

Bridging reflection theory and practices in physical education: a scoping review of teacher education

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Abstract

Mounting evidence from teacher education (TE) research, reflection, and reflective practices suggest that they play a pertinent role in building preservice physical education teachers' (PPETs) teaching knowledge and competence. Although reflection has become a crucial issue in the PE discourse over the last few decades, many different concepts and approaches/resources make its comprehension more difficult. Moreover, little knowledge exists about how to support educators and researchers in their studies and efforts to understand and improve the reflective ability of learners. It is critical to examine the existing knowledge base and implement its strategic solutions for future TE programs. Therefore, the objective of this review was to understand the current scope of published conceptual literature and research on reflection and reflective practices in PETE. The review included using the electronic databases of ERIC, SPORTDiscus, and Scopus. Based on the study's boundaries, 36 articles were deemed eligible out of 1,067 total articles. The resulting thematic synthesis draws attention to the construction of four essential themes: (a) conceptual background, (b) reflection history, (c) reflection in PETE, and (d) modes of reflective practices. Implications of this review included developing and cultivating reflective practices and future recommendations. Specifically, by providing practical examples, they addressed pedagogical approaches for including reflection in volleyball units in PETE programs. Future studies should be engineered to fill the gap between theoretical perspectives and reflective practices and reinforce the evidence to establish best practices in PETE. Finally, evidence-informed practices should highlight meaningful opportunities for PPETs in PETE to develop into sustainable reflective practitioners.

Keywords: Teacher research, pedagogy, higher education, sport coaching, teacher development, scoping review

Introduction

Though research on teaching in physical education (PE) is diverse (Kirk, 2020; MacPhail & Lawson, 2020), reflection has been one of the core elements in improving teachers' effectiveness on student learning (Larrivee, 2008). To that end, many theories and empirical pieces of evidence have underlined the relevance of reflection in teaching (see Marshall, 2019; Van Beveren et al., 2018 for systematic review). Reflection, reflective practice, and the reflective practitioner, mainly, have been notable in educational discourse for the last few decades (Beauchamp, 2015). Mounting theoretical knowledge supports employing reflection to enhance teaching competency. This research stresses understanding the teacher learning process (Beauchamp, 2015), highlighting the teacher's dimension as a researcher (Cochran-Smith & Lytle, 1999), reinforcing teacher professional identity and self-efficacy (Urzúa, & Vásquez, 2008), and portraying the teacher as an individual decision-maker and problem-solver (Dewey, 1933). Beyond its prominence in PE, these reflexivity notions have arisen as a cornerstone of PE teacher education (TE) programs (Chorney, 2006; Tinning, 2006) because of the merit of developing teaching quality—raising/achieving educational standards and maximizing the learning potential of all students (Tsangaridou & O'Sullivan, 1997; Zwozdiak-Myers, 2018). Moreover, PETE programs may enable preservice physical education teachers (PPETs) to become lifelong learners and let them invariably produce and preserve personal knowledge with the reflective process to promote meaningful PE (Ní Chróinín et al., 2018).

Teachers' reflexivity includes critical self-reflection practices and unceasing self-assessment (Smith, 2011). The reflection process and pursuing action ventures allow teachers to transform and modify their teaching to enhance educational practices (Çimer et al., 2013). O'Sullivan (2003) portrays teachers as knowers (i.e., teachers in their self-knowing, subject matters, pedagogies, students, and related contexts and situations). This concept epitomizes the idea of teachers or instructors being aware of their many teaching contexts and adapting and modifying their teaching methods conscientiously and skillfully. Moreover, reflective practice is essential to improving teaching and gaining more experience (Van Beveren et al., 2018). Reflective practice suggests that teachers review their convictions, attitudes, and actions in order to grasp the aims and ideals encapsulated in their pedagogy and find adequate support for their work (Tsangaridou & O'Sullivan, 1997). Therefore, PPETs have appropriate training on conducting valuable self-evaluation (i.e., reflection on their training, practice, and actions/behaviors).

