation) and PSTs’ practice and discussion about further issues related to their internship practice. As a participant-observer ethnographer, I was present in all the

moments described above and also in several informal social interaction moments such as hall conversations, after work meetings, etc.

Hence, this autoethnography is based on my ethnographic work that took place in the second year of the PETE program, specifically in one of the practicum internship contexts. Therefore, the participants in this particular socio-cultural educational milieu were three PSTs, one CT of the host school, the PSTs' US and myself, as an Ethnographer. In this study, PETE is considered a culture because all the participants shared the same school context, learning opportunities, pursued similar aims and interacted with each other along the process in order to achieve professional development.

Perceiving problems and encountering solutions

Unable to escape from my Self

With respect to background influences, it is important to have in consideration the fact that my experience as a PST was done a short time ago (2 years ago), which in this case facilitated my initial interaction process with the PSTs, as they saw me as almost an equal in my connection to their professional development process. Mostly, by understanding that I was not far from experiencing the same struggles. However, I was equivalently aware that, if I opened doors to a channel of total trust, they could stop seeing me as a researcher. Instead, the risk was they could find grounds to judge me if I disclosed personal opinions that were not aligned with their own ideas. Anchoring or distancing one's self from either a researcher's or a participant's position is thought to facilitate greater research access to the context of study and building rapport with the participants. It is argued, such ethnographic facets help the researcher in the process of managing their expectations and ethical problems (Castellano, 2007). In my case, in facing the PSTs' loose and uncommitted attitude toward their school placement responsibilities, one attitude (arguably) depicting a low involvement in the process, at least, according to my anticipated standards, turned out to be a trigger of my analysis of their behaviour. The contrast between what I previously acknowledge as the 'right' attitude, made it extremely hard to manage my expectations. Quite often, I felt the urge to help them to succeed in their practice and instead, I suppressed those feelings, to decide how much of self-disclosure would be appropriate or fruitful (Hammersley & Atkinson, 2007).

Reflexive log, 18 November

The challenge when I arrived at school was not so much the ability to merge with the scenario or start the interaction process. The main challenge was to understand what position as an ethnographer should I adopt, so that the PSTs did not see me as a possible evaluator. The challenge was to face the fact that they were totally unconcerned and couldn't understand the reason behind it. Soon, I've started to realise that they were tangled in their formation process, not worrying about their own students. Realising that, was frustrating! I could not believe they were missing this huge opportunity of working hard to teach in a real school context! Surely, I wanted to help them to get better in the process, because they still had the time to change, and improve themselves till the end.

This bouncing between confidence levels and dealing with the fear of losing access made me question my form of interventions along the process. Although, in ethnographic approaches data collection is, for the most part, relatively 'unstructured', it does not involve following through a fixed and detailed research design specified at the start (Hammersley & Atkinson, 2007). In an initial phase, due to not having a predefined structure to rely on, most of my observations were based in an unconscious comparison with my own process, and with the pre-established PETE norms of evaluation for the level of development of the PSTs.

This calls for a Foucauldian perspective of power (Foucault, 1980), which asserts, 'it does not manifest itself in apparent ways but rather as an ephemeral entity that manages its way into our imaginations and acts to discipline our actions'. Certainly, staying away from the idea of interfering and remaining in an observation territory, was something that I truly had to remind myself, to maintain my path towards significant inside information, not only in the beginning but along all the way. Most of my data about myself reveal a clear frustration of remaining observant in a context where I thought that my help was needed. Despite knowing that intervening would not benefit my research, my previous beliefs of what a physical education teacher should be, the type of work that they needed to develop and how important it was for their student's improvement, encouraged my desire to participate as a helper in most of the situations. This could possibly be a strong manifestation of power that I retained during my own educating development throughout the years, and it could also be the reason for my ontological position self-doubts.

Lofland and Lofland (1995, p. 46) pointed that being a researcher can be an emotionally stressful experience and sometimes it is necessary to deal with ‘getting along with self’ and the emotional stress that we may experience in the fieldwork. One of the common situations of emotional stress pointed by the authors is ‘sympathy and the impulse to help’ (p. 51). As referred by Castello (2007, p. 705) ‘The ethnographer must not only understand and record the lived experiences of the research subjects, but also, and perhaps as important, the ethnographer must undergo the social process of “learning how to be” in the field.’

Confronted with the desire to intervene and possibly ruin my naturalistic intentions with my participation in this ethnography I started to engage in my first strategy in order to build rapport and maintain trust with the participants. I engaged in my first technique of adopting a fieldwork identity of a ‘nonthreatening demeanour’ to “keep the flow of information coming” (Lofland & Lofland, 1995, p. 55). This strategy made my position as a participant observer nonthreatening, non-judgmental, nonconfrontational and non-argumentative but supportive and committed. Despite maintaining the urge to help the PSTs getting better, I managed to be in a position where my participation did not disrupt the natural flow of the events, putting my research interests in front of my emotional stress battles.

Distortions powered by overthinking

Reflexive log, 21 January

Before the class started, I had an informal conversation with the PSTs. They told me they were upset because they knew they were going to get worse grades than those who did less than they did. As if they were telling me that they produce a lot in relation to the other internship centres, as if they were required more than their peers. They also said that they thought the internship standards and the work requested should be standardized - so everyone does the same thing - and set the example of having to stay at school ‘every day’ to observe their peer’s classes, while PSTs in other groups didn’t. The discourse of victimization in the face of responsibility, made me feel so anxious that my only desire was to make them understand that each context of teaching and learning is different because of its own features and, therefore, they should not be asking for equality, but

rather equity. Despite those intense feelings, I managed to remain calm, showing a position of someone who were there up and foremost for listening their problems.

In truth, I never found it too difficult to reach any of them to find out what their understanding of the process was. My position focused on the struggle to understand their weak performance and, although I previously knew that intervening and changing the natural course of events. I already had adopted a ‘nonthreatening demeanour’ strategy, but by this time, I was overthinking how to remain in that position. Evoking Foucault definition of discourses (Foucault, 1995), it was clear that I had to make an effort to remain out of intervention, but also, that those discourses were powered by my previous power relation to the PETE institution. Reflecting on my deep self-desires and, despite knowing that this was not my role, I always felt I had the means to alert them and explain how their performance could compromise their students' learning process as well as their own teacher training. This could also raise some ethical questions once I was not capable to escape from my past social structure or regulatory institution knowledge that innately constitutes me.

For that reason, I arranged my own self-care tactics (Foucault, 1998), by unplugging my natural desires from the participants, in order to remain in a comfortable ethical position throughout my fieldwork. Assuming a stance similar to what previous authors have described as ‘selective incompetence’ (Lofland et al., 2006, p. 70) or ‘becoming a nonexpert’ (Castellano, 2007, p. 712) was a tactical move that I used to gain access to PSTs’ thoughts about their lived experiences. Often, I’ve chosen to remain in a listener position, to avoid bringing up my rough judgments. For that to happen, it became clear, that I had to rethink my actions to suppress feelings and expressions that could reveal my perceptions, ultimately affecting my position as a researcher. Side by side with the PSTs, I was also a novice. Therefore, I soon realized the best way to acquire some sense of the social structure of the settings and begin to understand the culture of the participants, would likely be through watching, listening, inquiring, formulating hypotheses and making blunders (Hammersley and Atkinson, 2007).

Field diary, 25 January

I asked him (PST) to explain me what strategies he would use if he had to change the game form and maintain the skill levels. I was careful to no telling him

explicitly that these are usually the main constraints to PSTs group's ability to design learning activities truly aligned with the pedagogical principles of the SCA they were trying to implement.

Throughout the process, whenever I wanted to introduce a subject, I inquired to challenge them to address certain topics putting myself in a position of a learner. However, always avoiding being too specific, always bringing examples directly related to events in their practices, in order to neutralize any possible feeling of evaluation. By engaging the PSTs in both the representation and interpretation of the visual material, I attempted to encourage meaning-making grounded in their own specific context (Allen, 2008).

The 'selective incompetence' strategy was a beneficial for establishing distance from both my researcher and participant roles in the field and also to remain distant of my identified tendency to help and intervene. By 'becoming a nonexpert', I used informal interviewing methods to understand what was motivating the PSTs attitude towards PETE.

The door guardian

One of the fundamental facets of my introduction into this particular culture was the CT which proved to be fundamental for my understanding of the context. My integration both in the internship group and with the other school's teachers was the upholder to feel at ease in space, to be recognized as an integral part of the team. It allowed me to start feeling that I was there to complement the group instead of merely analysing it.

Although the CT was the main actor when it comes to who facilitated my integration in this context, I also noticed countless times that before intervening, he insisted on telling me what he was going to say, which, inevitably, prepared me for the next moments of group conversations.

Reflexive log, 3 February

The CT always talks to me about these interventions that he is going to make. I started to realize that almost every time we had a class observation, he revealed the specific situations that he would mention to them later in the context of a meeting. It sounds like he wants to make me a part of his own statement.

Continuously, this type of interventions started to be more present, and I had some difficulties in understanding the true intentions behind it. I was aware that I could possibly face some gatekeepers, which means, actors with control over key resources of opportunity (Hammersley & Atkinson, 2007). As a possible gatekeeper, the CT could exercise control during key phases of my introduction as a novice. He appeared to be available, supportive and, for that reason, almost at the end of the year, I started to connect some acting patterns that confirm some of my initial perceptions.

Reflexive log, 7 May

I am beginning to understand that the CT transmits information to me, almost as a prior justification for my case analysis, as if it was an alert for my future interpretations. I also started to identify some solid personal preconceptions and ideas that he had as a way to present some knowledge content about the teaching-learning process.

Some of the CT's intentions towards me, such as the fact that he directly pointed out some aspects that he considered to be class failures, leave me with the perception that he intended to show me directly what he considered important to manage in relation to the PSTs development process.

When I realized that the CT's way of acting on this issue had a constant pattern, I accepted the idea that this might be something that could turn the flow of the events. In fact, instead of ignoring it, the recognition of this behaviour allowed me to choose how I intended to react.

Therefore, I assumed that, by not questioning his statements on a large scale, I was also giving him the opportunity and space to act as much naturally as possible. Also, it was not clear if he was acting as a sponsor or a gatekeeper. I actually felt sometimes that he could be performing a well sheltered gatekeeper under a sponsor cover.

Reflexive log, 29 March

At this moment I had some fears about the type of interventions I was making or questions I was asking. I was afraid that this could close doors for me in the future, so I chose to gradually gain their trust. The CT started inviting me to have coffee with other school teachers, integrating me in their routines, which

was really comforting, but, at the same time, was pushing me to be less time with the PSTs and more time listening to his own opinion about them.

Many hosts have highly inaccurate expectations about the researcher enterprise, specially of ethnographic work (Hammersley & Atkinson, 2007). Therefore, the type of integration that the CT advocated was bringing me to their side, showing that, despite of everything, he was always holding the position of control. Once again, power issues arise (Foucault, 1980), when I understand that the CT could be acting in order to make me believe in his teaching process. In that moment, the question of how I had been looking to the PSTs work arises, which made me wonder if I had been pushed by another cover for my way of seeing what was happening.

Field diary, 13 May

I told the CT that I have some questions for the PSTs and asked him if I could present those questions right after class because I was running out of time in order to be in my next appointment at the university. I knew after that class and right before our meeting he used to take a coffee break, and this was my chance to be alone with them (PSTs).

I was often asked to participate in activities with the CT and the other school teachers in the class breaks, which I believed that could denounce my researcher status and possibly compromise PST's trust in me. This triggered a change into my fieldwork approach, as I assumed that I had to condone with the CT will of pulling me to their side, and at the same time, find ways to catch up with the PSTs, without him around. According to Lofland et al. (2006, p. 73), preemption is one strategy to 'ward off these offers of inclusion before they begin'. Hence, I used the opportunity that the CT was giving me to justify why I could not participate in some of the activities, by advocating the lack of time to finish my work. This strategy allowed me to differentiate moments with each participant, which allowed the understanding of each one's assessments of the cultural contexts. By engaging in this balanced time with each participant and differentiating their ideas from each other, I was able to identify vast contrasting ideas between them and this was definitely, another important moment of change for me.

Facing reality and dealing with ‘failure’

The analysis of the extent to which the PSTs were contributing for renovated practices in physical education through the implementation of SCAs was the core purpose of my involvement in this ethnography. Realising that these PSTs deliberately choose to espouse the traditional direct instruction-based teaching in alternative to the implementation of the SCAs models was a remarkable moment for me. Not only because I considered that my data collection would lose ‘richness’ in relation to the ultimate goal of my PhD, but mostly, because I did not know what to look for from that moment on. By that time, I felt overwhelmed by the heavy feeling of frustration for focusing my efforts on working on something that did not let me accomplish my initial plan. I felt momentarily lost, as my ultimate purpose was vanishing into thin air. Obviously, the major issue was learning to deal with such unfulfilled pre-expectations.

Reflexive log, 19 May

When I left the class, and still haunted by contradictory feelings, I thought I might be making hasty judgments regarding the contrast between what they said they would do in relation to build the teams and each student roles in it, the class organization, how competitive moments would be important in class motivation and what actually happened, which was ...nothing close to the expected! I needed something to calm me down and avoid revealing my feelings of frustration, so I decided to call the US (‘critical friend’) and expose to what I had just experienced, in order to understand if I was still seeing the facts clearly, or if the school environment was actually causing me difficulties in the real perception of things.

This was a turning point that gave me the ultimate proof that the phenomenon of PETE is highly spontaneous, specially, when the research aim has no interventionist intentions, highly situated in an interpretivist paradigm, as it was the case of this ethnography. During the process, I was clearly focussing my efforts on searching for something that I really wanted to happen. As stated by LeCompte and Schensul (2010), one of the distinguish features between ethnography and other social sciences is that ethnographic researchers cannot control what happens in their ‘field’ situation of choice and such lack of control over the field setting is a problem that often affects ethnographers. This overwhelming

expectation shadowed other rich possibilities, since I was not able to look for the unexpected as an opportunity to appreciate a natural social experience in its naturally occurring environment. According to Foucault's (1991) concept of self-governance, I was judging the scenario and regulating myself in relation to my background and previous prospects about this project, which was influencing my overall perceptions.

While recognizing this struggle, I appealed to the support of a methodological resource by sharing those acknowledgements with my 'critical friends' and 'used' them as a valuable strategy to further develop my positioning. As stated by MacPhail et al. (2021, p. 1) 'a critical friend is invested in the successful outcome of the work and improvement of the individual. They are not an impartial bystander but are indeed part of a friendship based on mutual respect and trust.' Despite of acknowledging the support of the 'critical friends' is a essential methodological feature, I understood that they also can not be taken as granted in the process. Moreover, MacPhail et al. (2021) recognized that it is still a lack of direction on the specific tasks a critical friend should be expected to conduct. For that reason, I had to be the one making the efforts to open space for discussions and reflections about the events of the practice, mostly by recognizing that I was the one experiencing them. Fortunately, my 'critical friends' were also my PhD project supervisors so they 'understood the context', 'dedicated time and energy' and we also had a 'trusting relationship'. This allowed a fluid relation between 'support' and 'critique' (MacPhail et al., 2021), thus avoiding precipitation into conclusions. Hence, it also, helped me to not get involved when I did not find what I initially considered essential to seek. This allowed me to broaden my overview of the process, allowing me to open my eyes for rich information, at a time when I was focused and worried about details.

My contribution: from a novice ethnographer to novice ethnographers

This autoethnography presents the journey of a novice ethnographer in the field of PETE research and supports the notion of the researcher development throughout self-analysis (Fernández-Balboa, 2009). I now recognise that ethnographic research is hard. It is tiring, intellectually challenging, demands a high level of engagement, and at every stage crisis can arise. Precisely for those reasons it is worth persevering all the insights that can be extracted from reflexive writing about our own process of development to help us chart a path. As Delamont (2009) posits, retreating into autoethnography is an

abrogation of the honourable trade of the scholar. Novice ethnographers should acknowledge that it is impossible to be fully prepared for each and every research encounter and put in place strategies to address uncertainty (Ledger, 2010). By reflecting on our practice and analysing our position on different types of situations, confronting ourselves with crisis, managing frustration and understanding our relationship with others, could possibly be the most fundamental aspect to start a career as an ethnographer.

The intention of pursuing a naturalistic research often prevents us to prepare for the backlash of fieldwork culture phenomenon that could possibly turn into strong issues that we have to face in order to maintain our research aims. As Lonfland and Lonfland (1995, p. 47) pointed ‘there is obviously no way to catalogue every source of emotional or psychological difficulty ever encountered by fieldworkers. Such a cataloguing probably would not be very useful anyway and would certainly discourage many people from even attempting naturalistic research’. As a novice ethnographer that faced the fieldwork without strategies prepared and understanding that each culture is different in almost every aspect, I do think that it is important to engage in a process of deep reflection when discovering your role as a researcher. As mentioned by Hammersley and Atkinson, (2007, p. 80) ‘the crucial difference between the ‘lay’ novice and the ethnographer is that the latter attempts to maintain a self-conscious awareness of what is learned, how it has been learned, and the social transactions that inform the production of such knowledge’.

For this reason, I emphasize the importance of maintaining a reflective diary that contains a vision about our own performance as ethnographers. Moreover, start analysing the data at an early stage of development in order to unravel internal conflicts. For that, count on the collaboration of 'critical friends' who can not only support us but also, help question our way of being in the process. Having established these parameters, the way to find suitable strategies to solve our problems becomes easier and perhaps more appropriate than learning about those strategies before facing them.

Funding

This work was supported by the Foundation for Science and Technology (FCT, Portugal) through the SFRH/BD/141505/2018 grant awarded to the first author.

Disclosure statement

No potential conflict of interest was reported by the authors.

References

- Al-Amoudi, I. (2007). Redrawing Foucault's Social Ontology. *Organization*, 14(4), 543-563.
- Allen, L. (2008). Young people's 'agency' in sexuality research using visual methods. *Journal of Youth Studies*, 11, 565-577.
- Anderson, L. (2006). Analytic autoethnography. *Journal of Contemporary Ethnography*, 35, 373-395.
- Castellano, U. (2007). Becoming a nonexpert and other strategies for managing fieldwork dilemmas in the criminal justice system. *Journal of Contemporary Ethnography*, 36(6), 704-730.
- Chang, H. (2016) Autoethnography in Health Research: Growing Pains? *Qualitative Health Research*, 26, 443-451.
- Charmaz, K. (2006). *Constructing grounded theory: A practical guide through qualitative analysis*. London: Sage.
- Delamont, S. (2009). The only honest thing: autoethnography, reflexivity and small crises in fieldwork. *Ethnography and Education*, 4(1), 51-63.
- Denzin, N. K. (2006). Analytic autoethnography, or déjà vu all over again. *Journal of contemporary ethnography*, 35(4), 419-428.
- Enriquez, O. N. & Oliver, K. L. (2021) 'The collision of two worlds': when a teacher-centered facilitator meets a student-centered pedagogy. *Sport, Education and Society*, 26(5), 459-470.
- Fernandez-Balboa, J. M., & Brubaker, N. (2012). Positioning yourself as a researcher: Four dimensions for self-reflection. In *Research methods in physical education and youth sport*, 29-39, Routledge.
- Fernandez-Balboa, J. M. (2009). Bio-pedagogical self-reflection in PETE: Reawakening the ethical conscience and purpose in pedagogy and research. *Sport, Education and Society*, 14(2), 147-163.

Foucault, M. (2008). *The birth of biopolitics: lectures at the Collège de France, 1978-1979*. Sennelart M, trans. Burchell G. Basingstoke: Palgrave.

Foucault, M. (1998). *Aesthetics, method, and epistemology. Essential Works of Foucault, 1954-1984, 2*. New York, The New Press.

Foucault, M. (1995). *Theatrum philosophicum: seguido de Repetición y diferencia*. Gilles Deleuze, Anagrama.

Foucault, M. (1991). *The Foucault effect: Studies in governmentality*. Chicago: University of Chicago Press.

Foucault, M. (1980). *Power/knowledge: Selected interviews and other writings*. New York: Pantheon.

Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory: Strategies for qualitative research*. Chicago: Aldine.

Gordon, C. (1991) *Governmental rationality. An Introduction*. Burchell G, Gordon C and Miller P (eds) *The Foucault Effect. Studies in Governmentality*. Chicago: The University of Chicago Press, 1–51.

Guba, E. G. (1981). *Criteria for assessing the trustworthiness of naturalistic inquiries*. *Ectj*, 29(2), 75-91.

Hammersley, M. & Atkinson, P. (2007). *Ethnography: Principles In Practice*. London: Routledge.

Holstein, J., & Gubrium, J. (2013). *Handbook of constructionist research*. Guilford Publications.

LeCompte, M. & Schensul, J. (2010). *Designing and conducting ethnographic research: An introduction* (Vol. 1). Rowman Altamira.

Ledger, A. (2010). Exploring multiple identities as a health care ethnographer. *International Journal of Qualitative Methods*, 9(3), 291-304.

Lincoln, Y. & Guba, E. (1985). *Naturalistic inquiry*. Newbury Park: Sage.

Lofland, J., Snow, D., & Anderson, L. (2006). *Analyzing Social Settings: A Guide to Qualitative Observation and Analysis*. Belmont, CA: Wadsworth (4th Ed).

Lofland, J. & Lofland, L. H. (1995). *Analyzing Social Settings: A Guide to Qualitative Observation and Analysis*. Wadsworth.

Lynch, S. & Kuntz, A. (2019). A critical autoethnography of a doctoral students' research journey: learning to take risks in the academy. *Curriculum Studies in Health and Physical Education*, 10(2), 156-171.

MacPhail, A., Tannehill, D., & Ataman, R. (2021). The role of the critical friend in supporting and enhancing professional learning and development. *Professional Development in Education*, 1-14.

McCuaig, L. (2007). Sitting on the fishbowl rim with Foucault: A reflexive account of HPE teachers' caring. *Sport, Education and Society*, 12(3), 277-294.

McMahon, J. (2016). "Creative Analytical Practices." In Routledge Handbook of Qualitative Research in Sport and Exercise, edited by B. Smith and A. Sparkes, 302–315. London: Routledge.

Mertens, D.M. (2005). *Research methods in education and psychology: Integrating diversity with quantitative and qualitative approaches*. (2nd ed.) Thousand Oaks: Sage.

Reeves, S., Kuper, A., & Hodges, B. (2008). *Qualitative research methodologies: ethnography*. *Bmj*, 337, a1020.

Seidman, L. (1998). *Interviewing as Qualitative Research*. Teachers College Press, New York.

Silverman, D. (2016). *Qualitative Research*. Los Angeles: Sage.

Smith, B., & McGannon, K. (2018). Developing rigor in qualitative research: Problems and opportunities within sport and exercise psychology. *International review of sport and exercise psychology*, 11(1), 101-121.

Sparkes, A., & Smith, B. (2009). Judging the Quality of Qualitative Inquiry: Criteriology and Relativism in Action. *Psychology of Sport and Exercise*, 10, 491–497.

Sperka, L. (2018). *The impact of the outsourcing of Health and Physical Education. Curriculum, pedagogy, and assessment*. PhD Thesis, School of Human Movement and Nutrition Sciences, The University of Queensland.

Thyer, B. (2009). *The handbook of social work research methods*. Sage Publications.

Varea, V. (2019). On being a non-white academic in physical education and sport pedagogy. *Sport, Education and Society*, 24(4), 325-337.

Youdell, D. (2006). Subjectivation and performative politics—Butler thinking Althusser and Foucault: intelligibility, agency and the raced—nationed—religioned subjects of education. *British Journal of Sociology of Education*, 27 (4), 511-528.

4.2. EMPIRICAL ARTICLE 2

Pre-service teachers' negotiation of meaning in their Physical Education Teacher Education programme: A two-year follow-up ethnography

Valério, F.¹, Farias, C.¹, & Mesquita, I.¹

¹ Centre for Research, Education, Innovation and Intervention in Sport (CIFI²D), Faculty of Sport, University of Porto, Portugal.

Under review in Physical Education and Sport Pedagogy (2022)

Abstract

Background: Research demonstrates the benefits of communities of practice (CoP) for teachers' professional learning in Physical Education (PE). However, much less is known about how CoPs can be used to understand pre-service teachers' (PSTs) professional learning in their Physical Education Teacher Education (PETE) programmes. Negotiation of meaning (NofM) is a crucial concept regarding learning inside of a CoP. Hence, understand how meaning is negotiated in initial teacher professional development might allow the enhancement of the social learning strategies in PETE programmes.

Purpose: This article draws on the CoP theoretical framework, and specifically the concept of NofM to understand how PSTs negotiated meaning during a two-year PETE programme. In particular, the focus is on the challenges faced by PSTs throughout the PETE social interactive process.

Participants and settings: The setting was a PETE programme in Portugal. In year one, the participants were three university teacher educators (TE) and 25 PSTs. In year two, the participants were three PSTs from year one who were in their school placement, a university supervisor (US) and one cooperating teacher (CT).

Data collection and analysis: This study was an ethnography with a two-year longitudinal design. Data were collected through the ethnographer's participant-observations (first author), meetings of the PSTs with the mentoring team (TEs, US, CT), and the ethnographer's field diary, reflexive log, and audio-recordings. Data analysis involved the constant-comparative grounded theory method.

Findings: Analysis resulted in the identification of three key challenges during the course units, for PSTs in the first year of their PETE programme: (a) the diversity and disconnections within the course units; (b) (the lack of) membership; and (c) the absence of democratic spaces in PETE class discussions. In the year two of PETE during the school placement, three challenges were identified for the negotiation of meaning (NofM): (a) the lack of dialogue with and focus on pedagogical practice by the cooperating teacher; (b) working together and the pressure to individualise PSTs' education process; and (c) unreachable support and supervision from the university.

Implications: We suggest that PETE programmes should emphasise pedagogical strategies that create spaces for the cultivation of CoPs. For instance, we suggest PST engagement in continuous and planned group work across curricular years (e.g., peer-teaching and micro-teaching experiences) to increase work group membership. We recommend the emphasis on discussion sessions mediated by a facilitator (e.g., TEs, CTs, or US) where the different working groups could share their repertoire of learning experiences as a CoP. Moreover, we suggest optimisation of a base of pedagogical knowledge regarding course units' integration between the TEs of the PETE to systematise the process and, also, an increased connection between the university and the host school. Additionally, we propose continuous professional development by the CTs to facilitate the requirements of the PETE programme.

Keywords: communities of practice; negotiation of meaning; pre-service teachers; ethnography; PETE programmes.

Introduction and theoretical framework

The concept of this paper started one year after the first author finished a two-year ethnographic study of a Physical Education Teacher Education (PETE) programme. In reflecting on this study, she was confronted with several dilemmas, particularly regarding the required group work for pre-service teachers (PSTs) in the first year of their PETE programme (e.g., peer-teaching and micro-teaching experiences), the interaction with the teacher educators (TE) and the ongoing interactions with cooperating teachers (CT) and university supervisors (US) in their school placements (second year). After studying this PETE programme, the first author decided to understand the role of communities of practices (CoPs) in the PSTs' professional development throughout the entire process of their PETE programme. This intent arose due to the possibilities of cultivating CoPs motivated by the curricular characteristics of the PETE programme expressed in its policy³. Knowing that working as a CoP was an expected feature of this PETE

³ The regulatory policy in the university states that "It is in this contact [school placement] that the PST gets to know the contours of the career, becoming, little by little, a member of this educational community, called by the authors [Lave and Wenger (1991)], the community of practice. Thus, it is understood that the

programme, it was a crucial point to start digging into how PSTs' professional learning structure was influenced by the situated, learning-based CoP sphere.

In physical education (PE), CoPs have been used primarily as a professional learning strategy for teachers (Hunuk, 2017; Parker & Patton, 2017; Parker et al., 2021). In this body of research, teachers in CoPs demonstrated changes in attitudes and beliefs (Deglau & O'Sullivan, 2006; Oliver et al., 2018) and professional identities (Luguetti et al., 2018); and development of a sense of community and empowerment (Goodyear & Casey, 2015; Tannehill & MacPhail, 2017; Gonçalves et al., 2021). Furthermore, CoPs have been a way to overcome traditional professional development in PE by developing teacher agency and constant collaboration between stakeholders (e.g., teachers, PSTs, and teacher educators). In a recent Scopus review, Parker et al. (2021) found 95 empirical studies in 12 languages between 1990-2020 about CoPs and PE professional development. Teachers were the focus of 75% of the studies, revealing that fewer studies focused on PETE programmes and PSTs' professional development.

Some studies explored CoPs as a professional learning strategy aimed at supporting PSTs' learning (Herold & Waring, 2018; Luguetti et al., 2020). This body of research explored what crucial aspects of CoPs cultivation were being supported or neglected during PETE programmes, particularly the interactions between PSTs, CTs, US, and others on school placements. One of the crucial aspects of learning in a CoP, and yet under-researched, is the negotiation of meaning (NofM) (Wenger, 1998). According to Wenger (1998), NofM is the process of experiencing the world, and acknowledgement of engagement in the world as meaningful. Meaning is always the product of its negotiation, and it exists neither in us, nor in the world, but in the dynamic relation of living in the world (Wenger, 1998). Moreover, situated meanings do not simply reside in individual minds, instead, they are negotiated between people through communicative social interactions (Gee, 2004). Although considerable research has shown the benefits of cultivating CoPs as a means for in-service teachers' professional learning (Deglau & O'Sullivan, 2006; Goodyear et al., 2014; MacPhail et al., 2014; Armour et al., 2015; Menter & McLaughlin, 2015; Hunuk, 2017; Tannehill & MacPhail, 2017; Luguetti et al.,

school placement work group, constituted by the PSTs, Cooperating Teacher and University Supervisor, should function as communities of practice, leading the PSTs to generate new knowledge and new skills."

2020), much less is known about how a CoP framework, particularly the concept of NofM, can be used to understand how PSTs progress to become teachers in their PETE programmes. There is a dearth of examination of PSTs' engagement in CoPs during the entire course of their PETE programmes and of how CoP involvement might represent an important role in their professional development (Parker et al., 2021).

Additionally, despite efforts to move forward from the more linear and simplistic approaches for studying PETE processes used to date (e.g., Luguetti et al., 2020; Gonçalves et al., 2021), there is still a scarcity of in-depth analysis of the complex PETE culture in its entirety. Ethnography provides in-depth perspectives of a culture experienced by the PSTs while accounting for the wider context of the role of CoPs in PETE programmes in general. Furthermore, although a PETE programme may offer PSTs a spontaneous culture for CoPs to thrive, it cannot be assumed that they will prosper in the future or their learning insights will be transferred when PSTs are confronted by different school placements (Wenger, 1998; McLaughlin & Talbert, 2001). Hence, throughout this ethnographic work, we sought to achieve understanding of how PSTs negotiated meaning inside of their PETE programme. Specifically, we focussed on following-up the challenges PSTs faced throughout the social interactive processes experienced during a two-year PETE programme.

Negotiating meaning: Duality of reification and participation

In the theories of situated learning and CoPs, learning is understood not simply as acquiring new knowledge by the individual, but as a process of participating in learning communities and interacting with others (Lave & Wenger, 1991). Three elements characterise learning from this perspective: mutual engagement (identity or membership), joint enterprise (common goals of a learning community), and shared repertoire (subjects or materials shared by the participants) (Wenger, 1998). These CoPs are considered a powerful mechanism for teacher growth and development (Parker et al., 2021). Members of a CoP develop together their own understandings of what their practices and profession are about and, while learning is a primary goal for them, they also have the possibility to find meaning in the process of learning (Lave & Wenger, 1991; Wenger, 1998).

Through a process called legitimate peripheral participation (Lave & Wenger, 1991), ‘newcomers’, those who are learning, (e.g., PSTs), interact with ‘old timers’ (e.g., TE, CT and US) within the community and then gradually become more experienced in the practices that characterise the community. The meaning of belonging to a community is negotiated in practice through participation in a dynamic that is characterised by social interaction among participants through the contribution of their competencies and personal experiences (Wenger, 1998). This negotiation is a fundamental feature of identity since it involves both the creation and adoption of meaning (Martínez-Arbelaiz et al., 2017).

Additionally, the concept of NofM is not only a sign that there is interaction among the participants, but NofM also indicates that participants are engaging in the development of a shared repertoire or a conceptual toolbox and negotiating their meaning together (Wenger, 1998). Wenger (1998) distinguishes two interrelated processes of NofM, namely reification (e.g., ascribing physical meaning to something abstract) and participation (e.g., participating in social activities including constraints and tensions that need inquiry) (see Figure 1). Together, reification and participation represent a fundamental duality of NofM, for the cultivation on CoPs, of CoPs evolution over time, of CoPs relations among practices, of the identities of the participants, and of the broader organisations in which CoPs exist (Wenger, 1998).

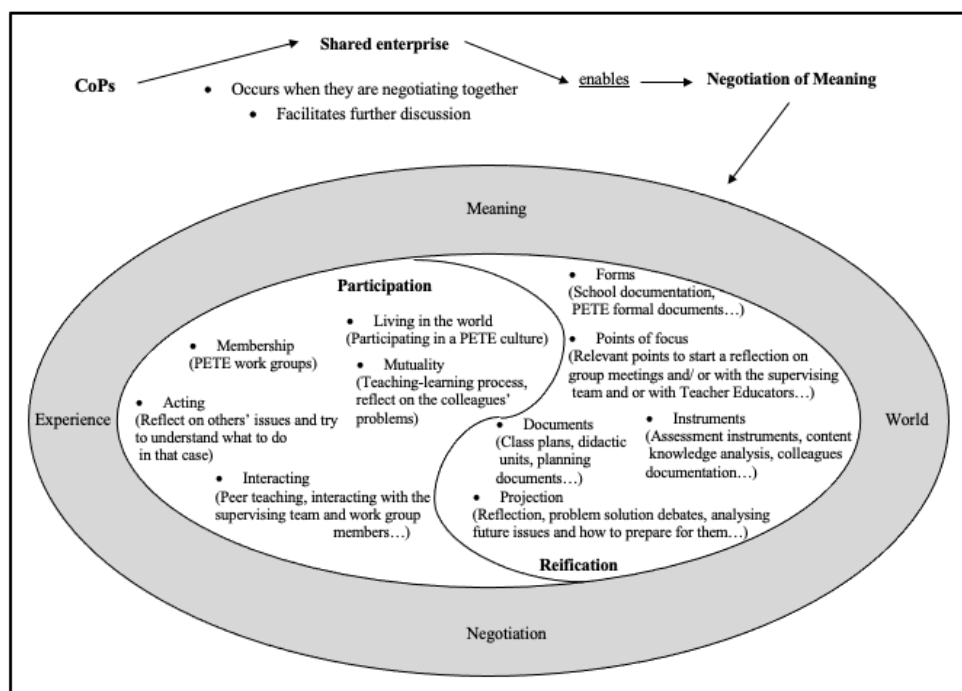


Figure 1. The duality of participation and reification in the process of negotiation of meaning – PETE culture (adapted from Wenger, 1998).

Participation describes the social experience of living in the world in terms of membership in social communities and active involvement in social enterprises (e.g., being a member of the PETE working groups, interacting with the supervising team, observing colleagues, etc.). The concept of reification refers to the process of giving form to experience by producing objects that congeal this experience. In doing so, reification creates points of focus around which the NofM becomes organised (e.g., engaging in the work of planning and producing documents such as lesson plans, teaching units, assessment sheets, etc.).

Although CoPs are widely considered to be an effective approach for teachers' professional development and teacher education, a scarce number of studies have previously explored the NofM concept within these research contexts (Martínez-Arbelaiz et al., 2017). In following Wenger's (1998) NofM theoretical framework, we understand teacher engagement in a PETE programme to be a process of negotiating meaning around the design of the teacher learning process. From the very beginning in their process of becoming a collaborative group, which eventually might evolve into a CoP, the PSTs in this study engaged collaboratively toward their teaching methods modules — their shared repertoire, and in the second year of school placement. Learning in this NofM sense does not relate to a static cognitive state of mind, but rather to the process of being engaged in negotiating meaning, affecting both participation and reification (Wenger, 1998). Thus, we anticipated that NofM is a useful concept to understanding the challenges PSTs face throughout the social interactive processes experienced in their PETE programmes.

Methodology

This study employed an ethnographic framework. Ethnography serves as a valuable resource to explore and conceptually develop research areas that have been under-researched and are devoid of an empirical, conceptual, or substantive basis to “help gather rich, detailed data from participants in the social worlds under study” (Heyl, 2001, p.369). Ethnography is exploratory in nature, and it consists of in-depth fieldwork and

active, prolonged involvement of the ethnographer with the local context being studied (Reeves et al., 2013). Therefore, a two-year longitudinal design was employed throughout the PSTs' PETE programme courses since the beginning of the curricular year through school placement in the second year.