For decades, many scholars have investigated reflection in the context of PE teaching (e.g., Capel, 2005; Tinning, 2006), causing confusion due to concept similarities' labeling differences in knowledge-based approaches. Additionally, Tsangaridou and Siedentop (1995) suggested that many reflection studies were not descriptive. Thus, these studies did not discuss the definition and implementation of reflection. Instead, they centered on improving prescribing reflective practice among PPETs. Moreover, the reflective prescriptions contained the author's prejudices (Tsangaridou & Siedentop, 1995), leading to unreliable reports. The resultant plethora of definitions for "reflection" has yielded diverging theoretical narratives and decreased professional involvement with the reflective practices that are evidenced in the current literature (Marshall, 2019). Therefore, despite understanding reflection as a pedagogically critical concept and the availability of various beneficial models and frameworks, few resources exist which might support educators in their efforts to understand and improve the reflective ability of their learners. Pedagogically meaningful and productive reflection requires constant and deliberate instruction, guidance, and practice (Zwozdiak-Myers, 2018). Teacher educators should explicitly and purposefully emphasize the relevance of reflection and urge preservice teachers to reflect without guidance. Specifically, PPETs should regularly engage in self-reflection, exploring core beliefs on their instructional subjects (i.e., PE) and students. They should also examine how these beliefs affect their instructions; only then could they critique their ideas and practices or instructions utilizing various modes of teaching practice (Larrivee, 2008). This process is crucial for the professional growth of PPETs' because core beliefs and instructions do not readily change throughout their career (Ferry & Romar, 2020; Napper-Owen & McCallister, 2005; Tsangaridou & O'Sullivan, 1994).

It is crucial to capitalize on reflective practices to examine the existing knowledge base and its implications for future teacher education programs. Additionally, it is necessary to explore additional other methodological approaches and recommendations for the best practices which transcend beyond what current literature associates with reflection and PETE programs. Therefore, this study provides an up-to-date synthesis that builds a comprehensive and accurate understanding of reflection, allowing readers to track and develop its practicality. The literature covers the previous evidence about reflection and reflective practices and their implication in teacher education, including PE. This paper has four sections: (a) conceptual background; (b) history of reflection; (c) reflection in PETE; and (d) modes of reflective practices. This study aims to provide practitioners, researchers, and educators with evidence for developing practical resources and implications. It also includes a complete understanding of related theory and research to enrich the effectiveness and sustainability of efforts and integrates reflective practices in preservice teacher education programs. Given this study's objective, a scoping review included a methodological approach to describe specific areas of interest or critical concepts to inform future directions (Munn et al., 2018).

Methods

A scoping review

Reviewing the existing literature through a research synthesis process is crucial to relate past and future studies to today and secure that valuable contributions are provided to a specific field or discourse (Pham et al., 2014). Differences and similarities across types of reviews exist proving that a broad category of research synthesis, including systematic literature review, scoping review, mapping review, and meta-analysis, are relevant (Munn et al., 2018). A traditional systematic review of literature contributes to the existing scholarship exploring a specific question on a prescribed criterion (Munn et al., 2018). A scoping study is dissimilar to a traditional systematic review and does not assess the quality of the literature. Instead, it only presents an overview of the related literature on a topic and addresses the implications and contributions of such research (Arksey & O'Malley, 2005).

As scoping reviews include comprehensive coverage of a topic's breadth, they may have a specific depth (Munn et al., 2018). This depth relies on the review's purpose and the scope of the literature (Arksey & O'Malley, 2005). A scoping review is a descriptive or narrative account of the studies assessed; it is not engineered to synthesize data from many sources (Arksey & O'Malley, 2005). The review employed in any specific project should cover the essential purpose of the review (Kastner et al., 2012). Therefore, scoping reviews offer opportunities to address critical theoretical concepts, gaps in the literature, and the types and sources of evidence. They include research and practice by mapping the existing literature on a specific topic (Booth et al., 2021). The researchers reported two primary rationales for employing a scoping process as a methodological approach (Arksey & O'Malley, 2005): (a) to examine the depth and nature of research on a topic, and (b) to epitomize and disseminate these research findings to the field of PE and PETE.