Research scenario and participants

The researched PETE programme is structured as a two-year master's in Portugal. The programme (biannually) accepts approximately 120 students who have completed a sport science bachelor's degree and accredits them with an official teaching licence if students successfully finish the programme. In the first year, PSTs learn theoretical concepts and explore them in practical classes by taking on student and teacher roles through peer-teaching and collaborative microteaching with primary students. In the second year, PSTs engage in a full year of school placement (approximately 450 hours total), supported by a supervising team from the faculty (US) and the host school (CT). In the first year of this study, the participants included a group of 25 PSTs and three TEs. In year two, the participants were three PSTs in their school placement who participated in the year one study, a US and one CT.

Throughout this ethnographic work, Carla engaged in first year curricular classes, peer-teaching and micro-teaching experiences with PSTs. Moreover, she participated in after class meetings where they planned their next classes as a group or reflected about previous teaching moments. Additionally, Carla followed a group of the original PSTs through their school placement with their CT of the host school and their US in the second year of the PETE programme.

As a PhD student, first author Carla developed a research project about the role of CoPs in the professional development of PE PSTs. She completed her PETE master's degree in the same university and programme three years prior to initiating her PhD. Carla herself experienced the PETE program culture and for that reason, she developed her ethnographer positionality by engaging in this analytical autoethnographic study (see Valério et al., 2021).

Data gathering

The whole process of data collection was a follow-up of two-year PSTs' development process throughout a PETE programme. Hence, in order to triangulate data, multiple data points were collected using the following methods:

- (a) *Participant observation*. Carla engaged in a two-year follow-up of the PETE programme. In the first year she observed first semester theory classes, which ran for six weeks, so she observed 6 classes. Then in the second semester, Carla observed classes for practical teaching skills, three per week for 13 weeks. Additionally, she engaged (semester two) in weekly discussions after class and also informal conversations with the PSTs, which added 45 observation entries. In the second year, in the PSTs school placement, Carla observed 3 classes per week (one for each PST), formal meetings with the CT (one per week, some of them with the presence of the US) and 2 informal meeting moments with the PSTs for a total of 39 weeks (resulting in 234 entries).
- (b) *Field diary*. During participant observations, Carla used a field diary to record main events related to the research question, which allowed for the documentation of class contexts, groupwork dynamics, strategies for doing group task assignments and PSTs' relationships with the TEs and US (resulting in 279 entries).
- (c) *Audio recording*. Carla audio recorded her thoughts when important events occurred, and she needed a quick, precise description while keeping up with events (resulting in 17 audio recordings). This action allowed for greater understanding of specific circumstances and contexts while Carla wrote the reflexive log.
- (d) *Reflexive log*. At the end of each week, Carla wrote a reflexive diary entry about the week's main events in relation to the research question, discussing relevant issues that could be considered for future analysis (resulting in 57 entries).

Data analysis

Data analysis operated by adopting a constructivist revision of grounded theory (Charmaz & Belgrave, 2019). The data were analysed through an iterative approach, whereby the data collected were analysed shortly after prominent events, which allowed the ethnographer to fully capture central phenomena, and develop tentative themes. For example, after each meeting with the supervising team or a discussion between the PSTs and the TE, Carla described the events in her reflexive log and read it repeatedly to capture the central phenomena in the field.

This analysis process allowed Carla to capture the evolution of this specific PETE culture over time. Additionally, Carla engaged in an ‘initial coding’ with a line-by-line coding strategy, followed by a ‘focused coding’ phase, where the most prominent codes of the initial phase were selected (e.g., codes related to PSTs’ interaction in work groups, how they engaged in reflexive processes, how the supervising team was involved in work groups, etc.). Through the data analysis, the ethnographer started to code larger segments of data and being more selective and direct (e.g., NofM occurrences, CoP features during work group). Lastly, she engaged in a process of ‘theoretical integration’, where the previously identified categories were integrated with theoretical concepts (e.g., CoPs main dimensions: mutual engagement, a joint enterprise, and a shared repertoire; NofM in a CoP and their participation and reification).

Findings

Two phases were identified regarding the challenges faced by PSTs during their PETE programme experiences and how meaning was negotiated throughout the social interactive learning opportunities: (a) negotiating meaning during course units and, (b) negotiating meaning during school placement. In the first phase during course units⁴, three challenges were identified: (a) diversity and disconnect in course units; (b) (lack of) membership; and (c) absence of democratic spaces in class discussions. In the second phase during the school placement, three challenges were identified: (a) the lack of

⁴ A course unit is referred to in many countries as a module or a unit of study.

dialogue with and focus on pedagogical practice by the cooperating teacher; (b) working together and the pressure to individualise PSTs' education processes; and (c) lack of support and leadership from the university.

Negotiating meaning during course units

Different course units were observed in the beginning of the PETE programme, where PSTs participated in working groups that engaged in assigned work such as peer-teaching, micro-teaching sessions, discussions. The 25 PSTs self-enrolled in distinct groups of about five at the beginning of their first year. Although working in groups was one of the fundamental features of this PETE programme, which balances the number of opportunities with the high volume of work required, there were several constraints that made it difficult to negotiate meaning during social learning experiences.

The challenges faced by PSTs due to the diversity and disconnections in the course units

In the first year, there was a wide range of different teaching approaches employed in every course unit. For example, in volleyball, the group responsible for teaching the session assigned their individual members to give instruction to small groups of PSTs, with three or four PSTs students per 1 PST instructor, whereas in athletics, one entire peer-teaching group gave instruction for the same exercise to the whole class.

In addition, regarding pedagogical models, the TEs were not connected with each other even when they were teaching the same pedagogical model (e.g., the same pedagogical model but prioritising different aspects – Sport Education in volleyball and athletics). Consider Carla's reflection about pedagogical models:

Despite the TEs are using the same pedagogical model, the way they prioritize the model features and content knowledge specifications is totally different. In athletics, they are implementing it all (e.g., establishing a season, promoting affiliation by using the same clothing, to exploring all the possible student roles, etc.) and content knowledge is only discussed prior with the group that is going

to lead the peer-teaching lesson. In volleyball, the TE explores content knowledge with the whole class before starting the peer-teaching sessions. (Reflexive log, first year of PETE, January 2020)

Therefore, the PSTs were unable to comprehend the broader applicability of the teaching-learning/planning or assessment strategies in the wider context since they had to work in accordance with the specific requirements of the different units. Carla noted it in her field diary:

The PSTs often talked about the details of each unit, letting discussion about specifications of pedagogical and content knowledge fade away inside the required adjustments. João said to Francisco, “You cannot use that table of exercise criteria in the athletics plan, it is just for volleyball”, while Francisco replied, “But I find it easier if I had the criteria in the lesson plan while teaching, but that’s ok, I will make my own lesson plan and give that one to the teacher [TE]”. (Field diary, First year of PETE, March 2020)

Thereafter, PSTs opted to build the process around a TE’s preferences without asking if they could try it differently, rather than negotiating meaning of the best approaches and knowledge between the different strategies they experienced as peer learners.

This NofM is a duo of participation and reification along the process. Accordingly, Wenger (1998, p.67) argued that “reification always rests on participation: what is said, represented, or otherwise brought into focus always assumes a history of participation as a context for its interpretation”. In turn, participation always organises itself around reification because reification always involves artefacts, words, and concepts that allow negotiation to proceed. Thus, distinct particularities required by each TEs in course units (that could not extend to others) could generally be viewed as reification processes and will require more intense and specific participation to remain meaningful to the PSTs (Wenger, 1998). By repeatedly reifying specific course unit requirements without participating in the broader context of its implementation, diversity of teaching approaches turned into a challenge instead of a range of opportunities.

The challenges faced by PSTs due to (the lack of) membership

In the first year, PSTs conducted peer-teaching and micro-teaching sessions within their course unit group. However, from one course unit to another, membership of the PSTs' working groups often changed. Consequently, PSTs spread required tasks between the group members instead of collaborating through each task. The PSTs were often seated together, working on their computers yet preparing the next assignments individually. Carla reported:

They told me that they have so many units, so much work to do in each one of them....so they spread the tasks to have everything done. Ana is better at volleyball, so she prepares the next class, João on football because he is a coach and Carla is working on athletics because they had to prepare for the micro-teaching session. (Field diary, First year of PETE, January 2020)

In fact, PSTs were working at the same place and at the same time, but on different tasks to fulfil the group assignments and guarantee that everything was done on time. This contributed to some challenges along the process:

Angela and Joana were explaining the plan to the other 3 members of the group right after the class started. They were telling them which exercise they were responsible to do the instruction, how to organise the other students and the specific time they had to do it. Also, Angela and Joana were also in the same group on other course units, which made me believe that they were the only two making the lesson plan. (Reflexive log, First year of PETE, May 2020)

In this case, the two PSTs that worked together in different course units were the ones doing the required work for that class.

Therefore, negotiating meaning in this context of splitting tasks instead of sharing tasks complicates the development of a shared repertoire between the group members and consequently, the meaning of the experience. This shared repertoire is essential to promote discussion and develop critical thinking about teaching processes since meaning was to be constructed from the social interactions among and between group participants (Wenger, 1998; Martínez-Arbelaiz et al., 2017). Therefore, despite establishing work

groups, that effort was not enough to build a sense of membership in most of the PSTs' groups since they were not working collaboratively with each other. Ultimately, this lack of engagement in planned group work could be a major challenge for CoPs' development and cultivation (Parker et al., 2021).

The challenges faced by PSTs in class discussions due to the absence of democratic spaces

The foundation for negotiating meaning in a group is discussion, since social interaction is necessary to attribute meaning to a learning experience (Wenger, 1998; Gee, 2004). Our findings indicate that group interactions and discussion moments in course units occurred were oriented or directed by the TEs as noted by Carla:

The TE asked to see their lesson plan and asked them to change one of the exercises 5 minutes before starting. I saw their faces of frustration when the TE said they had to change the exercise immediately! One of them asked his group mate "why do we have to do it? We didn't even try it!" but the TE was already talking to the other group of PSTs. (Field diary, First year of PETE, May 2020)

Many of these discussions revealed signs of frustrations from the PSTs, mostly because of the lack of democratic spaces⁵ they experienced during their pedagogical practice. Furthermore, one result of the limited time attributed to pedagogical practice for each work group resulted in directives and last-minute decisions by the TE. This hindered the opportunities for democratic spaces where PSTs and TEs could discuss major issues and prevented the PSTs to share their opinions. (e.g., discussing about why they had chosen those exercises in the first place? Why they had to make the lesson plan adjustments without even trying what they prepared?). PSTs revealed difficulty in discuss with the TE, in class moments:

João told Martim: "The teacher [TE] told us to change for the 3 x 2+1 instead of 3x3." And Martim asked: "But why? We did that in the previous class, I think

⁵ Different from the traditional curriculum where teachers deposit information on students (also known as banking education), democratic spaces imply a kind of teaching in which the students actively participate in understanding and defining the personal and political realities of social life (Freire 1987).

they were ready!” and João said: “Let’s just do what the teacher [TE] told us because he is not going to explain [to] us why. We’ll have to discover later.”
(Field diary, First year of PETE, May 2020)

Clearly, the PSTs opted to proceed with the TEs’ direct instructions without questioning the possibility of asking them the reasons behind those instructions. Hence, due to the absence of democratic space for discussing pedagogical practice issues, PSTs had trouble in developed a shared repertoire of practical teaching experiences since they had to act according to the TE directions. Furthermore, a CoP is defined by its practice in which content knowledge, pedagogical decisions or curriculum are negotiated (Wenger 1998). Since the PSTs in this example did not have the space to engage in a discussion with the TE about their decision-making process in this peer teaching event, their negotiation was around how to complete the required task in the way the TE wanted, and consequently, meaning attributed to moments of discussion faded.

Negotiating meaning during school placement

Although the first year is not specifically designed and planned for CoP emergence, the university policy states that year two is a potential environment for the CoP to thrive. For their school placement, each PST was assigned full responsibility for teaching a class, whereby they engaged in all the necessary activities required to fulfil teaching duties: from planning to implement suitable learning activities, which were aligned with curriculum guidelines. Moreover, after the actual classes taught by the PSTs, the work group developed time for weekly moments for reflection about their pedagogical practices, as well as formal moments to verify compliance with teaching tasks and to discuss further subjects related to their placement.

The PSTs were assigned to groups of three who were at the same school placements, experiencing the same school community and sharing the same supervising team composed of their CT and a US. The dynamic of this phase allowed for the creation of the basic necessary conditions for the cultivation of CoP. Even so, the challenges that prevented the attribution of meaning to group learning were also noticeable in this phase and are discussed next.

The lack of dialogue with and focus on pedagogical practice by the cooperating teacher

In the second year of the PETE programme, each placement school had its own internal organisation with which the PSTs had to deal with and learn how to navigate. CT had their own assigned classes in addition to their work with PSTs, which resulted in limited available hours to work with the PSTs. For that reason, the weekly CoP meetings were formally organised by the CT to discuss: (a) the whole week's work, (b) school issues and relevant school information, (c) evaluation standards according to the PE group, and (d) assignments including written reflections and lesson plans. If there was any time left, they would talk about their difficulties regarding pedagogical practice with their students. Carla reflected:

The PSTs often asked the CT specific questions about their classes, as if they were trying to get an additional glimpse of help. Most of the time, these questions were about the features of pedagogical models and how to adjust planning in accordance with their aims. These discussions tended to be superficial. This was the third time that João asked about how to better organise his teams to adjust the levels of development without letting the motivation of the better students fade away. The CT encouraged him to try new approaches, but there was never an in-depth group discussion about this issue. (Reflexive log, Second year of PETE, January 2021)

Despite the PSTs' willingness to discuss pedagogical practice issues, they acknowledged a lack of initiative by the CT to examine specific issues, such as pedagogical content knowledge or theoretical knowledge regarding their chosen approaches.

Thus, the CT did not engage in dialogue with PSTs when specific issues arise, despite being their school supervisor and a constant presence in the PSTs' development process. Therefore, the continuous involvement of CTs in the school placement, in comparison to periodical visits by the US, suggests that the CTs are in more favourable position to engage in a facilitator role while establishing a CoP. A credible CoP facilitator guides PSTs about new teaching practices and addresses their concerns about how those

will affect interactions during CoP meetings (Guskey, 2002). Despite the potential to become a facilitator, the CTs showed difficulties in assuming a facilitator role and/or approaching specific content in a democratic way, since pedagogical discussions were scarce throughout the mentoring process. These meeting moments, which could be the best place to start cultivating a CoP, turned out to be the ones giving reasons for the lack of meaning attributed to the CT role by PSTs.

Working together and the pressure to individualise PSTs' education process

One of the major barriers to NoFM in PSTs' meetings was the pressure to individualise their teacher education process. The PSTs were not engaged to assist the development of pedagogical practice by their fellow PSTs unless the US or CT scheduled the observations. Thus, they only observe each other's classes once per month and one in three months with the presence of the US. Moreover, PSTs had little time available to observe each other's classes without a formal arrangement since they had a lot of individual work required for their own process.

After recognised the lack of dialogue between CTs and PSTs, four months after the beginning of school placement the PSTs decided to create another weekly moment for dialogue. The aim of these encounters was to discuss their practices and try to solve collaboratively each other's issues in their placements by engaging in an extra hour of dialogue, expose their doubts, and share tips about planning or support documents for enhancing their pedagogical content knowledge. Carla reported in her observations:

After Martim's class, they [PSTs] were talking about his difficulties and how they were going to solve those problems. Martim said: "I just don't know what to do to increase their time of practice, they [his students] look like they were doing nothing the whole time", and Francisco replied: "Let's help each other, Wednesdays after lunch none of us has classes, so let's meet to get things better". They asked me and the CT if we could be present at those meetings. I confirmed my presence while the CT could not attend because he had a class in that schedule.
(Field diary, Second year of PETE, January 2021)

Despite taking a step forward, one feature remained unchanged – they did not have an expert to act as a facilitator who could help them to work as a group. Despite counting on the presence of Carla, the PSTs did not consider her as a facilitator. Although the ‘PSTs’ meeting strategy’ seemed to be a productive way of sharing their experiences and finding solutions for their issues together, one month after starting the meeting, the PSTs stopped considering it meaningful as noted:

Martim asked: “Are we going to do the meeting this Wednesday?” and João replied: “I don’t think it’s worth it. We did not go to each other’s classes, so I don’t think we would be able to talk about it! And, we have to write the didactic unit’s reflection by Friday, so I think it is better if we skip this weeks’ meeting.”

(Field diary, Second year of PETE, February 2021)

Therefore, despite the PSTs’ primary intention to work together to improve their teacher education process and to develop a shared repertoire, their individualisation and self-concern about their own process suppressed these possibilities. Hence, the PSTs made it difficult to pursue a dynamic relation of negotiation about their shared involvement in the same school placement, which affected not only themselves, but all the other participants. Therefore, individualisation turned into a challenge for building a discussion and for sharing a repertoire, which contributed to accentuate their difficulty in meaning attribution to collaborative experiences (Wenger, 1998).

Unreachable support and supervision from the university

Confrontation with the realities of school placement is a serious issue faced by most PSTs (Alves et al. 2019). Notwithstanding, the limited direct support they had from the TEs was comparable to the absence of follow-up and support from the US in the context of their school placement. Consequently, in the moments of formal observations and meeting with the presence of the US, the PSTs showed fear of being assessed:

After the first US class observation (3 months after the school placement starts), they [PSTs, US and CT] had a meeting to talk about the PSTs’ pedagogical practices. I felt that the PSTs were only trying to justify what happened when the US asked them about specific moments. Almost if they could not fail in anything.

It seemed that they assume that the US was there to evaluate them instead of help with their difficulties. (Reflexive log, Second year of PETE, November 2021)

Despite being the main person responsible for the PSTs' development within the PETE programme, the US was assigned to almost 30 PSTs to monitor in school placements. Thus, these US visits with class observations only occurred three times for each PST in the whole school placement process. This lack of involvement by the US due to work overload influenced the PSTs' reliance on the US for help:

Francisco told me that if he had to implement that Sport Education lesson plan by tomorrow and needed help, he would not ask the US because he does not feel comfortable. Francisco believes that he is so distant in his knowledge that he would not understand his difficulties in establishing small steps. He said: 'I think he is at a very high level of academic knowledge, and he might think that I am not prepared to do it...he already has so much to think about. I do not want to show him that I could not do it.' (Field diary, Second year of PETE, December 2020)

Hence, the limited participation by the US in the school placement context contributed to limited dialogue with PSTs to support and share his expertise and, also restricted the process of building trust with PSTs to feel that they had a voice regarding their PETE programme. These experiences highlighted the lack of support and leadership from the university. According to Parker et al. (2010), a CoP can be fostered by accessing an expert or a facilitator who arranges time for professional dialogue, supports individual and community inquiry, and create spaces for empowering teachers to take ownership over the pedagogical process. Despite expecting the opposite due to PETE characteristics and possibilities of working as a CoP in the school placement, the lack of presence by the US who could fulfil the role of a facilitator as an expert, increased the lack of meaning attribution necessary to develop a social learning space (Wenger 1998).

Discussion and Conclusions

In this section we discuss: (a) challenges of negotiating meaning as barriers to CoP cultivation; (b) practical implications for PETE programmes and their cultivation of CoPs; and (c) avenues for future research.

Challenges of negotiating meaning as barriers to CoP cultivation

The demand of course units and PSTs' engagement in different working groups in each unit of the first year promoted strategies of task individualization instead of collaboration among group members to successfully accomplish the high volume of assignments. Thus, this division of labour hindered the provided opportunities for engaging in meaningful group discussions, whereby PSTs could create a shared repertoire of learning. As argued by Parker et al. (2010, 2021), learning within a CoP requires a process of social participation, emphasising the relationship between knowledge and the situations in which it is acquired and engaged. This ineffective group collaboration enacted by the PSTs might have been the major reason for the lack of membership at the start of the PETE programme. These became significant barriers to the development of interaction and discussion between the group members. Indeed, by brokering involvement between the duality of participation and reification, the PSTs cut the chain of meaning negotiation. Consequently, the reification of their assignments (e.g., individual and not collective production of the necessary assignment components), without actively participating in assignment overall construction, removed possibilities for interaction between PSTs and consequently, resulted in a lack of access to the potential wealth emerging from their work together for their collaborative assignments.

Non-dialogical approaches by TEs to the development of PSTs' pedagogical practice (e.g., asking the PSTs to change the lesson plan without further explanation) revealed the lack of reflective group discussion as a teacher training strategy. Previous research into the development of an PE teachers in-service CoP showed that nurturing a democratic CoP (e.g., emphasises the culture of collaboration and cooperation, claims emancipatory intentions in education, and reduces exploitation, inequality, and oppression) can create a space for the negotiation of what was meaningful and useful for these teachers in their real-life experiences (Gonçalves et al., 2021). The present PSTs' lack of opportunity to debate their pedagogical practice suggests the lack of intention by the TEs to engage in the role of facilitator of the CoP, and thereby allowing PSTs to express their doubts, and creating meaningful, shared experiences. Consequently, the facilitator and expert role of the TEs voice was not evident and effectively meaningful,

which could have also reinforced the challenge to promote the establishment of the CoP (Wenger, 1998).

As suggested by Yoon et al. (2021), the effectiveness of CoPs depends on both the appropriateness of the internal facilitator's role and the level of teachers' autonomous professional learning. This relationship among the members, which is influenced by cultural aspects (e.g., unreachable support from the US due to the high volume of work he faced in PETE and the PSTs' process of individualising group work) could compromise the possibility of cultivating a CoP with the potential to enhance teachers' professional learning. In our study, some of the critical constraints to PSTs' professional development include the TE/CT lack of free time for conducting additional pedagogical conversations with the PSTs and their lack of ability to address the specific problems of their PSTs' pedagogical practice.

In the school placement, difficulties persisted when considering discussion through dialogue as a meaningful strategy. This communication challenge remained due to the lack of focus in the PSTs' issues of interest (e.g., PSTs' different perspectives on planning and pedagogical models). By limiting the democratic spaces for discussion, the group did not share what they considered important with each other, compromising the development of a shared repertoire and consequently NofM (Wenger, 1998). In the case of a successful CoP, Gonçalves et al. (2021) revealed that the CoP members in their study reflected together daily. Furthermore, their shared repertoire was related to the community's 'ways of doing things', the products of community discussion and action, the understandings about the context, and the artefacts the community developed to improve. In contrast, for our study the lack of facilitation by the CT of democratic spaces for discussion, his lack of expertise and the pressing context that pushed PSTs to search for individual developmental (and final grading) goals, limited the creation of a shared repertoire. Therefore, intense involvement by the PSTs with the formal reification of their own process could have pedagogical implications (Wenger, 1998). PSTs experienced meaninglessness (Wenger, 1998) in multiple aspects of their teaching placements. Meaninglessness was evident when formal discussion structures were missing and TEs neglected to explain pedagogical decisions, such as the case when the TE asking PSTs to change the exercise they planned without further justifications, or the CT agreeing with all the PSTs' lesson plans without predicting practical problems. Conversely, an emphasis

on formalism without corresponding levels of participation also resulted in meaninglessness, such as when the CT focussed more on school bureaucracy or generic pedagogical issues rather than PSTs' specific pedagogical practices. Significantly, previous studies suggest that teachers' professional learning is supported and enhanced by receiving and giving feedback or developing and sharing teaching ideas together (Armour & Yelling, 2007; Goodyear & Casey, 2015), something that the PSTs were missing in their school placement.

Practical implications for PETE programmes and their cultivation of CoPs

It is important to acknowledge that the mere existence of a CoP does not mean that the community is a well-functioning social entity or a positive catalyst for effective learning; it can also be dysfunctional in ways that subvert the quality of learning (Wenger, 1998; McLaughlin & Talbert, 2001). Problems with developing group discussion, working without common goals or without the support of a facilitator could be critical constraints to the process of social agents attributing meaning to learning experiences made in that social learning space (Wenger-Trayner & Wenger-Trayner, 2020). Thus, we suggest that PETE programmes should differentiate between the creation of spontaneous, naturally occurring CoPs from intentionally fostered ones. Hoadley (2012) suggests that there has been a shift in the way of thinking about CoP from one which naturally occurs to one where a CoP can be supported and fostered to situate learning in an authentic context. Differences between naturally occurring and fostered CoPs lie mostly in the fact that naturally occurring CoPs do not have pre-defined learning goals (Barab & Duffy, 2012; Hoadley, 2012). We suggest that PETE programmes should emphasise the adoption of new ways of achieving CoP NofM, improve their membership by engaging PSTs in continuous and planned group work across the curricular year, and retain PSTs in the same work group across different course units (at least more than two units).

Regardless, a CoP cannot be just created, and their establishment requires time. Therefore, PETE CoPs should be fostered to have a history of experiences, continuous involvement between the members (e.g., PSTs and their supervisors in facilitators role) (Barab & Duffy, 2012; Hoadley, 2012) to allow participation and reification to be a duality for NofM in that teaching-learning experience. Furthermore, we suggest the

emphasis on sessions for discussion mediated by a facilitator (e.g., teacher educators, cooperating teachers, or university supervisors) where the different working groups (possible CoPs) could engage with each other, exchange ideas and talk about their achievements within a CoP. This could provide the means for several CoPs to flourish during the year by enhancing the possibilities of sharing a repertoire (Wenger, 1998).

We suggest that PETE institutions engage in internal reflection about the optimisation of strength based pedagogical knowledge regarding course units' integration. This integrative process might encompass understanding of what each TE is doing and what can be adjusted collectively to pursue a collaborative culture that stimulates CoP cultivation in PSTs' professional development processes. This might lead to stronger preparation for work in group, with the emphasis on specific strategies of working as CoP, attending to the real-life context of school, with the aim to model CoP enactment for PSTs and when they are actual teachers, they may be inspired to start their own CoP.

Moreover, the CTs of the PETE host schools should engage in diverse forms of sustained continuous professional development regarding the logic of the university education programme, to comprehend what is prioritised (e.g., if CoPs are prioritised by TEs in the first year, the CT should be able to understand what a CoP is and how to collaborate in order to ensure development. Furthermore, a closer relation with a space of intervention should be formally integrated between the US and the CT to develop a connection between the university and the PETE bases and the host school.

Avenues for future research

Understanding the role of CoPs in the professional development of PSTs during their PETE programme is necessary and is reflected by the increasing amount of research in this area (Herold & Waring, 2018; Luguetti et al., 2020). Therefore, we suggest that it is important to understand how universities that host PETE programmes understand CoPs functioning and how this learning strategy could translate into future pedagogical practice. In our study, despite emphasising CoP cultivation, this PETE programme did not ensure its development or contribute with specific support for CoP effectiveness. Thus, further research is needed to understand the role of the PETE programme and TEs

in CoP development during PST training. This focus will allow researchers to address how to create spaces for PSTs to engage in meaningful negotiations of the process of learning and form CoPs with valuable insights that will translate their learning into the school practicum and in their future teaching practice. Moreover, specifically understanding PSTs' voices regarding their intentions about cultivating CoPs could provide valuable insights about their needs during the professional development processes. The addition of semi-structured or focus group interviews could enhance specific insight into PSTs' experiences. Furthermore, PST engagement in self-study about their participation in CoP cultivation experiences could be an opportunity to understand their own way of understanding the CoP development process.

Funding

This work was supported by the Foundation for Science and Technology (FCT, Portugal) through the (Grant number) grant awarded to the first author.

Disclosure statement

No potential conflict of interest was reported by the authors.

References

- Alves, M., MacPhail, A., Queirós, P., and Batista, P. (2019). "Becoming a physical education teacher during formalised school placement: A rollercoaster of emotions". *European Physical Education Review*, 25(3), 893-909.
- Armour, K. M., and M. Yelling. (2007). "Effective Professional Development for Physical Education Teachers: The Role of Informal, Collaborative Learning". *Journal of Teaching in Physical Education*, 26 (2): 177–200.
- Armour, K. M., Quesnnerstedt, M., Chambers, F. C. and Makopoulou, K. (2015). "What is Effective CPD for Contemporary Physical Education Teachers: A Deweyan Framework." *Sport, Education and Society.*, 22(7), 799-811.

Barab, S. A., and T. Duffy. (2012). "From Practice Fields to Communities of Practice" In *Theoretical Foundations of Learning Environments*, 2nd ed. edited by D. Jonassen and S. Lund, 29–65. New York: Routledge.

Charmaz, K., and Belgrave, L. (2019). "Thinking about data with grounded theory". *Qualitative Inquiry*, 25(8), 743-753.

Deglau, D., and M. O'Sullivan (2006). "Chapter 3: The Effects of a Long-Term Professional Development Program on the Beliefs and Practices." *Journal of Teaching in Physical Education*, 25: 379–396.

Gee, J. P. (2004). "Learning languages as a matter of learning social languages within discourses". In M. R. Howkins (Ed.), *Language learning and teacher education: A sociocultural approach*. (13–31). Clevedon: Multilingual Matters.

Gonçalves, L., Parker, M., Luguetti, C., and Carbinatto, M. (2021). "'We united to defend ourselves and face our struggles': nurturing a physical education teachers' community of practice in a precarious context". *Physical Education and Sport Pedagogy*, 1-14.

Goodyear, V. A., Casey, A., and Kirk, D. (2014). "Tweet me, message me, like me: Using social media to facilitate pedagogical change within an emerging community of practice". *Sport, Education and Society*, 19(7), 927-943.

Goodyear, V. A., and Casey, A. (2015). "Innovation with change: Developing a community of practice to help teachers move beyond the 'honeymoon' of pedagogical renovation". *Physical Education and Sport Pedagogy*, 20(2), 186-203.

Guskey, T. R. (2002). "Does it make a difference? Evaluating professional development". *Educational leadership*, 59(6), 45.

Herold, F., and Waring, M. (2018). "An investigation of pre-service teachers' learning in physical education teacher education: Schools and university in partnership". *Sport, Education and Society*, 23(1), 95-107.

Heyl, B. S. (2001). "Ethnographic interviewing". In Atkinson, P. Coffey, A. Delamont, S. and Loftland, L. (eds) - *Handbook of ethnography*, (25), 369-383. London – Sage.

Hoadley, C. (2012). "What Is a Community of Practice and How Can We Support It?" In *Theoretical Foundations of Learning Environments*, 2nd ed. edited by D. Jonassen and S. Lund, 286–300. New York: Routledge.

Holstein, J., and Gubrium, J. (2013). *“Handbook of constructionist research”*. Guilford Publications.

Hunuk, D. (2017). “A physical education teacher’s journey: From district coordinator to facilitator”. *Physical Education and Sport Pedagogy*, 22(3), 301-315.

Lave, J., and Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge university press.

Luguetti, C., Aranda, R., Enriquez, O. N., and Oliver, K. L. (2018). “Developing teachers’ pedagogical identities through a community of practice: Learning to sustain the use of a student-centered inquiry as curriculum approach”. *Sport, Education and Society*, 24(8), 855-866.

Luguetti, C., Oliver, K. L., and Parker, M. (2020). “Facilitation as an act of love: A self-study of how a facilitator’s pedagogy changed over time in the process of supporting a community of learners”. *Journal of Teaching in Physical Education*, 40(2), 207-214.

MacPhail, A., Patton, K., Parker, M., and Tannehill, D. (2014). “Leading by example: Teacher educators’ professional learning through communities of practice”. *Quest*, 66(1), 39-56.

Martínez-Arbeláiz, A., Correa-Gorospe, J. M., and Aberasturi-Apraiz, E. (2017). Communities of practice and negotiation of meaning among pre-service teachers. In *Communities of practice*, 525-543. Springer, Singapore.

Menter, I., and McLaughlin, C. (2015). “What Do We Know About Teachers’ Professional Learning?” In *Making a Difference: Turning Teacher Learning Inside Out*, edited by C. McLaughlin, P. Cordingley, and R. McLellan, 31–51. Cambridge: Cambridge University Press.

Oliver, K. L., Luguetti, C., Aranda, R., Nuñez Enriquez, O., and Rodriguez, A. A. (2018). ““Where do I go from here?”: learning to become activist teachers through a community of practice”. *Physical Education and Sport Pedagogy*, 23(2), 150-165.

Parker, M., K. Patton, M., and Sinclair, C. (2010). “From Committee to Community: The Development and Maintenance of a Community of Practice.” *Journal of Teaching in Physical Education*, 29 (4), 337–357.

Parker, M., K. Patton, and Tannehill, D. (2012). "Mapping the Landscape of Communities of Practice as Professional Development in Irish Physical Education." *Irish Educational Studies*, 31 (3): 311–327.

Parker, M., Patton, K., Gonçalves, L., Luguetti, C., and Lee, O. (2021). Learning communities and physical education professional development: A scoping review. *European Physical Education Review*.

Patton, K. and Parker, M. (2017). "Teacher education communities of practice: More than a culture of collaboration". *Teaching and Teacher Education*, 67, 351-360.

Reeves, S., Peller, J., Goldman, J., and Kitto, S. (2013). "Ethnography in qualitative educational research: AMEE Guide No. 80". *Medical teacher*, 35(8), 1365-1379.

Tannehill, D., and MacPhail, A. (2017). "Teacher empowerment through engagement in a learning community in Ireland: Working across disadvantaged schools". *Professional Development in Education*, 43(3), 334-352.

Tarmizi, H. and Vreede, G. J. (2005). "A Facilitation Task Taxonomy for Communities of Practice". *AMCIS 2005 Proceedings*, 485.

Wenger, E. (1998). "*Communities of practice: learning, meaning, and identity*". New York: Cambridge University Press.

Wenger-Trayner, E., and Wenger-Trayner, B. (2020). "*Learning to make a difference: Value creation in social learning spaces*". Cambridge University Press.

Yoon, K., Lee, C., and Jung, H. (2021). "Creation of an instructional model in a community of practice and its impact on relationships between members". *Physical Education and Sport Pedagogy*, 26(5), 504-5

4.3. EMPIRICAL ARTICLE 3

Challenges in generating value in the Pre-service teachers journey from learning to implementing Student-centred Approaches: an ethnography study along a two-year PETE

Valério, F.¹, Farias, C.¹, & Mesquita, I.¹

¹ Centre for Research, Education, Innovation and Intervention in Sport (CIFI²D), Faculty of Sport, University of Porto, Portugal.

Under review in European Physical Education Review (2022)

Abstract

The present study purpose was to comprehend the internal dynamics of the social learning interactions inside a Physical Education Teacher Education (PETE) programme where pre-service teachers (PST) are learning and implementing student-centred approaches (SCA). Specifically, what type of challenges and difficulties they face while going throughout the cycles of value creation regarding SCAs throughout their PETE programme.

The context was a PETE programme in Portugal. In year one, the participants were 3 university teacher educators (TE) and 25 PSTs. In year two, the participants were 3 PSTs from year one who were in their school placement, a university supervisor (US) and 1 cooperating teacher (CT). This study was an ethnography with a two-year longitudinal design. Data were collected through the ethnographer's participant-observations, meetings of the PSTs with the mentoring team (TEs, US, CT), and the ethnographer's field diary, reflexive log, and audio-recordings. Data analysis involved the constant-comparative grounded theory method. Results entail several challenges to value creation faced by PSTs along the process regarding: feelings of isolation in work groups; utopic experience of peer-teaching; PSTs implementing SCAs to brighten up their performance; PSTs prioritizing their individual process; PSTs relation with the main stakeholders (TEs, CTs and US); and the lack of a practical example of SCAs implementation. This article discusses the process of generating value inside of a PETE programme and entail recommendation for future research.

Keywords: Value creation; social learning spaces; pre-service teachers; student-centred approaches; PETE programmes; ethnography.

Introduction

[During the weekly meeting with Pre-service Teachers and Cooperative Teacher] while talking about their reflections regarding the volleyball course unit, I noticed that Martim wrote about the Teaching Games for Understanding and the Step Game Approach. However, his planning strategy was not supported by the model

features. He just wrote it based on the knowledge of how important the pedagogical models are, however, he did not understand the true relevance of them in his teaching practice or in the learning process of his students. (Reflexive log, School placement, March 2020)

Embodied in the above ethnographers' reflexive log is the pre-service teachers (PST) acknowledgment of the importance that student-centred approaches (SCA) had in their Physical Education Teacher Education (PETE) programme, regardless of their ability to implement it. Literature shows that SCAs (e.g., Sport Education (Siedentop et al., 2019), Cooperative Learning (Dyson & Casey, 2016), several game-based approaches (e.g., Teaching Games for Understanding, etc.)) are a priority in PETE research (Hordvik et al., 2017; Schwamberger & Curtner-Smith, 2017). This is because the implementation of a PE curriculum based on SCA is currently mandatory in many countries (Lund & Tannehill, 2014). Consequently, since a central mission of PETE is to support the renovation of future teachers' conceptual perspectives and to enable their effective renewal of PE teaching practice in schools (Hordvik et al., 2019), the specific focus on training PSTs to implement SCAs has added significant complexity to the challenges faced by scholars in PETE programmes (Silva et al., 2021; Valério et al., 2021).