Boundaries for the review

As recommended by Arksey and O'Malley (2005) and Munn et al. (2018), a literature search was conducted using three major electronic databases prominent in education and PE: ERIC, SPORTDiscus, and Scopus. Specifically, the key terms included "preservice physical education teacher(s)," "physical education," "teacher education program," "higher education," "reflective practitioner(s)," "reflection(s)," "reflective practice(s)," and "reflexibility." A snowball search strategy was used to find articles meeting the search criteria. The year 1994 was the starting point because Tsangaridou and O'Sullivan published a pioneering study on the use of reflective practices in PETE entitled "*Using Pedagogical Reflective Strategies to Enhance Reflection*

among Preservice Physical Education Teachers.” Additionally, the search added the initial review step of incorporating reference lists of the theoretical or historical background papers (e.g., Dewey, 1933; Schön, 1983) deemed relevant to this review by examining the Google Scholar database.

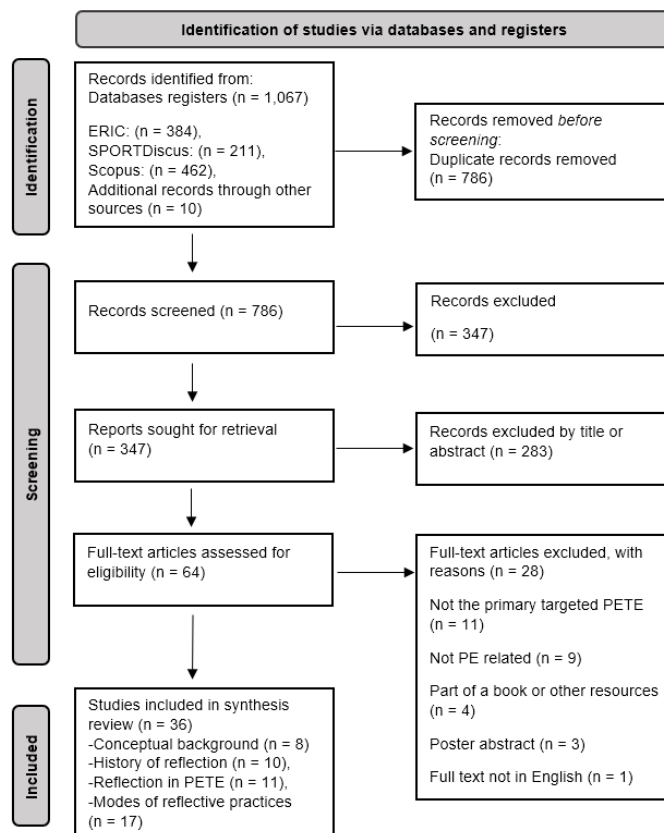
Selection process

Following Levac et al.’s (2010) recommendations, the authors repeatedly met throughout the literature review process to address the inclusion criteria. Specifically, after removing duplicates using EndNote X9.3.1, the retrieved list of titles and abstracts had the pursuing inclusion criteria: language (only published in English), scientific rigor (covering articles only in peer-reviewed academic journals), article type (research and conceptual articles), population (only PPETs as target participants), and subject or discipline (PE or PETE). Then, using the specified criteria, additional full-text screening included building the scope of the review topic: (a) conceptual definitions and research to address comprehension of reflection; (b) an explanation of historical backgrounds and theories; (c) the literature on the effectiveness and relevance of PPETs’ reflective practices; and (d) addressing the practical approaches in PETE programs, and the various modes or modalities affecting PPETs’ reflective practices. These specific boundaries drove the identification process of the trends in the literature over the past decades. Covering all review steps in the screening procedure and data synthesis with discussion and consensus of judgment resolved the discrepancies.