Therefore, researchers have been applying frameworks of Social Learning theory to understand the complex SCA curricula development in PETE programmes (Luguetti et al., 2019; MacPhail et al., 2014; Tannehill et al., 2015). Social Learning theories in PETE programmes contexts are particularly related with SCAs curricula as they are inherently optimal contexts of social interaction. They entail the development of PE teachers towards pedagogical innovation (including PSTs) and their students' ability to become integral part of their own learning process, by supporting them to know how to evaluate knowledge claims, how to learn, how to collaborate, how to seek help, how to become assessment capable, how to be resilient (Goodyear & Duddley, 2015). Despite the existence of studies describing the potential of social learning as a theoretical framework to examine SCAs curricular contexts (Luguetti et al., 2019; Oliver et al., 2018; Tannehill et al., 2015), there is a lack of empirical evidence in the field. Evidence is needed to enable us to be informed on how PETE programmes can best promote and achieve authentic experiences, as well as promote the future implementation of PSTs in

the real school context. This understanding calls for the newest developments of exploring social learning theory for a deeper comprehension of how the internal dynamics of collaborative processes between PSTs and their mentors (e.g., Teacher Educators (TE), Cooperative Teachers (CT), University Supervisors (US), other PE teachers and with other PSTs) contributes to PSTs implementing SCAs.

In the recent work of Wenger-Trayner and Wenger-Trayner (2020) the authors focused on social learning as a form of engagement with others, providing a framework to become intentional about enabling learning that happens in interaction with others, rather than as a result of being taught – learning together to make a difference to what happens in practice (p.5). Hence, the concept of Social Learning Spaces (SLS) is introduced as ‘a particular experience of engagement that takes place among people in pursuit of learning to make a difference.’ (Wenger-Trayner & Wenger-Trayner, 2020, p.13). This might fit better on changeable contexts of learning such as the learning and implementation of SCAs by PSTs in PETE as it provides a mean to go deep on how the social interaction promoted by PETE programmes (e.g., PSTs’ working on group in curricular units, PSTs’ learning SCAs by experiencing it in the role of students, peer-teaching, micro-teaching, collaborative work with the supervising team in school placement (see Research scenario and participants) are influencing the SCAs implementation by PSTs.

According to the authors, ‘social learning creates value for participants to the extent that they view engaging uncertainty and paying attention as contributing to their ability to make a difference they care to make’ (Wenger-Trayner & Wenger-Trayner, 2020, p.43). In other words, PSTs might find value in a SLS to the extent that their participation is seen as leading to a difference that matters in their context (e.g., PSTs being progressively able to autonomously implement SCAs after their collaborative work with other stakeholders and experts (TEs) during their PETE). Thus, value creation places the emphasis on the experience of PSTs caring to make a difference rather than on knowledge, skill or, curriculum as commodities. SLS may be ideal to understand emerging pedagogical practices such as SCAs among PSTs, where the primary intention is to access a valuable experience of PE by breaking with typical autocratic teacher-centred practices that might be meaningless to contemporary students. In this regard, the

concept of value creation represents a significant shift from traditional ways of understanding learning which have the ability to help us comprehend the process of learning inside of a PETE programme that prioritize PSTs' development towards SCAs' implementation.

Nevertheless, the term learning, like the term value, is mostly used as a positive term. However, learning can also have negative effects and when learning is about value creation, it is important to consider the possibility of failure regarding value production. Many PSTs often struggle to open themselves up to new and alternative ways of doing and thinking about teaching and being a teacher, such as implementing SCAs in their PETE programme. Instead, they remain hostages of their previous experiences and familiar practices (Hordovik et al., 2021; Loughran, 2013). This represents a complex undertaking for both TEs and PSTs (Casey & MacPhail, 2018), since TEs, CTs and USs also have to challenge their own pedagogies of teacher education to prepare PSTs for SCAs demands (Hordovik et al., 2020; Richards & Sinelnikov, 2019).

Additionally, many scholars described the meaning and complexity of 'living the curriculum'⁶ experience in PETE regarding SCA, where PSTs learn about SCA while also learning through SCA (Dillon et al., 2017; Sinclair & Thornton, 2018). Such approach can lead PSTs to develop a deeper understanding of SCAs and, it can also bring several overwhelming and complex challenges to value and meaning attribution to those experiences (Gurvitch et al., 2008; Dillon et al., 2017).

Hence, the present ethnographic study intended to dive into the internal dynamics of the social learning interactions inside a PETE programme where PSTs are learning and implementing SCAs. Namely, what type of challenges and difficulties they face while going throughout the cycles of value creation regarding SCAs throughout their PETE programme.

⁶ Oslin (2001) believes that PETE programmes should allow PSTs to experience the curriculum firsthand. The author identifies such experience as 'living the curriculum', advocating for the link to be made between pedagogical knowledge and subject matter knowledge by delivering the two together in a PETE programme. PETE with this kind of design allow the PSTs to experience the curriculum as students and gain an enhanced appreciation and understanding for the SCAs (Deenihan et al., 2011).

Generating Value – Value creation cycles in PETE

The extend that collaborative professional development strategies (such as SLS) might have in PSTs value creation toward SCAs (e.g., learning and implementation of SCAs, sharing experiences with peers and collaboratively discuss their pedagogical practice, confronting their previous believes with new possibilities, engaging in sharing dilemmas with mentors and peers (TEs, CT, US)) is what we tried to understand throughout the framework of value creation cycles of Wenger-Trayner and Wenger-Trayner (2020).

Hence, each SLS entails a story that illustrates different types of value that each contribute to their ability to increase the participation and consequent possibility of successful learning. These different cycles of value creation contribute to participants' ability to make a difference. The framework of cycles of value creation is divided in eight different types of value that are interrelated with each other and evolve over time. Moreover, as expressed in Supplement 1, each type of value has its own dimensions that are example of how each type of value can be manifested positively or negatively throughout the value creation process.

The overtime evolution of the created value evolves within and across what is called value creation cycles. Moments of engagement, including activities (e.g., PSTs 1st year experience of 'living the curriculum' of SCAs as students), negotiation (e.g., conversations with the supervising team), recognition (e.g., PSTs implementing SCAs in school practicum) and adjustments (e.g., PSTs acknowledging the difference between learn through SCAs as students (peer-teaching – 1st year of PETE) and implement SCAs as teachers (school placement – 2nd year of PETE)) are part of the progression of each cycle as showed in Figure 1. Therefore, each cycle creates its value progressively and interactively overtime in an intricate process. The process of learning to make a difference also accounts that improving value generation is crucial to evolve.

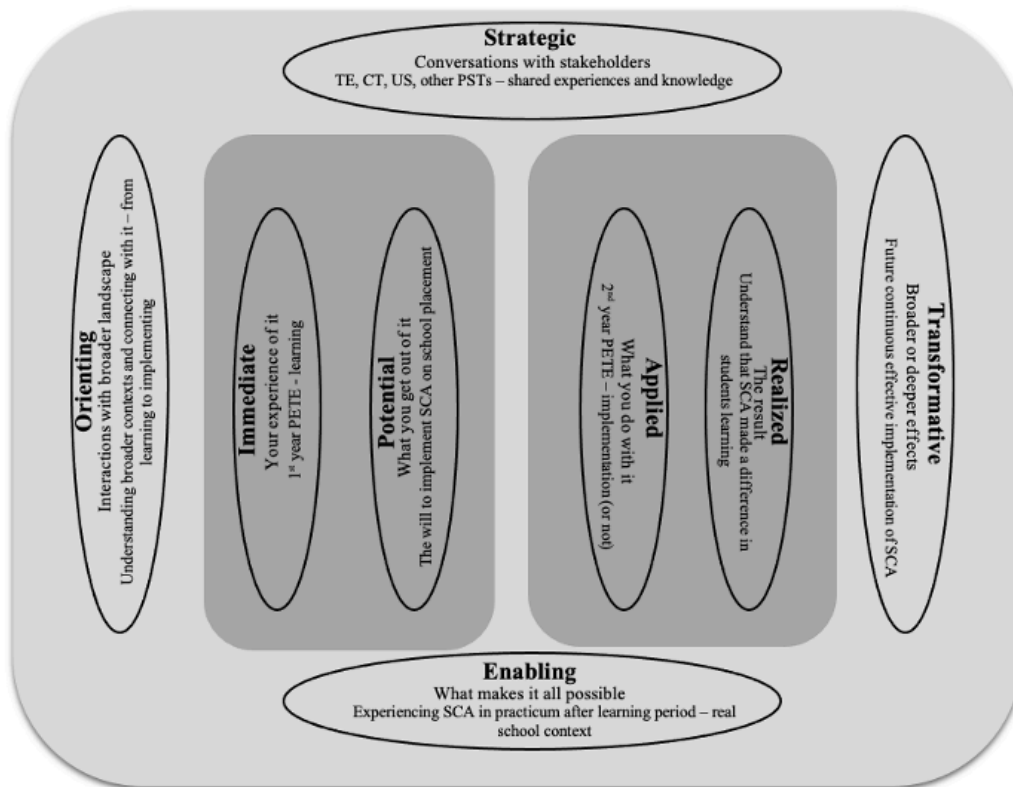


Figure 1. Value-creation cycles in the framework related to SCA in PETE (adapted from Wenger-Trayner & Wenger-Trayner (2020).

Methodology

This study employed an ethnographic framework. Some PETE scholars used ethnography since it is particularly suitable to examine the complex, dynamic and ongoing nature of teaching and learning (Alves et al., 2019; Gonçalves et al., 2021). Ethnography is exploratory in nature and, it consists of in-depth fieldwork and active, prolonged involvement of the ethnographer with the local context being studied (Reeves et al., 2013). Therefore, a two-year longitudinal design was employed throughout the PSTs' PETE programme courses from the beginning of the curricular year through school placement in the second year.

Research scenario and participants

The researched PETE programme is structured as a two-year master's in Portugal. The programme (biannually) accepts approximately 120 students who have completed a Sport Science bachelor's degree and accredits them with an official teaching licence if students successfully finish the programme. In the first year, PSTs learn theoretical concepts and explore them in practical classes by taking on student and teacher roles through peer-teaching and collaborative micro-teaching with primary students. In the second year, PSTs engage in a full year of school placement (approximately 450 hours total), supported by a supervising team from the sports faculty (US) and the host school (CT).

In the first year of this study, the participants included a group of 25 PSTs and 3 TEs. In the second year, the participants were five PSTs in their school placement who participated in the first year of the study, 1 US and 1 CT.

Throughout this ethnographic work, Maria⁷ engaged in the first year of curricular classes, peer-teaching and micro-teaching experiences with PSTs. Moreover, she participated in after class meetings where they planned their next classes as a group or reflected about previous teaching moments. Additionally, Maria followed a group of the original PSTs through their school placement with their CT of the host school and their US in the second year of the PETE programme.

Data gathering

The whole process of data collection was a follow-up of the two-year PSTs' development process throughout a PETE programme. Hence, in order to triangulate data, multiple data points were collected using the following methods:

- (a) Participant observation. Maria engaged in a two-year follow-up of the PETE programme. In the first year she observed first semester theory classes, which ran for six weeks, so she observed 6 classes. Then, in the second semester, Maria observed classes for practical teaching skills, three per week for 13

⁷ Names were changed at this early version to preserve the peer review integrity.

weeks. Additionally, she engaged (semester two) in weekly discussions after class and informal conversations with the PSTs, which added 45 observation entries. In the second year, in the PSTs school placement, Maria observed 3 classes per week (one for each PST), formal meetings with the CT (one per week, some of them with the presence of the US) and 2 informal meeting moments with the PSTs for a total of 39 weeks (resulting in 234 entries).

- (b) Field diary. During participant observations, Maria used a field diary to record main events related to the research question, which allowed the documentation of class contexts, group work dynamics, strategies for doing group task assignments and PSTs' relationships with the TEs and US (resulting in 279 entries).
- (c) Audio recording. Maria audio recorded her thoughts when important events occurred and, she needed a quick, precise description while keeping up with events (resulting in 17 audio recordings). This action allowed a greater understanding of specific circumstances and contexts while Maria wrote the reflexive log.
- (d) Reflexive log. At the end of each week, Maria wrote a reflexive diary entry about the week's main events in relation to the challenges faced by PSTs in social interaction, discussing relevant issues that could be considered for future analysis (resulting in 57 entries).

Data analysis

Data analysis operated by adopting a constructivist revision of grounded theory (Charmaz & Belgrave, 2019). The data were analysed through an iterative approach. The data collected were analysed shortly after prominent events, allowing the ethnographer to fully capture central phenomena, and develop tentative themes, which favoured capturing the evolution of this specific PETE culture over time. Additionally, Maria engaged in an 'initial coding' with a line-by-line coding strategy, followed by a 'focused coding' phase,

where the most prominent codes of the initial phase were selected. Through the data analysis, the ethnographer started to code larger segments of data and being more selective and focused. Lastly, she engaged in a process of ‘theoretical integration’, where the previously identified categories were integrated with theoretical concepts.

Research quality and methodological rigour

The research quality and methodological rigor were reinforced by a personal search towards a relativist ontology (Holstein & Gubrium 2013) and by employing a naturalistic set of methodological (Thyer, 2009). Additionally, data triangulation was utilised, and the researcher’s ethnographic field immersion was ensured by a prolonged two-year engagement. Moreover, Maria was involved in a dialogue with ‘critical friends’ who accompanied her throughout the process.

The study obtained ethical approval from the University Ethics Committee. Confidentiality was assured for all individuals within the study since no real names were included and no information that may lead to the identification of any individual was used.

Findings

1st year – SCAs ‘learning and living’ stage

PSTs feeling of isolation in the work group – shadowed value on collaborative learning experience of SCAs

The first year of the PETE is characterized by group work. This is mostly regarding the high number of PSTs entering the programme (around 120). By working in group, the programme gave PSTs the possibility of increased participation, by engaging in peer-teaching, micro-teaching sessions and group presentations of the required tasks in each course unit. Hence, the programme itself was designed to expand the amount of

group work and the direct experience of engaging in the learning space with other participants.

Nonetheless, it is important to acknowledge that the work groups were not permanent, which means that, the PSTs had the possibility to change their work group between units, either because the TE let them choose or because the TE is the one making that decision.

Hence, many of the PSTs shared distinctive experiences in the different units as noted in the ethnographer reflexive log:

They [PSTs] often change groups between units. I don't think it is because they want to, but mostly due to their work schedules outside of PETE or due to TE choices. I've noticed that Martim often walks around with Francisco, but they aren't in the same group in athletics as the TE was the one choosing the groups. He [Martim] is usually very committed to all the activities but here [athletics class] he is quite discreet. One of the components of their assessment in this class is engagement and festivity, as they are peer-teaching through Sport Education, however Martim did not seem to fit in at all with his group. He did not comply with the group when it comes to festivity moments because his colleagues were too childish when it came to celebrate. His face expression revealed embarrassment, almost as if he did not want to be a part of it or be associated with such behaviour. (Reflexive log, PETE 1st year, February 2020)

This data snippet reveals that, despite the possibility of working in group, the benefits of the PSTs participation in group work learning may have been compromised by taking negative forms of expression, as Martim's example referred above. Namely, this PST did not feel connected to the other participants, which lead him to a sense of non-commitment or even not finding relevant the topics/concerns other group participants cared about, almost if they had nothing in common with each other. The PST did not recognize the other participants as learning partners and how to use this partnership to help him. These types of obstacles hindered the learning process about the of SCAs as part of a work group were one of the participants did not feel as belonging to the group.

The utopic success of peer-teaching – PSTs confronting the value of SCA learning experience with possible future reality

Throughout the first year, the PSTs experienced SCAs in the role of students (e.g., as players), in the role of teachers in the peer-teaching sessions and by teaching in group to a small group of real students from a school. The connection between these distinct experiences is that none of the PSTs had the opportunity to have an individual moment as a teacher along the first half of PETE. By the end of the 1st year, they always worked in group when it came to teach. Despite this process has facilitated the number of experiences and the quality of the PSTs learning and implementing SCAs, it also distanced them to the idea that they would be able to do it on their own in their future school placement experience, as we can see in the next enter of the ethnographer's field diary:

They are finishing the culminating event and they all seemed engaged in the organization of the activities, everything went as planned and the TE was telling them that it was a success. I did not let them leave without asking what they think about this whole season [Sport Education season] and if they felt prepared do embrace the model in their school placement. Angela said that it was an amazing moment since she has experienced PE through another perspective [teacher-centred]. However, when asked about the future, she said that it would be difficult to do it on her own, as it demands a lot of work. She believed that might be easier to be successful by doing the way she learned and, if she eventually got the confidence to do, she might give it a try, but never as a first option because she did not want to fail. (Field diary, PETE 1st year, May 2020)

Despite valuing her experience with Sport Education as a student, this PST also acknowledged that embracing new pedagogies was something that increases the volume of work and dedication inside of an intensive work context that is PETE (e.g., knowing that the transition from peer-teaching in the 1st year to teach and be responsible for her own class in school placement in 2nd year while she was being evaluated). Moreover, the fact that she understood how demanding it would be without the help of her colleagues made her feel apprehensive about implementing SCAs in her future practice, specially, in school placement where she is being individually evaluated. In Angela's case, she thought

that implementing SCAs in her future practice would be a drastic innovation for her context and felt overwhelmed by high expectations. Furthermore, this PST seemed to recognize the value of being part of a work group while learning and experiencing the SCA, which made her believe that implementing by herself would be a lot harder.

2nd year – PSTs as a central piece in the SCA implementation pursuit stage

Compliance without an embodied purpose - ‘cosmetic’ implementation of SCAs to brighten up their performance

When arriving at their school placement in the second PETE year, PSTs had the opportunity to plan and decide which pedagogical approaches (e.g., engage in SCAs learned in the first year or decide to engage in teacher-centred approaches) they intend to use with their students, since it was not pre-imposed by the PETE programme and the host school. Nevertheless, in this PETE programme based on SCA, there was clear expectation from the part of the facilitators (TEs, US and CT) that PSTs implement, in their practice, changes related to previous learned approaches. Henceforth, the pressure for implementing SCAs increased for PSTs that envisioned success, since they knew they were being individually assessed. This acknowledgement led to some moments of backlash, when the intention of being successful as a teacher compromised the learning of their pupils:

The PST asked the pupils ‘what went wrong with this play?’, the students remain silent. Then she asked again: ‘why were they able to score? Come on, think about it!’. One of the pupils replied: ‘because we are bad in defence’. Despite the intention of engaging in a questioning moment, she did not know how to ask the right questions or when to freeze the game moment to explain. The pupils gave general responses to her questions and the class proceeded because she also knew that she had to use the time wisely.