Results

The number of relevant articles included in the review was 36. The detailed analysis of the screening process is demonstrated in Figure. 1. The review results are presented as derived from the authors’ synthesis of relevant literature. The included 8 articles were about the conceptual background of reflection, 10 articles relating to the history of reflection, 11 articles on PPETs’ reflective practices, and 17 articles on the various modes of PPET’s reflection as a practical approach. Some included articles are synthesized within two themes.

Figure 1. Flow chart of search results and articles through the review process.



Conceptual background

Reflective practice has broadly been represented in the literature, but questions regarding what it is, how it is defined, and how efficient it is in teacher education programs require a long-term perspective (Ovens & Tinning, 2009). A comprehensive overview, ranging from Dewey (1933) to Schön (1983, 1987), to Moon (2000), and Korthagen et al. (2001), of reflective practice, provides insight into how “reflection” and “reflective practice” has various and variable uses and meanings over time.

The historical roots of reflection date back to John Dewey’s (1933) notion of reflective thinking as a

fundamental resource in enabling and assisting teacher educators in steering their activities and behaviors and planning practical courses of action. He describes reflection as “active, persistent, and careful consideration of any belief or supposed form of knowledge” (p. 9). To that end, reflection is similar to educators’ critical thinking understanding. Sharing this perspective, Moon (2000) evaluated reflection as “a form of mental processing with a purpose and anticipated outcome that is applied to relatively complex or unstructured ideas for which there is not an obvious solution” (p. 23). Boud et al. (1985) addressed reflection as “a generic term for those intellectual and affective activities in which individuals engage to explore their experiences to lead to a new understanding and appreciation” (p. 19). All three definitions have highlighted the need for self-conscious, self-critical investigation of knowledge and experience to achieve more crucial meaning and understanding.

Even though there is consensus on the relevance of reflection, various perspectives on the nature of reflection are present (Standal & Moe, 2013). Specifically, reflection has varied meanings depending on the epistemological beliefs about teaching and PE embedded studies conducted by different scholars (Tsangaridou & O’Sullivan, 1994; Van Manen, 1995). Practically, various approaches accounting for the process, preconditions, and reflection results (Hébert, 2015) suggested that Schön’s definition of reflection as practitioner-based intuition does not agree with Dewey’s rational scientific reasoning idea. Schön (1983) defined the reflective practitioner as a person utilizing reflection as a tool for revisiting experience to learn from it and as a framing device for complex professional practice problems (Hébert, 2015). Likewise, reflective learning implicates several processing experience methods. Learners explore their knowledge of practices and experiences the impacts of these actions and experiences on themselves and others. In this sense, to Schön, is a critical part of a professional discourse community (e.g., a teacher education program), promoting learners to achieve and sustain critical control over the more intuitive components of their experience. He described the reflective practice as a potential avenue for newcomers of a discipline to identify harmony between their practices and those of successful practitioners. Research on effective teaching in PE over the last two decades has shown that effective practice relates to inquiry, reflection, and continual professional progress, supporting Schön’s ideas (Crawford et al., 2012; Standal & Moe, 2013; Tsangaridou & O’Sullivan, 1997).

History of reflection

Initially, the content of PE centered on gymnastics and military exercise. Reflection was taught in PETE using teaching means – teacher educators would explicitly transfer reflective principles to their students through lecturing (Liston & Zeichner, 1990). In the mid-1990s, Tsangaridou and O’Sullivan (1994) published the Reflective Framework for Teaching Physical Education (RFTPE). This conceptual framework was unprecedented because it was the first reflective framework designed explicitly for PETE. Its objective was to help describe the content and nature of teachers’ reflections and comprised the three foci of reflection and the three levels of reflection. The three foci were as follows: *Technical* – instructional or managerial components of teaching; *Situational* – contextual issues related components of teaching (e.g., age, ethnicity of students, and school); and *Sensitizing* – the moral/ethical, political, and social-emotional components of teaching (e.g., how your students receive or react to the individual feedbacks?). The following were the levels: *Description* – descriptive information of teaching events/actions (e.g., what happened in your soccer lesson?); *Justification* – rationale/logic being specific teaching decisions/activities (e.g., why was the teaching cues crucial or critical in your basketball lesson?); and *Critique* – explanation or assessment of the teachers’ thinking on critical decisions (e.g., what did you learn/feel from this volleyball lesson?). The RFTPE framework has a specific format for instructing or directing reflective writing. Working through the RFPTE frame, PPETs could identify and prioritize what was crucial and what facilitated depth in reflective practices. Furthermore, the framework was central to various reflective assignments in PETE programs, covering peer observations, overseeing teacher observations, videotape analysis, and post-lesson conference analysis.

From the late 1990s to 2000s, research on reflection in PETE programs departed from teacher educators’ teaching reflection and shifted to center more on reflective exercises to help foster reflective practitioners (Byra, 1996; Jenkins & Veal, 2002; McCormack, 2001; Tinning, 2006). The 2010s to today experienced a slight shift in the range of reflective exercises produced and studied; this might have responded to the advancement and availability of specific technologies (e.g., communication technology) (Crawford et al., 2012; Fakude, 2014; Lamb et al., 2013; Trent & Gurvitch, 2015). Concurrently, many famous scholars have since regarded reflection as a multifaceted mental phenomenon manifesting itself in various contextual situations of teachers’ practices. These activities and communications let practitioners acquire a conscious understanding of themselves as individuals and those around them (Beauchamp, 2015; Mordal-Moen & Green, 2014). In practical situations, teaching and learning are inseparably linked; reflection is unquestionably an essential pedagogical necessity. Specifically, after reviewing many studies by renowned authors, Dimova and Loughran (2009) revealed that developing deeper understandings of reflection in school milieus would enhance practitioners’ learning about their professional knowledge of the practice. They also argued that “the complex nature of reflection can be embraced and offer a new and different framework for enhancing practice” (p. 216). Similarly, reflection and reflective practice have become praxis methods that teachers and teacher educators must pursue (Tsangaridou & Polemitou, 2015).

Reflection in PETE

Reflection has been described as a critical component of the PPETs' professional knowledge development and skills in the PETE (e.g., Derwent, 2015; Tsangaridou & O'Sullivan, 1997). In other words, reflection helps teachers achieve a better awareness of their practices continuously, covering an understanding of the assumptions and information. It contains purposes, values, and beliefs (Zeichner & Liston, 2014). Furthermore, Korthagen et al. (2001) has stressed the relevance of developing reflection in teacher education programs because reflective thinking assists PPETs to prevent adopting current conventional educational approaches in schools, impeding their teaching effectiveness for students.

As the reflection process has involved self-assessment, the PPETs progressively develop new theories and enhance their instructional practices (Korthagen et al., 2001; Sebren, 1995). A corpus of research has credited reflective practices with challenging and modifying teaching practices (e.g., Fletcher & Ni Chróinín, 2021; Lamb et al., 2013). Most studies reveal that PPETs cannot reflect critically on their teaching (e.g., Mjåtveit & Giske, 2017). PPETs essentially center on content knowledge (Capel & Blair, 2007), strengthening a traditional view of PE. For example, Curtner-Smith (2007) discovered that PPETs concentrated on technical rather than critical reflection with the RFTPE framework. Standal and Moe (2013) also reported that PPETs reflect in different settings. However, the teachers stress and reflect on what the students learn on technical elements of a sport instead of reflecting on how effective their pedagogical practices are. This is in line with Tsangaridou and O'Sullivan's (1997) findings, who have studied preservice teachers focusing on technical difficulties. In contrast, Garrett and Wrench (2008) noted that some participants did engage in critical reflection in their study. Thus, research has shown inconclusive results regarding effective strategies that might help PPETs' reflectivity practices (Derwent, 2015).