In the post-lesson reflection meeting, the CT asked her if she thought that their students understood the game form she was working on. She said that she was very happy with the questioning moments and that she felt the students engaged in the task by explaining them. She added that, Teaching Games for

Understanding has been an incredible help in structuring her classes and she will proceed with it. That made me wonder if she made the questions to support their students or, if she did it because she wanted to show that she is using Teaching Games for Understanding. (Reflexive log, PETE 2nd year, March 2021)

The insistence of the PST to mention the use of a SCA in her class showed how much potential was recognized. Notwithstanding, this PST failed in comprehending inventiveness as a source of innovation in practice and the adoption and adaptation of the SCA to her own context of practice. Henceforth, the PST failed to realise that innovation depended on contextual factors and by blindly applying an approach without taking the context into account, just because she recognized its relevance to her own development, she missed the opportunity of increasing the value of the experience.

Managing attempts to implement SCAs - prioritizing their individual journey over valuing collaboration

The school placement entails a lot of responsibilities for the PSTs, since they were enrolled in a massive workload of complementary tasks and institution pressure (University PETE high standards) to succeed. The second year is also the first time they are fully assigned for an entire class and to undertake the responsibility of being their PE teacher for a whole academic year. Although assuming the teacher role, PSTs also remain conscious that they are still in their education process of professional development, and consequently, being graded by their performance at the school placement practice, acknowledging that the final evaluation of the overall course deeply depends on their school placement performance.

This individual concern with their successful development during PETE, often changed the way PSTs interacted with each other and their supervising team and, in the way they care to make a difference in their students' learning process. While in school placement, the PSTs individuality was really pronounced, hampering the opportunities of growing together as a group and promoting their student's development as a priority. The ethnographer noticed:

The PSTs are not required to assist to each other's classes. For that reason, they have difficulties in helping with someone's dilemmas because they were not

present in the moment they occurred. This happens because they prioritize their individual work. Francisco's first football class was dramatic because his students almost did not comply with any of the proposed tasks. He [Francisco] tried to maintain the Sport Education teams from the last unit, without accounting the possibility of distinct levels of development from gymnastics to football. However, in the weekly meeting, this problem was not discussed despite this could happen to any of the other PSTs. Instead of getting help to look for a solution, Francisco blamed his choice of continuing with Sport Education model in the football unit, as being the one responsible for making a wrong decision regarding the chosen pedagogical approach. (Reflexive log, PETE 2nd year, February 2021)

In this example, the PST took a personal dimension, by defining it in terms of individual success and performance, or in this case, unsuccess. Moreover, by not discussing this episode with the other participants, the PST also compromised the collective engagement by decreasing the motivation to keep pushing learning forward as a group. Hence, even the smallest challenge solved in the process of their learning, is pushing PSTs toward the realization of some value in their practice. Therefore, what prevented this PST to move a step further, in recognizing a positive impact of his class failure, was not assuming that sharing his problem and learning from it was a process of learning evolution itself.

Connecting with stakeholders and the broader landscape stage

Lack of time, knowledge and distant relationship - PSTs vision of the value of the stakeholders

During the PETE programme there were leading stakeholders in PSTs professional development, namely, the TEs in the first year and, the CT, US and group of peers of the same school in the second year. Their relationship with PSTs is directly related with their mentoring responsibility towards the PSTs development across PETE. Thus, these individuals had the ability to be a key factor in PSTs professional development, by strategically bringing clarity to the potential to make a difference in the SLS. Regarding quality, here, we can divide the stakeholders' interactions with PSTs in

two main characteristics, for analysis purpose of this PETE – time of involvement and the depth of their involvement.

Starting with the TEs, their involvement was not deep despite the prolonged time with the PSTs (at least one completed 5 months of course units). As noted by the ethnographer:

The TE gives them general attention in order to contribute to the whole class of PSTs instead of each PSTs individually. Most of the problems discussed were general dilemmas, and specific situations regarding each work group were analysed mostly by PSTs themselves in their written reflections. (Reflexive log, 1st year, October 2019)

Additionally, in the second year, the CTs presented the same characteristics as the TEs, but in this case, for other motives:

Francisco was asking the CT about ways to increase the captain⁸ responsibility in instructing the team. He said that the meetings before class were not a good strategy because some of the student captains did not attend. [...] The CT told him to think about something that he could do in class, but nothing specific. The conversation was superficial and despite the CT being supportive about the other Francisco's ideas, he did not engage in a deep conversation about pedagogical knowledge in reference to Sport Education model (e.g., the possibility of using flash cards with the main components of the exercise to help captain remember what to say while instructing...). (Field diary, 2nd year, December 2021)

Regarding the US, despite the expertise that led to in-depth interventions with the PSTs on their pedagogical practice, the lack of time to engage directly in their professional development reigned supreme. In this PETE, the USs are TEs responsible to supervise the PSTs school placement in addition to their university work as lecturers and researchers. The US of our study was responsible for 30 PSTs from 9 different schools, which mean that in the entire school placement he observed 3 classes from each PSTs and engaged in three discussing meetings with each SLS of each school. This led PSTs to a sense of disclosure with this important stakeholder, as noticed:

⁸ Role of Captain in Sport Education models, refers to the student responsible for a team, that often instructs the exercises and help organizing the different class moments.

The PSTs look nervous in the meeting after the US class observations. They [PSTs] waited for his questions and try their best to justify their choices or to give arguments about their practice. I didn't see them taking the opportunity of the US presence to expose their concerns, almost if they were afraid of admitting their doubts and dilemmas. (Field diary, 2nd year, December 2020)

Henceforth, the early mentioned supervisors (TEs, CT and US) are sources of internal and external support for PSTs. Some group internal dimensions created during the school placement, such as the weekly meetings with the CT, were sometimes compromised in terms of efficiency as stated in the *Field diary, 2nd year, December 2021*. The PSTs assumed a lack of attention to their pedagogical learning process that turned into challenge. Moreover, external dimensions also contributed to their lack of meaning attribution, such as the fact that the conversations with the CT avoided difficult issues, namely, exploring the SCAs in practice. Additionally, the PSTs attempt to bring a new learning approach from a different context (SCAs) were confronted with the absence of required skills to facilitate a new approach by the main facilitator (CT).

One more missing piece - impossibility of looking at stakeholders as role models

The PSTs were talking in the teacher's room about observing the CT classes. Francisco said: 'I thought that he was going to use the models [SCA or student-centred models such as Sport Education or Teaching Games for Understanding...], but he is not. I'd rather use that time to prepare my classes.' And João added, 'None of the teachers in this school are implementing them [SCA]. I actually don't have anyone to compare besides you [other PSTs]'. (Field diary, 2nd year, November 2020)

The direction of PETE programmes and PSTs professional development towards SCA presents difficulties in following the demands of the continuous professional development of their supervisors, and specially the schools that receive them.

The other teachers around the PSTs may have the ability of orienting them towards the broader landscape around PETE and in the SCA direction. This means that, the fact that other teachers in the landscape are not implementing SCA could be an excuse for the

PSTs to not give it a proper chance. The PSTs acknowledgment that the CT and other schoolteachers' practice was different from the one they have been trained to pursue, makes it difficult for them to understand why they should engage in so much effort toward SCAs implementation. Therefore, it was hard for them to understand why they had to do something, to be better teachers (according to their PETE guidelines and their entire teacher education till that moment) and promote PE innovation and students' evolution, that no one else in their contexts was doing.

Discussion

The end perspective – PSTs future SCAs implementation

Challenges of value-creation cycles: PETE programme process of generating value

Value creation inside of a SLS can occur at distinct stages of each cycle and more than one cycle can be involved in any given activity, making these processes sometimes indistinguishable (Wenger-Trayner & Wenger-Trayner, 2020). Inside of such a complex culture of PSTs, TEs and supervisors that is PETE (Casey & MacPhail, 2018), many relations between these cycles can occur, however, their distinction was useful to intentionally understand the challenges faced and how to improve in future learning practices.

Therefore, in the first year of PETE, the PSTs experienced for the first time not only the SCAs but also, the required work in group by peer-teaching and micro-teaching. These two design characteristics represented a major constitution in the SLS. First, SCAs due to the importance on the evolution of PE and, because it also represents an innovative pedagogical approach for this generation of PSTs, who were still mostly taught in a teacher-centred paradigm. Additionally, working in group, by being the first step towards social learning, promoting interactions between the PSTs. Nevertheless, despite these PETE characteristics seemed to be the key for SLS success, they were the ones revealing the main challenges to PSTs and their will to make a difference.

Hence, the fact that the assigned work groups were not primarily chosen by PSTs or not selected by a natural sense of connection between participants, contributed to some of them not feeling united with each other. Nurturing a SLS with mutual trust, respect and support, essential to negotiate challenges that emerged is a key characteristic for professional learning (Tannehill & MacPhail, 2017; Yoon & Armour, 2017). Therefore, their first experience in working as a group was characterized by the discomfort of social disengagement limiting the immediate value creation.

Furthermore, the PSTs recognized their first SCA experience as utopic, regarding the context of implementation in peer-teaching, in comparison to what they envisioned to encounter in a real school context. Thus, the primary mission of promoting a positive influence on PSTs about the benefits of SCAs implementation on their future practice was overwhelmed by the ‘unreal’ experience they had by teaching their peers. This compromised potential value creation on a crucial stage of PSTs development that is the transition from year one to school placement. In Hordvik et al. (2019) study, the PSTs highlighted that, teachers and PSTs make sense of their PETE learning in a specific setting and a set of circumstances. This may mean that teaching in school, that is produced by a joint sense-making, may look substantially different from one context to the next (e.g., school placement).

Despite of that, the fact that SCA implementation was important for individual success in PSTs assessment while in school placement, made them proceed with the implementation but failing to understand the real purpose of the teaching-learning process. They centred the concerns on their own professional development instead of embedding their decisions about pedagogical practice regarding their student’s needs. While PSTs’ PETE experiences can facilitate their teaching of SCAs (Deenihan & MacPhail, 2013; Braga & Liversedge, 2017), being assessed on their teaching while undertaking school placement can lead to a concern from PSTs on implementing SCAs (Deenihan & MacPhail, 2017). Thus, this self-centred concern and individualization of the process contributed to the dearth of meaning of the applied value. Likewise, PSTs demonstrating difficulties in sharing their pedagogical practice dilemmas with each other and with the supervisors, pushed them away from a recognition that failure is an opportunity for learning. Mutual trust, respect and support are essential in SLS because learning is supported by conversation and stories about problematic and especially

difficult cases (Patton & Parker, 2017; Wenger, 1998), which contribute to increase realized values.

In the intricacies of the process, the PSTs' supervisors presented characteristics that made PSTs construct assumptions about their type of contribution to the SLS. Accordingly, when these stakeholders got time available with PSTs they do not engage in in-depth analysis of the process: by not engaging in solving specific problems due to their curricular agenda (the TEs' case); or because they did not have enough knowledge to explore the SCAs practical problems with the PSTs (the CTs' case); or because they had the expertise and knowledge but they did not have the time available (the USs' case). As Wenger-Trayner and Wenger-Trayner (2020) acknowledge, the different participants of the SLS may pay attention to different aspects. Namely, the fact that facilitators (TEs and supervising team) may be more interested in providing immediate value through engaging learning interactions or potential value through the production of outputs, while PSTs may care more about applied value to address challenges in their practice or in transformations of their environment that make it easier and more meaningful. Hence, this had impact on the way PSTs were counting on their supervisors also contributing to hamper the group connections inside of the SLS, compromising their strategy as a group and the way facilitators enabled PSTs professional development.

In addition, the fact that the supervisors, mainly the CT, did not implement SCAs in their practice was an obstacle for orienting value creation, as PSTs were not led by example, which contributed to diminish their believe in innovative approaches and how much impact they could bring to PE. The CT also influences PSTs' teaching of SCAs. Research reveals that some CTs encouraged and supported PSTs to teach SCAs while undertaking school placement, others encouraged PSTs not to teach SCAs (Deenihan & MacPhail, 2017). The latter point may be related to CTs being unfamiliar with SCAs. Therefore, if SCAs have to be taken over by PSTs, there is perhaps a greater likelihood that they will do so when it is presented in a coherent way by several TEs and supervisors. Coherence has been identified as a central pillar of powerful teacher education programmes (Klette & Hammerness, 2016) and so, it follows that this principle should also apply when thinking about implementing SCAs in PETE programmes (Gurvitch et al., 2008).

The broader effect of the PETE programme in value creation in PSTs future SCA implementation – a door for potential future avenues for research

There is a possibility that SLSs inside PETE might have a transformative impact in the future PSTs PE practice. This transformative value is mentioned by Wenger-Trayner and Wenger-Trayner (2020) as some sort of broader effect that might alter the internal dynamics of the SLS or provoke an external transformation outside of the space.

The internal dimension of this transformative value while connected to new learning imperatives can relate to the PETE programmes aim, that was engaging PSTs in innovative practices such as SCAs and ‘plant the seed’ to their future implementation in their professional teacher practice. Hence, the product of value creation can enable wider transformations, innovations, or changes in mindset that can bring a radical rethink of what differences participants care about, what it will take, and how to assess it. Moreover, the transformation in the broader landscape can also be related to an external dimension, regarding institutional changes, that can realign or more often cause realignments in structures and policies such as the ones stated by host schools and its accentuated culture of teacher-centredness. This transformative value is difficult to predict or to plan for. However, there are spaces that could be intentional about it, such as PETE programmes. As Wenger-Trayner and Wenger-Trayner (2020) stated, transformation in some contexts is necessary for social learning to make the intended difference, which in fact, was the purpose of PETE.

Nevertheless, PSTs learning does not directly transfer into practice, and suggests that multiple enabling and constraining elements influence the pedagogical decision-making and the enactment of teaching practices (Strom & Martin, 2015). PETE literature reinforces that, changes in PSTs PE outcome focus usually do not have a developmental impact and may occur only in the short term (Adamakis & Zounhia, 2016). Such changes concern shifts from the assimilation of SCAs (Matanin & Collier, 2003) and adoption of alternative pedagogical content knowledge behaviours (Sinelnikov et al., 2016), adding a level of concern about the possibilities of innovation in the future generation of PE teachers.

Moreover, learning strategies such as a SLS are not necessarily intentional and can emerge from improvised single conversations or designed with meeting agenda and

facilitation (Wenger-Trayner & Wenger-Trayner, 2020). By acknowledging that, we suggest that social learning strategies should be prepared, designed and studied by TEs and the other stakeholders with mentoring purpose in a PETE programme instead of claiming its spontaneity. Hence, universities hosting PETE may need to consider offering a sustained programme of professional development to in-service teachers who act as CTs (Armour, 2010), with a focus not only in promoting pedagogical content knowledge about SCAs but also, about learning strategies that suit the purpose of teaching how to teach those approaches (e.g., SLSs, Communities of Practice, Teacher Learning Communities, etc.)

Furthermore, when a SLS is recognized, its potential of value creation can be emphasized if a constructive exploration of its internal dynamic happens. Hence, we suggest that PETE educators often proceed to analyse the different phases of development of a SLS trying to identify possible problems in initial stages of development of the social and interactive dynamics that can be preventing the value creation of those learnings.

Additionally, future research on the topic of social learning strategies inside PETE programme that are pursuing SCAs implementation, can explore another social learning modes such as flow and loops between the cycles of value creation (Wenger-Trayner & Wenger-Trayner, 2020).

Our hope is that our analysis of different challenges inside of the different cycles can be an example of how some adjustments along the way could have impacted these PSTs experience of learning SCAs and maybe, powerfully contributed to future implementation.

Funding

This work was supported by the Foundation for Science and Technology (FCT, Portugal) through the (Grant number) grant awarded to the first author.

Disclosure statement

No potential conflict of interest was reported by the authors.

References

- Adamakis, M., & Zounhia, K. (2016). The impact of occupational socialization on physical education pre-service teachers' beliefs about four important curricular outcomes: A cross-sectional study. *European Physical Education Review*, 22(3), 279-297.
- Alves, M., MacPhail, A., Queirós, P., & Batista, P. (2019). Becoming a physical education teacher during formalised school placement: A rollercoaster of emotions. *European Physical Education Review*, 25(3), 893-909.
- Armour, K. M. (2010). The physical education profession and its professional responsibility... or... why '12 weeks paid holiday' will never be enough. *Physical Education and Sport Pedagogy*, 15(1), 1-13.
- Braga, L., & Liversedge, P. (2017). Challenges and facilitators to the implementation of a sport education season: The voices of teacher candidates. *Physical Educator*, 74(1), 19.
- Casey, A., & MacPhail, A. (2018). Adopting a models-based approach to teaching physical education. *Physical Education and Sport Pedagogy*, 23(3), 294-310.
- Charmaz, K., & Belgrave, L. L. (2019). Thinking about data with grounded theory. *Qualitative Inquiry*, 25(8), 743-753.
- Deenihan, J. T., McPhail, A., & Young, A. M. (2011). 'Living the curriculum': Integrating sport education into a Physical Education Teacher Education programme. *European Physical Education Review*, 17(1), 51-68.
- Deenihan, J. T., & MacPhail, A. (2017). The influence of organizational socialization in preservice teachers' delivery of sport education. *Journal of Teaching in Physical Education*, 36(4), 477-484.
- Dillon, M., Tannehill, D., & O'Sullivan, M. (2017). "I know when I did it, I got frustrated": The Influence of 'Living' a Curriculum for Preservice Teachers. *Journal of Teaching in Physical Education*, 36(4), 445-454.
- Dyson, B., & Casey, A. (2016). *Cooperative learning in physical education and physical activity: A practical introduction*. Routledge.
- Gonçalves, L., Parker, M., Luguetti, C., & Carbinatto, M. (2021). 'We united to defend ourselves and face our struggles': nurturing a physical education teachers'

community of practice in a precarious context. *Physical Education and Sport Pedagogy*, 1-14.

Goodyear, V., & Dudley, D. (2015). "I'm a facilitator of learning!" Understanding what teachers and students do within student-centered physical education models. *Quest*, 67(3), 274-289.

Gurvitch, R., Blankenship, B. T., Metzler, M. W., & Lund, J. L. (2008). Student teachers' implementation of model-based instruction: facilitators and inhibitors. *Journal of Teaching in Physical Education*, 27(4), 466-486.

Holstein, J. A., & Gubrium, J. F. (Eds.). (2013). *Handbook of constructionist research*. Guilford Publications.

Hordvik, M. M., MacPhail, A., & Ronglan, L. T. (2017). Teaching and learning sport education: A self-study exploring the experiences of a teacher educator and pre-service teachers. *Journal of Teaching in Physical Education*, 36(2), 232-243.