Moreover, the existing literature has posed PPETs constrained approaches to reflexive development, including limited task or equipment alternatives and lack of adaptation possibilities of contextual factors (e.g., equipment/space, students' characteristics) on teaching. This constrained thinking has led to a substantial gap and interpretations, combining ideological, intellectual, and pedagogical practices. PPETs realize that they can be "reflective practitioners." Such awareness, knowledge, and practice are always socio-culturally, historically, and politically oriented within a school context (Derwent, 2015; Tsangaridou & O'Sullivan, 1994). It proves that reflection is neither a benign notion nor a practice. No conception can be politically neutral and build alternative facts, objects, and subjectivities, based on their beliefs and teaching practices.

Modes of reflective practices

The literature on modes of reflective practices in teacher education presents two relevant aspects improving reflection: a context for reflection (e.g., field experiences, microteaching, and student teaching) (McCullum, 2002; Tsangaridou & O'Sullivan, 1997) and pedagogical strategies (e.g., systematic observation, written, verbal, and visual feedback) (King, 2008; McCullum, 2002). Furthermore, various methods, including reflective journals (Derwent, 2015; O'Connell & Dymont, 2011) and peer observation conferences (Bertone et al., 2006), stimulated reflection among PPETs. Advanced technologies (e.g., digital videos and electronic portfolios) have been deployed to these ends as well (Yang, 2009). Hence, previous research has demonstrated that the reflective practices of PPETs dynamically relate to distinct modes in PETE.

Journals. Written modes of reflection suggest that individuals physically write their thoughts on a past event and usually complete it immediately after an action or event (Bolton, 2014). It encourages self-assessment and analytical perspectives in PPETs' instructional approaches and activities/behaviors and lets teaching practices to be evident and open for critical inspection and adjustment (Derwent, 2015). Studies on PPETs' experiences covering this mode of reflection were deemed to yield positive feedback/results, implying an increased PPETs' reflectiveness (King, 2008; McCormack, 2001; O'Connell & Dymont, 2011). Nonetheless, PPETs' understanding of this mode remains limited. Specifically, PPETs require an organized approach to reflective journal writing. They need to narrow their focus onto teaching goals, specifying challenges and potential solutions, developing themselves as teachers, and better understanding the teaching and learning process (Bolton, 2014). Recognizing the momentousness and value of reflective journals and dealing with reflective writing may help PPETs enhance their critical thinking abilities and effective practices (O'Connell & Dymont, 2011). Hence, PPETs can assess their lives and learning experiences as valuable or meaningful sources of knowledge, implement them in their teaching and shape their future ability to provide quality PE teaching (Dumlao & Pinatacan, 2019).

Although reflective journals have developed into a crucial tool for active participation in PETE programs, only a few studies on PPETs' learning are available. According to Hojeij et al. (2021), using reflective practice in evaluation might not comply with the fundamental objective of journal writing, targeting personal development rather than writing the "wrong thing." They showed that reflection should be a constant habit throughout a teacher's careers, beyond a short-term activity during preparation courses. Derwent (2015) also suggested that adopting reflective journals throughout PETE positively affects new professional teachers' careers, equipping them with a potential tool to develop a realistic approach to self-evaluation and improve teaching competency. Teaching is a personal issue, and research reveals that reflection by PPETs opens the door of critical analysis and provides autonomous perceptive learning. Moreover, recent research has reported that

journal writing functions as a beneficial setting for self-assessment, resulting in successful professional development (Dumlao & Pinatacan, 2019).

A contextual factor was presently affecting preservice teachers use of reflections' written modes. Some PPETs felt restricted in this reflective exercise because they were deficient in reflective writing skills and could not accurately express their critical thoughts (McCormack, 2001). Assuredly, previous research has reported that if PPETs are knowledgeable in reflective journal writing, they will develop a good understanding and knowledge of themselves as educators (Dumlao & Pinatacan, 2019). Thus, their students, the learning objectives available for them, and the relevant tasks to achieve those goals become highly critical. Accordingly, reflective practices assist PPETs in devising a meaningful discourse on what they do in the classroom and assessing their teaching success. This approach may pose a highly effective guiding principle directing teachers and students to reach their objectives. Consequently, the researchers and educators are confident that reflective journals will play a crucial role in all teacher education courses.

Post-lesson/Peer conferencing. There is a dynamic post-lesson/peer conferencing reflection involving two or more people within the same field after an action or event. Post-lesson/peer conferencing has presented positive benefits in the research literature (Lamb et al., 2013). However, these peer reflections failed to include technical and managerial aspects of their teaching (Byra, 1996). PPETs were asked to *observe with a purpose/goal* where each observing student would watch their peers teach with a specific lens (e.g., how to present or provide different learning tasks serve skills in the volleyball lesson, how to refine the students' forearm performance). This initiative resulted in critically more reflective conferences. Another form of post-lesson/peer conferencing was the conferencing of a preservice teacher with a trained expert (Byra, 1996). This expert debriefing suggests that students interact with an experienced teacher or teacher educators/instructors' post teaching episode where reflective thinking is facilitated through the expert's inquisitive questions (Byra, 1996; Jenkins & Veal, 2002). This method had two forms: (a) directive – lecture oriented reflective conversation, where the trained expert would declare the degree of success and recommend the future practice and invite the student to comment on their suggestions; and (b) collaborative – discussion where the trained expert and the preservice teacher reviewed the lesson, with the PPETs leading the discourse and the trained expert directing inquisitive questions to the teacher). The selected form relied on the preference of the trained expert, coaching teachers, and teacher educators. Collectively, PPETs liked conferencing with a peer, stating that it was more relaxing than conferencing with experts (e.g., PETE instructors or coaching teachers) (Byra, 1996; González-Toro et al., 2020; Jenkins & Veal, 2002; King, 2008; Lamb et al., 2013). As such, these pieces of evidence highlight a clear need for developing strategies to facilitate better collaboration between PPETs and experts.

Digital technologies. Other reflection techniques using several devices were researched as feasible reflecting exercises due to advances in communications technology. In PE, digital reflecting modes cover any reflective exercise employing digital communication or recording technology (Walinga et al., 2018). Globally, studies have noted that viewing a video/audio recording of one's teaching was a highly beneficial and fruitful exercise (Calandra et al., 2008; Colasante, 2011; Lamb et al., 2013; Prusak et al., 2010). For instance, Napper-Owen and McCallister (2005) applied the theoretical teaching to actual practices with eight PPETs, noting that the PPETs' focus was on their teaching actions at first and then centered on the student activities. Video editing is another useful technique where PPETs video-record their lesson and edit the video in a prescribed way (Calandra et al., 2008; Trent & Gurvitch, 2015). It essentially reflects on task presentation or instructions because when you notice the presence of student uncertainty/confusion in a previous lesson, you should edit the teaching/recorded video to accentuate your feedback, task presentations, skill demonstrations, or instructions (Wong & Tan, 2021). Then, the PPET can re-live their teaching event suggesting that the reflective practice be performed through first-person and third-person perspectives. These empirical studies have indicated that each practice has scholarly relevant and productive reflection for preservice teachers. It is worth noting that the use of different methods involving shareholders (e.g., peers and experienced/coaching teachers) promotes PPETs' reflection because reflection is a collaborative process where collective understanding and knowledge are improved through reflective discourse.

Implications for PETE program

PETE faculty must engineer a clear action plan to effectively ready PPETs in specifying and overcoming challenges/difficulties in their PE lessons. Explicitly, while teaching volleyball units (volleyball is regarded as one of the most challenging sports to teach K-12 students during their studies), teacher educators should direct PPETs via a guided reflection. This activity may include reflection-promoting questions as follows:

1. Specify a high and a low skilled student/learner in your volleyball class and note the differences in how these students completed various task progressions/modifications about overhand and sensed the passes. How might you take the skill level (psychomotor, cognitive, and affective) differences into account while planning your next volleyball lesson?
2. Discuss the two things you feel you did well in your volleyball lessons (specifically in developing K-12 students' tactical knowledge skills) and the two things you want to improve during your next class. Consider the various pedagogical strategies, including presenting different modifications/refinement tasks, checking students' understanding/knowledge of tactical skills, employing proper instructions,

- posing teaching cues, and providing various assessment options.
3. State whether or not each objective from the forearm/overhand pass skill lesson was successful, supporting your assertions with evidence collected from informal/formal assessment data from the class.