Hordvik, M., MacPhail, A., & Ronglan, L. T. (2019). Negotiating the complexity of teaching: A rhizomatic consideration of pre-service teachers' school placement experiences. *Physical Education and Sport Pedagogy*, 24(5), 447-462.

Hordvik, M., Haugen, A. L., Engebretsen, B., Møller, L., & Fletcher, T. (2021). A collaborative approach to teaching about teaching using models-based practice: developing coherence in one PETE module. *Physical Education and Sport Pedagogy*, 26(5), 433-447.

Hordvik, M., MacPhail, A., & Ronglan, L. T. (2020). Developing a pedagogy of teacher education using self-study: A rhizomatic examination of negotiating learning and practice. *Teaching and teacher education*, 88, 102969.

Klette, K., & Hammerness, K. (2016). Conceptual framework for analyzing qualities in teacher education: Looking at features of teacher education from an international perspective. *Acta Didactica Norge*, 10(2), 26-52.

Loughran, J. (2013). *Developing a pedagogy of teacher education: Understanding teaching & learning about teaching*. Routledge.

Lugueti, C., Lopes, P., Sobrinho, D. R. D. S., Carbinatto, M. V., & MacPhail, A. (2019). The complexity, tensions and struggles in developing learning communities throughout a Sport Education season. *European Physical Education Review*, 25(4), 1075-1092.

Lund, J., & Tannehill, D. (2014). *Standards-based physical education curriculum development*. Jones & Bartlett Publishers.

MacPhail, A., Tannehill, D., & Ataman, R. (2021). The role of the critical friend in supporting and enhancing professional learning and development. *Professional Development in Education*, 1-14.

MacPhail, A., Patton, K., Parker, M., & Tannehill, D. (2014). Leading by example: Teacher educators' professional learning through communities of practice. *Quest*, 66(1), 39-56.

Matanin, M., & Collier, C. (2003). Longitudinal analysis of preservice teachers' beliefs about teaching physical education. *Journal of teaching in physical education*, 22(2), 153-168.

Oliver, K. L., Luguetti, C., Aranda, R., Nuñez Enriquez, O., & Rodriguez, A. A. (2018). 'Where do I go from here?': learning to become activist teachers through a community of practice. *Physical Education and Sport Pedagogy*, 23(2), 150-165.

Oslin, J., Collier, C., & Mitchell, S. (2001). Living the curriculum. *Journal of Physical Education, Recreation & Dance*, 72(5), 47-51.

Patton, K., & Parker, M. (2017). Teacher education communities of practice: More than a culture of collaboration. *Teaching and Teacher Education*, 67, 351-360.

Reeves, S., Peller, J., Goldman, J., & Kitto, S. (2013). Ethnography in qualitative educational research: AMEE Guide No. 80. *Medical teacher*, 35(8), e1365-e1379.

Richards, K. A. R., & Sinelnikov, O. A. (2019). An interdivision mentoring program: Doctoral students as mentors for preservice teachers. *Physical Educator*, 76(1), 156-181.

Schwamberger, B., & Curtner-Smith, M. (2017). Influence of a training programme on a preservice teacher's ability to promote moral and sporting behaviour in sport education. *European Physical Education Review*, 23(4), 428-443.

Sinelnikov, O. A., Kim, I., Ward, P., Curtner-Smith, M., & Li, W. (2016). Changing beginning teachers' content knowledge and its effects on student learning. *Physical Education and Sport Pedagogy*, 21(4), 425-440.

Siedentop, D., Hastie, P., & Van der Mars, H. (2019). *Complete guide to sport education*. Human Kinetics.

Silva, R., Farias, C., & Mesquita, I. (2021). Challenges faced by preservice and novice teachers in implementing student-centred models: A systematic review. *European Physical Education Review*, 27(4), 798-816.

Sinclair, C., & Thornton, L. J. (2018). Exploring preservice teachers' conceptions after 'living a hybrid curriculum'. *European Physical Education Review*, 24(2), 133-151.

Strom, K., & Martin, A. D. (2015). Pursuing lines of flight: Enacting equity-based preservice teacher learning in first-year teaching. *Policy futures in education*, 14(2), 252-273.

Tannehill, D., Parker, M., Tindall, D., Moody, B., & MacPhail, A. (2015). Looking across and within: Studying ourselves as teacher educators. *Asia-Pacific Journal of Health, Sport and Physical Education*, 6(3), 299-311.

Thyer, B. (2009). *The handbook of social work research methods*. Sage Publications.

Tannehill, D., & MacPhail, A. (2017). Teacher empowerment through engagement in a learning community in Ireland: Working across disadvantaged schools. *Professional development in education*, 43(3), 334-352.

Valério, C., Farias, C., & Mesquita, I. (2021). Pre-service teachers' learning and implementation of student-centred models in physical education: a systematic re. *Journal of Physical Education & Sport*, 21(6).

Wenger, E. (1998). Communities of practice: Learning as a social system. *Systems thinker*, 9(5), 2-3.

Wenger-Trayner, E., & Wenger-Trayner, B. (2020). *Learning to make a difference: Value creation in social learning spaces*. Cambridge University Press.

Yoon, K., & Armour, K. M. (2017). Mapping physical education teachers' professional learning and impacts on pupil learning in a community of practice in South Korea. *Physical Education and Sport Pedagogy*, 22(4), 427-444.

CHAPTER V – FINAL THOUGHTS

5.1. General discussion

This study assists in providing insightful and innovative empirical information regarding PSTs' engagement in social collaborative strategies (e.g., CoP) in their process of development towards SCAs implementation during their PETE programme, by developing an in-depth follow-up longitudinal analysis throughout an ethnography of the entire course of the programme.

Since this study pursues an interrelated analysis of the progress of PSTs along the two-year programme, the following discussion intends to uncover an integrated analysis of the empirical acknowledgements with a reinforcement of the current literature stated in the theoretical articles. Furthermore, across this discussion I intend to guide the reader throughout my process of knowledge construction and integrated reflection along the study journey.

Namely, starting by acknowledging the importance of being open to limitless and unexpected forms of culture manifestation inside of a PETE programme, and how it helped me shift some of the initial expectations. Secondly, by analysing the social collaborative dynamics and their impact on PSTs development. Finally, through the exploration of the PSTs' journey towards innovative pedagogy inside of their teacher education development.

- *Giving up on expectations to open doors for novelty - The relevance of identifying challenges in the evolution of future teachers' professional development*

The main aim of this thesis was to understand the professional development process of PSTs throughout an entire course of a PETE programme, and how the dynamic of their social interactions with the stakeholders was contributing (or not) for their development towards SCAs implementation. From now on in this discussion, the engagement in a CoP is no longer assumed, since it was expressed in the results of the empirical studies that no effective CoP was entirely cultivated along the process. This assumption opened space for different interpretations of the data, changing the shift of the initial aim to discover the role of the CoP, to the complex understanding of how a

CoP did not thrive, in a PETE programme that expects its occurrence in their policy. Nonetheless, the comprehensive analysis of the social internal dynamics inside of collaborative structures along the PSTs' professional development (e.g., work groups in the first year and school placement group of PSTs and their supervising team) allowed the identification of numerous challenges faced by PSTs in their journey. This study was therefore, based on the in-depth analysis of those challenges with the intention to better understand possible further steps that can be done to improve the effectiveness of such social learning strategies (e.g., CoPs, Social Learning Spaces, Communities of Learners, Professional Learning Communities) and ultimately, the redesign of important contexts of teacher professional development such as PETE programmes.

The acknowledgment of the need for a shift in the study aim while the data was being analysed, was also a major process of my development as an ethnographer. Indeed, in parallel with the PSTs, I also struggled to understand the volatility of the culture in study, specially, the open possibility of the events. Despite previously knowing that, the PSTs would be able to select their own pedagogical processes (in terms of the choice of pedagogical models to teach), I was focused on looking for what I wanted to happen – but the set surprised me with a chain of non-related events about SCAs and, additionally, dysfunctional work groups.

Hereafter, the development of an analytic autoethnographic study '*Becoming an ethnographer in a Physical Education Teacher Education culture: a challenging self-knowledge journey*', was the first step in my self-analysis that allowed the revelation of my ontological position, leading to a clearer view of the 'bigger picture' I had in hands. I believe that sharing my struggles and the strategies I used to deal with them along my journey, provide strong insights for another novice ethnographers. Nevertheless, I emphasise how much it contributed to my own ability to rearrange my expectations and adjust what an ethnography should pursuit, which is point out the unknown, analyse it and transform that information into rich insights.

*Physical Education Teacher Education programmes mask of collaboration
– powerful on paper, vanished on practicum*

Literature regarding social learning strategies often highlights the successful alliance of this collaborative approaches in PE. However, CoPs have been used primarily as a professional learning strategy for teachers (Hunuk, 2017; Parker & Patton, 2017; Parker et al., 2021), fewer studies focused on PETE programmes and PSTs' professional development (Herold & Waring, 2018; Luguetti, et al., 2020). Furthermore, literature states that the engagement in communities may address teachers' particular needs and interests and encourage them to strive for what is deemed to be a worthwhile, relevant, and meaningful PE experience for their students (MacPhail & Tannehill, 2012).

Nevertheless, to our best knowledge none of the studies reported in literature explored the entire course of a programme and in what ways it is designed to promote the effective cultivation of a CoP. As stated in the systematic review study, *'Pre-service teachers' learning and implementation of student-centred models in physical education: a systematic review'*, most research has consistently neglected the integrated analysis of the different stages of PSTs' professional development during their PETE programmes, by studying either course units' development or PSTs' school placement teaching practice in isolation.

In the second empirical study *'Pre-service teachers' negotiation of meaning in their Physical Education Teacher Education programme: A two-year follow-up ethnography'*, the process of negotiation of meaning was profoundly analysed and six challenges faced by PSTs regarding collaborative social interactions in the entire course of PETE were identified. In the course units, (a) the diversity and disconnections within the course units; (b) (the lack of) membership; and (c) the absence of democratic spaces in PETE class discussions. In the school placement, (a) the lack of dialogue with and focus on pedagogical practice by the cooperating teacher; (b) working together and the pressure to individualise PSTs' education process; and (c) unreachable support and supervision from the university.

As pointed, the results reveal that, despite designing course units experience in work groups, there is no particular concern in the first year of PETE to prepare the PSTs for a possible engagement in a CoP. This group structure in the first year could have had

the potential to sustain the occurrence of collaborative interaction, but the evolving context shadowed its possibilities. Indeed, the design of the PETE was created to increase the possibilities for the PSTs to experience theory in practice, by peer-teaching and micro teaching in group, and not specifically to promote collaborative learning. Moreover, in the first year, PSTs face enormous amounts of work due to the volume of course units and related assignments they had to fulfil, reducing the time available to discuss and engage in reflexive practice as a group. Also, these groups were different from one course unit to another, which demanded constant shifts of work dynamics.

Additionally, a major obstacle to the spontaneous formation of CoPs inside those work groups was the absence of a facilitator. In the first year, the TEs only engage in few moments of collaborative reflection, mostly with the entire class of PSTs.

Hence, the challenges related to high volumes of required work, group changes of elements and lack of a facilitator, were the ones hampering the attribution of meaning to this type of social learning strategy in the first year. Those might have channelled the events of the school placement, or at least revealed a non-supportive basis for a CoP to flourish due to early learning experiences.

In accordance, the second theoretical article, narrative review '*A narrative review about Physical Education learning strategies towards innovative teachers' professional development: are Communities of Practice being romanticized?*', corroborates that despite CoPs cannot be created, they can be supported and fostered to situate learning in an authentic context (Hoadley, 2012). For that to happen, it is important that members have the time to share some form of history for the CoP to emerge from (Barab & Duffy, 2012; Hoadley, 2012). The constant group change and noticeable lack of deep interaction between members, corroborates the idea that this dynamic diffculted the process of shared experiences as a collaborative structure.

Thereafter, two months after finishing the first year, PSTs faced school placement with little baggage of real school experiences. However, one advantage in comparison to the first year was that they would be followed by a CT who could support them daily.

However, the CT was not an expert in every subject they needed help (specially, regarding SCAs), this led to the PSTs lack of meaning attribution to his role as a facilitator. Moreover, despite having a US, the PSTs connection with him was so scarce that they did not feel that their expertise was available to help them. In this sense, both of

their mentors were not able to connect them as a CoP. Consequently, and by acknowledging the relevance of their final grades, PSTs pursue an individualized process along their school placement. Hereafter, the lack of continuous professional development from the CT (not only pedagogical and content knowledge renovation, but also, a demand for facing their occupation socialization anticipatory experiences) and the lack of time that the US had available to engage with the PSTs process in the real contexts (e.g., in this study the US had to coordinate almost 30 PSTs from different schools), are two major concerns in PETE programme designs. Research states that, facilitators' perceptions of successful collaborative groups identify the importance of focusing on student learning, considering teachers as learners and being attentive to teachers' empowerment (Patton & Parker, 2014). Moreover, successful facilitation has been identified in the literature as a process that enables teachers to actively construct new meaning based on prior knowledge and experiences, recognizes the influence of others in the social environment, and emphasizes the relevance of formal knowledge (Patton et al., 2012; Patton & Parker, 2012). However, the PETE programme was not prepared to allow the establishment of such conditions regarding successful facilitation, mostly because of lack of time and continuous professional development.

Additionally, the narrative review study, reveals that, research in PE domain is still scarce regarding to the examination of mentor's roles and practices in embedding the professional responsibility for professional learning for both TE and PSTs in a PETE programmes (MacPhail, 2011). Furthermore, research shows that, PSTs could present difficulties in engaging with mentors, which often results in the creation of CoPs only formed by PSTs (Luguetti et al., 2019). It is also highlighted the importance of mentors modelling the development of learning skills and involvement in a CoP with the aim to engage PSTs in continued professional learning as part of a community (Armour, 2010; MacPhail, 2011). Hence, despite the notion that mentors have an important role in engaging PSTs in collaborative work along PETE, and that they should engage in continuous professional development significant social dynamics and group processes that shaped their practice (e.g., common focus, personal and professional relationships, safe but challenging spaces, and shared commitment) (Patton & Parker, 2017), less is reported in research about how PETE programmes can adjust their agenda to promote this change.

- *Pursuing innovation without leading transformation – ‘Learning to make a difference’ towards SCAs*

When adding the layer of SCAs in this research data analysis, the PETE characteristics (e.g., PSTs learning SCAs and through SCAs in the first year while working in groups) seemed promising regarding the connection between social learning strategies and SCAs. In accordance, literature notes that PETE programmes have primary missions, such as: they should lead PSTs to question and challenge faulty assumptions about PE developed through acculturation (e.g., fighting the occupation socialization limiting factors); and, second, they should prepare PSTs for the role of PE teacher. This preparation should include the technical aspects related to the knowledge and skills of teaching PE (e.g., respond to the contemporary curriculum demands – SCAs), as well as preparation to implement the strategies learned in the socio-political contexts of schools that may marginalize the discipline (e.g., work in group to legitimize the relevance of PE in school curriculum – throughout the engagement in CoPs) (Richards et al., 2013).

However, the complex requirements of pedagogical innovation (since, most of the PSTs had previously experienced PE in a teacher-centred approach) soon revealed another assemblage of challenges. Here, the theoretical integration of the data led to the concept of Social Learning Spaces (Wenger-Trayner & Wenger-Trayner, 2020) that allowed a greater understanding of the process of value creation around those collaborative learning experiences. Hence, in the third empirical article, *‘Challenges in generating value in the Pre-service teachers journey from learning to implementing Student-centred Approaches: an ethnography study along a two-year PETE’*, the aim was to understand what type of challenges and difficulties PSTs face while going throughout the cycles of value creation regarding SCAs throughout their PETE programme. The challenges to value attribution to those experiences revealed feelings of isolation in work groups; utopic experience of SCAs in the contexts of peer-teaching; PSTs implementing SCAs to brighten up their performance towards a better assessment; PSTs prioritizing their individual process; PSTs relation with the main stakeholders (TEs, CTs and US); and, the lack of a practical example from their mentors (CT or other teachers from the school they were at the second year) of SCAs implementation. Once again, these challenges were encountered since the beginning of the PETE process, which might

explain some history of unsuccessful value attribution to this kind of pedagogical approach.

In accordance, the systematic review study, also corroborates that in the learning phases of SCAs, some PSTs showed signs of frustration by not being able to design class plans that fulfil the SCAs requirements (e.g., small-sided games, tactical-focused, etc.) and opted to teach less complex and decontextualized traditional approaches (e.g., teacher-centred, direct-instruction) (McCaughy et al., 2004). Hence, this endorsed further acknowledgment of how important valuable first experiences of SCAs could be in the future of PSTs proceeding to their implementation in a real school context.

Furthermore, the mentors play, once again, a highly relevant role, not only in their interaction with PSTs, but in the way they present themselves as an example. Regarding the complexity of PETE and the difficulties associated with this collaborative engagement essential to pursuit SCAs, TEs are required to take considerable personal and professional risks by exposing their confusion and uncertainties around, what are for them, innovative practices. Making oneself vulnerable, stepping out of one's comfort zone, and consistently revisiting or reframing one's beliefs and values thus become key aspects of engaging in rigorous self-study research (Attard, 2014; Casey, 2014; MacPhail, 2011; Tannehill, 2014). Not only are deeper understandings of teaching enabled through TEs and PSTs co-constructing knowledge of teaching, but TEs also explicitly model themselves as lifelong learners to future teachers, thus extending their influence and impact (MacPhail, 2011; MacPhail et al., 2014).

Accordingly, a common concern in literature around PETE is, programmes might be overly concerned with producing PSTs who follow change (O'Sullivan, 2003) rather than lead it (MacPhail et al., 2014). Thus, concerning questions are raised regarding how PETE are asking PSTs to be the leaders of a PE conceptual innovation, since the ones responsible for supporting them are not engaging in it. Therefore, efforts should be made in order to promote continuous professional development from not only TEs but from the teachers at the host schools that receive the PSTs in their school placement. As stated by MacPhail et al. (2014, p.54) 'a physical education teacher educator's investment in professional learning and professional development, and the successful portrayal of that to PSTs through innovative pedagogies, role modelling, and mentoring, would improve PSTs' experiences in the PETE programme. In addition, it has the potential to instil the

appreciation and necessity for lifelong learning (possibly through a CoP) as they move into teaching in schools, and perhaps combat the negative aspects of occupational socialization.’.

Moreover, another question that could be raised from the empirical study’s results is why PSTs walk towards individuality along the course of their PETE programme. Despite the efforts to create the conditions for collaboration, aggregating groups of PSTs in the course units in the first year as well as in the host school in the second year, there was an issue, particularly in school placement, that impacted that sense of ‘togetherness’ – individual grades for each PSTs.