Moreover, the RFTPE framework (Tsangaridou & O’Sullivan, 1994) is an invaluable pedagogical tool that teacher educators should use in assisting PPETs in developing essential reflective knowledge and practice when supporting the future K-12 students in the PE context. As mentioned earlier, this framework is a comprehensive approach addressing and promoting reflective practice, underlining concerns such as scaffolding, reflecting on various focuses and levels, and ensuring critical questioning as part of the process. Using the RFTPE framework, the educators and students become more aware of the knowledge they use by examining a range of questioning tactics, modifications, and in/external feedback. For example, PETE faculty might utilize the RFTPE framework starting with the following questions: Can the PPETs go beyond classroom management issues (technical focus) to cover achieving student perspectives from a different background (sensitizing focus)?; Can the PPETs progress in the reflective cycle of defining, verifying, and critiquing meaningful manners? From the current perspective, PETE professionals must exhibit a concerted effort to educate preservice students and load them with reflective skills and help them connect their existing knowledge and experiences with newly acquired teaching competence.

As achieving adequate critical reflection is challenging, PPETs should enhance their reflective capabilities in various ways across PETE. Encouraging the efficiency of PPETs’ reflective practice, PPETs and teacher educators must implement critical procedures to become reflective practitioners. First, learning from one’s experience with reflecting on teaching practices is crucial to establish, extend, and sustain competency, allowing identification of learning/thinking needs. For instance, one should ask, “What have I done?”; “How have I done it?”; “Why did I do it?”; and “What can I do to improve it?” Second, understanding one’s beliefs and values within the teaching context of reflection are vital for improving pedagogical practices. Illustratively, educators should ask, “Why will I choose to teach in a certain manner?” and “How do I think students learn, and how does that impact the way I plan to teach in PE?”. Finally, constructing a knowledge-based and active approach employing varied methods involving many individuals should allow conducting and facilitating reflective practices. Hence, PPETs must think critically so that they can question the widespread PE practice—this will make them reflective practitioners.

Conclusion and future directions

Many scholars and professionals suggest that an educator should also become a reflective practitioner. The present review provides a complete understanding of reflection, and reflective practices using the conceptual knowledge and research evidence for PPETs in PETE. There exist increased opportunities for PPETs to let them establish the recommended best reflection practices. The relevant research stresses the momentousness of quality teaching in PE. The notion of being reflective practitioners is a vital part of PETE discourse, owing to Schön’s (1983, 1987) efforts to promote reflexivity and reflection. Moreover, the need for encouraging PPETs to reflect in increasing their efficiency is desirable and explicitly articulated by teacher educators.

Finding the reflective practices matching with a given educator’s preferences is pivotal for them to become a reflective practitioner. As noted in this study, all reflective modes and exercises caused some reflexivity in participants. Using these practices is highly individualized, and a person’s aptitude and adherence to each procedure rely essentially on the user, their personal history, and context—an efficient practice for one person may not work on another one (Mordal-Moen & Green, 2014). Therefore, reflection can be a key approach for PPETs to progress using different levels of reflective practices. It allows them to become reflective teachers, posing relevant concerns questioning their pedagogy. While pondering on reflection to include it in teacher education, it is critical to make the best recommendations possible. It includes providing educators, PPETs, and practitioners with the required tools to build teaching competency in reflective practices. However, more research having a rigorous study design (e.g., longitudinal and quasi-experimental) with a solid theoretical foundation is necessary. Nonetheless, the growth of reflective pedagogical practices should cover teacher educators and educating preservice teachers to elicit reflexivity in PETE. It should show them *how to be* reflective so that they can start employing a plethora of reflective exercises, bridging the gap between the theory and practices.

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