The assessment of the PSTs in the first year of PETE serves mostly to prioritize school placements. Hence, the PSTs apply for the schools they would like to work with, and the attribution depends on their grades. However, pressure adds when the assessment of the school placement is the one that counts the most for their final course grade, that eventually, is the number that allocates them in the teachers’ national education system.

Hereafter, the results of the second empirical study reinforced that when PSTs faced high volumes of work and lack of time, they opted to disregard the meaning of working in collaboration. Another major contributor to this problem was, once again, the lack of a facilitator that understood the institutional pressures, cultures and expectation (Fletcher et al., 2020). In this regard, the third empirical article corroborates the idea that there was institutional pressure for the implementation of SCAs. Hence, PSTs were aware of the fact that their grades might benefit from the implementation of SCAs, and this acknowledgment led them to a decontextualized implementation that were empty of meaning for their pupils. Additionally, as previously indicated, PSTs enter PETE programmes with pre-conceptions about how learning occurs and that the role of the teacher must always be limited to the dispenser of knowledge (Hammerness et al., 2005).

Research specific to PETE indicates that this can limit PSTs’ openness to learning about and using teaching practices influenced by constructivist views on learning such as SCAs (Gurvitch et al., 2008). Hence, PSTs’ occupational socialization influences practice (Curtner-Smith et al., 2008; Stran & Curtner-Smith, 2009) and consequently PSTs teach differing versions of SCAs. Also, PSTs’ knowledge influences their SCAs teaching (Stran & Curtner-Smith, 2010), with PSTs gradually developing their knowledge and understanding about teaching and learning SCAs (Glotova & Hastie, 2014; Hordvik et

al., 2017). Likewise, PSTs were acting in accordance with what they thought being the best pedagogical investment to accomplish higher grades, without being able to construct value around collaborative achievements.

Nevertheless, in regard to this issue, the design of the school placement should also be call for analysis. Thus, in some school placements, assisting to the others PSTs' classes was not compulsory and for that reason, when the workload increased, the PSTs initial concern for accompanying each other's process vanished. Thus, PSTs opted for prioritizing their own process instead of accompanying each other's developments. This led to a constant lack of ability to discuss the dilemmas faced in pedagogical practice during group meetings, due to the lack of information available to engage in a search for solutions. Despite PETE having a central role to play in providing transformative learning experiences for PSTs (Amade-Escot & Amans-Passaga, 2007; Rovegno, 2008) the quality of PETE programmes influences PSTs' teaching of SCAs (Curtner-Smith et al., 2008; Stran & Curtner-Smith, 2010). While PSTs' PETE experiences can facilitate their teaching of SCAs (Deenihan & MacPhail, 2013; Braga & Liversedge, 2017), being assessed on their teaching while undertaking school placement can lead to a concern from PSTs on 'experimenting' SCAs (Deenihan & MacPhail, 2017). The CT also influences PSTs' teaching of SCAs. While some CTs encouraged and supported PSTs to teach SCAs while undertaking school placement, others encouraged PSTs not to teach SCAs (Deenihan & MacPhail, 2013; 2017). This latter point may well be associated with CTs being unfamiliar with SCAs (Deenihan & MacPhail, 2017). Thus, when the programme itself is not designed to engage PSTs in shared moments of pedagogical practice (or peer-observation), a door to choose individuality is open. Adding the pressure of assessment, the PETE characteristics might be responsible for the lack of CoP cultivation.

Therefore, the way PSTs, TEs, CTs and USs view SCAs inside the PETE programme and the ways to achieve pedagogical innovation revealed disparity. However, the present work argues that if PETE programmes recognize the power of social learning strategies and intend to incorporate them in their aims as means to achieve meaningful moments of collaboration, they should explore it from the beginning of PSTs' professional development to increase the possibilities of achieving success.

5.2. Practical applications for PETE programme

Given the research design adopted, and the results obtained, the present thesis offers several practical guidelines for PETE programmes and their main stakeholders.

- Firstly, by acknowledging that the PETE programme in study was designed to the occurrence of a CoP in the PSTs school placement, the fact that a CoP did not flourish suggests that PETE programmes should differentiate between the creation of spontaneous, naturally occurring CoPs from intentionally fostered ones. By acknowledging that, we suggest that social learning strategies should be prepared, designed and studied by TEs and the other stakeholders with mentoring purpose in a PETE programme, instead of claiming its spontaneity. Hence, PETE should establish pre-defined learning goals and common aims for all the participants of the possible CoP in order to connected them by a domain of interest.

- Additionally, practical applications could be addressed regarding the different phases of PETE that were analysed – curricular year, learning phase and school placement, implementation phase.

In the *curricular year*, the present work suggests that PETE programmes should emphasise the improvement of group membership by engaging PSTs in a continuous and planned group work across the curricular year and retain PSTs in the same work group across different course units (at least more than two units). Regardless, a CoP cannot be just created, and their establishment requires time. Therefore, PETE CoPs should be fostered to have a history of experiences, continuous involvement between the members (e.g., PSTs and their supervisors in facilitators role). Furthermore, it is suggested the emphasis on sessions for discussion mediated by a facilitator (e.g., TEs, CTs or USs) where the different working groups (possible CoPs) could engage with each other, exchange ideas and talk about their achievements within a CoP. Also, PETE institutions could benefit from engaging in internal reflection about the optimisation of strength based pedagogical knowledge regarding course units' integration by cultivating a CoP of the TEs of the PETE programme. This integrative process might create a space for understanding of what each TE is doing and what can be adjusted collectively to pursue a collaborative culture that stimulates CoP cultivation in PSTs' professional development processes. This might lead to stronger preparation for work in group, with the emphasis

on specific strategies of working as CoP, attending to the real-life context of school, with the aim to model CoP enactment for PSTs and when they are actual teachers, they may be inspired to start their own CoP.

In the *school placement*, CTs of the PETE host schools should engage in diverse forms of sustained continuous professional development regarding the logic of the university education programme, to comprehend what is prioritised (e.g., if CoPs are prioritised by TEs in the first year, the CT should be able to understand what a CoP is) and how to collaborate in order to ensure development. Moreover, universities hosting PETE may need to consider offering a sustained programme of professional development to in-service teachers who act as CTs, with a focus not only in promoting pedagogical content knowledge about SCAs but also, about learning strategies that suit the purpose of teaching how to teach those approaches (e.g., SLSSs, Communities of Practice, Teacher Learning Communities, etc.). Additionally, PETE programme should guarantee that the university protocols with host schools are privileging schools where there is at least, one teacher engaging in SCAs, that be willing to accept PSTs observations and possible discussions about pedagogical practices, by promoting an on-going professional development support from the university experts. Similarly, to increase the chances for learning with peer observation, CTs in school placement should promote PSTs observations of each other's classes to guarantee the development of a shared enterprise when moments of collaborative discussion about pedagogical practice arise.

- Lastly, it is strongly recommend that the pressure of SCAs implementation by PSTs in school placement be ideologically disassociated from their notion of a better assessment. Hence, PETE programme should emphasize the importance that SCAs might have for the pupils learning process and not only for the PSTs professional development.

- Throughout this research project, it is acknowledged the relevance of identifying challenges as a mean to find better solutions. Hence, PETE stakeholders should engage in the analysis of the different phases of the collaborative work evolution towards the cultivation of a CoP (or other social learning strategy) to identify possible struggle on their development journey.

5.3. Avenues for future research

As previously stated in the start of this thesis, there is a need for additional studies that conduct longitudinal follow-up research designs that contemplate an integrated analysis of the entire course of the PETE programme. This could bridge the gap between university course work learning and peer teaching experiences and the unpredictable future school implementation as a future professional (learning, implementing, educational impact of implementation, mentoring processes, etc.). Moreover, a step further would be taken if research could follow a PST journey from their initial PETE formation till their first year as a novice teacher. Specifically, it would allow a further understanding of how PETE learning strategies work in promoting innovative pedagogical practices in real contexts by future teachers of PE.

Additionally, research would benefit from uncovering specific mentoring processes employed by TEs, CTs and USs that seek to apply social learning theory, that can support PSTs' delivery of SCAs. In this regard, literature would benefit from reports of the occurring transformations inside of a CoP (or other social learning strategy) and accounts of the main challenges faced by members while engaging in it. This might help PE and PETE community to predict possible problems and avoid that CoPs being theoretically considered simple and spontaneous.

Furthermore, future investigation addressing how universities delivering PETE programmes are preparing the host schools to receive PSTs could provide valuable information for an integrated process of development between institutions with distinctive cultural and political arrangements.

Concerning the evolution of the professional development of PSTs in, self-studies about their participation in CoPs in contexts of learning innovative pedagogies (such as SCAs) could be valuable to understand their vision about their PETE experience and how meaningful and valuable they acknowledge it.

5.4. References

- Amade-Escot, C., & Amans-Passaga, C. (2007). Quality Physical Education: A Review from Situated Research (1995-2005). *International Journal of Physical Education, a Review Publication*, 43(4 et 1), 4-11.
- Armour, K. M. (2010). The physical education profession and its professional responsibility... or... why '12 weeks paid holiday' will never be enough. *Physical Education and Sport Pedagogy*, 15(1), 1-13.
- Attard, K. (2014). Self-study as professional development: Some reflections from experience. In *Self-study in physical education teacher education* (pp. 29-43). Springer.
- Barab, S. A., and T. Duffy. (2012). "From Practice Fields to Communities of Practice." In *Theoretical Foundations of Learning Environments*. 2nd ed. edited by D. Jonassen and S. Lund, 29-65. Routledge.
- Braga, L., & Liversedge, P. (2017). Challenges and facilitators to the implementation of a sport education season: The voices of teacher candidates. *Physical Educator*, 74(1), 19.
- Casey, A. (2014). Models-based practice: Great white hope or white elephant?. *Physical education and sport pedagogy*, 19(1), 18-34.
- Curtner-Smith, M. D., Hastie, P. A., & Kinchin, G. D. (2008). Influence of occupational socialization on beginning teachers' interpretation and delivery of sport education. *Sport, Education and Society*, 13(1), 97-117.
- Deenihan, J. T., & MacPhail, A. (2017). The influence of organizational socialization in preservice teachers' delivery of sport education. *Journal of Teaching in Physical Education*, 36(4), 477-484.
- Deenihan, J. T., & MacPhail, A. (2013). A preservice teacher's delivery of sport education: Influences, difficulties and continued use. *Journal of Teaching in Physical Education*, 32(2), 166-185.
- Fletcher, T., Beckey, A., Larsson, H., & MacPhail, A. (2020). Better aligning teachers' and teacher educators' needs, priorities and demands. *School Physical Education and Teacher Education: Collaborative Redesign for the 21st Century*. Routledge.

Glotova, O. N., & Hastie, P. A. (2014). Learning to teach Sport Education in Russia: factors affecting model understanding and intentions to teach. *Sport, Education and Society*, 19(8), 1072-1088.

Gurvitch, R., Blankenship, B. T., Metzler, M. W., & Lund, J. L. (2008). Student teachers' implementation of model-based instruction: facilitators and inhibitors. *Journal of Teaching in Physical Education*, 27(4), 466-486.

Hammerness K, Darling-Hammond L, Bransford J, et al. (2005) How teachers learn and develop. In: Darling- Hammond L and Bransford J (eds) *Preparing Teachers for a Changing World: What Teachers Should Learn and Be Able to Do*, pp.1–39.

Herold, F., & Waring, M. (2018). An investigation of pre-service teachers' learning in physical education teacher education: Schools and university in partnership. *Sport, Education and Society*, 23(1), 95-107.

Hoadley, C. (2012). "What Is a Community of Practice and How Can We Support It?." In *Theoretical Foundations of Learning Environments*. 2nd ed. edited by D. Jonassen and S. Lund, 286–300. Routledge.

Hordvik, M. M., MacPhail, A., & Ronglan, L. T. (2017). Teaching and learning sport education: A self-study exploring the experiences of a teacher educator and pre-service teachers. *Journal of Teaching in Physical Education*, 36(2), 232-243.

Hunuk, D. (2017). A physical education teacher's journey: From district coordinator to facilitator. *Physical Education and Sport Pedagogy*, 22(3), 301-315.

Luguetti, C., Oliver, K. L., & Parker, M. (2020). Facilitation as an act of love: A self-study of how a facilitator's pedagogy changed over time in the process of supporting a community of learners. *Journal of Teaching in Physical Education*, 40(2), 207-214.

Luguetti, C., Kirk, D., & Oliver, K. L. (2019). Towards a pedagogy of love: exploring pre-service teachers' and youth's experiences of an activist sport pedagogical model. *Physical Education and Sport Pedagogy*, 24(6), 629-646.

MacPhail, A., Patton, K., Parker, M., & Tannehill, D. (2014). Leading by example: Teacher educators' professional learning through communities of practice. *Quest*, 66(1), 39-56.

MacPhail, A. (2011). Professional learning as a physical education teacher educator. *Physical Education and Sport Pedagogy*, 16(4), 435-451.

MacPhail, A., & Tannehill, D. (2012). Helping pre-service and beginning teachers examine and reframe assumptions about themselves as teachers and change agents: “Who is going to listen to you anyway?”. *Quest*, 64(4), 299-312.

McCaughtry, N., Sofo, S., Rovegno, I., & Curtner-Smith, M. (2004). Learning to teach sport education: Misunderstandings, pedagogical difficulties, and resistance. *European Physical Education Review*, 10(2), 135-155.

O’Sullivan, M. (2003). Learning to teach physical education. In S. J. Silverman & C. D. Ennis (Eds.), *Student learning in physical education: Applying research to enhance instruction*, 2nd edition, 275–294. Human Kinetics.

Parker, M., Patton, K., Gonçalves, L., Luguetti, C., and Lee, O. (2021). Learning communities and physical education professional development: A scoping review. *European Physical Education Review*.

Parker, M., & Patton, K. (2017). *Elementary 1 Physical Education in the United States*. In *Routledge Handbook of Primary Physical Education* (pp. 242-254). Routledge.

Patton, K., & Parker, M. (2014). Moving from ‘things to do on Monday’ to student learning: physical education professional development facilitators' views of success. *Physical Education and Sport Pedagogy*, 19(1), 60-75.

Patton, K., Parker, M., & Neutzling, M. M. (2012). Tennis shoes required: The role of the facilitator in professional development. *Research quarterly for exercise and sport*, 83(4), 522-532.

Patton, K., Parker, M., & Neutzling, M. M. (2012). Tennis shoes required: The role of the facilitator in professional development. *Research quarterly for exercise and sport*, 83(4), 522-532.

Patton, K., & Parker, M. (2017). Teacher education communities of practice: More than a culture of collaboration. *Teaching and Teacher Education*, 67, 351-360.

Richards, K. A. R., Templin, T. J., & Gaudreault, K. L. (2013). Understanding the realities of school life: Recommendations for the preparation of physical education teachers. *Quest*, 65(4), 442-457.

Rovegno, I. (2008). Learning and instruction in social, cultural environments: Promising research agendas. *Quest*, 60(1), 84-104.

Stran, M., & Curtner-Smith, M. (2009). Influence of Occupational Socialization on Two Preservice Teachers' Interpretation and Delivery of the Sport Education Model. *Journal of Teaching in Physical Education*, 28(1).

Stran, M., & Curtner-Smith, M. (2010). Impact of different types of knowledge on two preservice teachers' ability to learn and deliver the Sport Education model. *Physical Education and Sport Pedagogy*, 15(3), 243-256.

Tannehill, D. (2016). My journey to become a teacher educator. *Physical Education and Sport Pedagogy*, 21(1), 105-120.

Wenger-Trayner, E., & Wenger-Trayner, B. (2020). *Learning to make a difference: Value creation in social learning spaces*. Cambridge University Press.

SUPPLEMENTS

Supplement 1

Cycles of value creation – types of value

Type of value	Definition	Value dimensions (that could be + or -)
Immediate value	It is a direct experience of engaging in the SLS. The value lies in the experience of being in this space with the other participants, regardless of whether or not it leads to something else.	Identification; Sense of inclusion; Mutual recognition as learning partners; Conviviality and enjoyment; Productive discomfort; Contestability; Engaging with other perspectives; Exciting company; Generational encounters.
Potential value	Represents what should be remembered, individually and collectively. What the group recognize as relevant insights.	Concrete help with specific challenges; Innovation; Stories of others' experiences; Insight; Critique; Skills; Information; Resources; Intangibles; Self-worth; Collective voice; Social capital; Potential collaborators.
Applied value	The previous insights might be used to revise the participants learning strategy, they are not applied blindly but use the understanding of the context to adapt those insights and made them relevant.	Inventiveness (as a source of innovation in practice); Adoption/ adaption; Reuse; Being more assertive; Increasing your influence; Resisting more effectively; Harnessing synergy; Leveraging connections better.
Realized value	The difference participants care to make including any actual achievement – big or small – that takes them further on the path.	Personal; Collective; Stakeholders; Organizational; Societal.
Enabling value	Participants also learn the kinds of processes and activities that generate the most productive interactions. In addition to internal leadership, SLS often benefit from external support.	Internal: Commitment; Internal leadership; Robust back-channel; Transparency; Efficiency; Process; Language; Documenting. External: Social learning support; Bringing new learning approach from a different context; Logistics and technology; Strategic facilitation; Resources; Organizational initiative.

Strategic value	Reflects the extent and quality of conversations and relationships that help clarify the direction and usefulness of a SLS. Some of these strategic conversations take place internally among participants and some with external stakeholders.	Internal: Constituencies; Intentionality; Learning agenda; Strategic context. External: Stakeholders; Strategic context; Aspirations and expectations; Assessment; Ongoing engagement; Power, Resistance; Learning Theory; Alliances.
Orienting value	Orienting value represents an effort to reach beyond the learning space and its stakeholders and take this broader landscape into account.	Internal: Participant contexts; Biographies and identities; Inherited boundaries; Personal networks. External: Other spaces and boundaries; History and culture; Level of scale; Power structures; External audiences.
Transformative value	Improving our chances to make a specific difference (or failing to do so) is not the only possible outcome of social learning. It can bring about further transformations, for better or for worse – affecting a boundary, a mindset, identities, an institution, or power relations.	Internal: New learning imperatives; Personal transformation; Power shifts. External: New identities; Reconfigured boundaries; Institutional changes; Empowerment; History and culture.

Supplement 1. Cycles of value creation – Types of value (1st column); value definition (2nd column) and value dimensions (adapted from Wenger-Trayner & Wenger-Trayner (2020)).