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## Reflecting on student reflections in physical education practice: moving beyond a theory-and-practice divide

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### ABSTRACT

**Background:** Although the theory/practice dualism seems difficult to deal with in physical education (PE) practice, this paper posits that there are ways in which teachers can enable students to develop holistic competencies that encapsulate elements of both theoretical and practical knowledge. We therefore seek to rethink the relationship between theory and practice in PE practice and present ways in which PE teachers can connect these forms of knowledge with their students. We do so by looking at one of the historically most favoured means of bridging theory and practice: reflection.

**Purpose:** The purpose of this paper is to contribute with knowledge about student reflection in PE practice. First, we discuss the concept of reflection to clarify how student reflection might be understood in the embodied and situated context of PE practice. Then, we reconceptualise reflection in a way that might enable teachers to bridge the gap between theory and practice in new and hopefully fruitful ways with their students.

**Theory and methods:** We draw on various theoretical traditions on reflection to present a reconceptualisation of reflection that encapsulates the practical, situated and embodied nature of PE.

**Theoretical discussion:** We present the following four key ideas pertaining to reflection that together create a framework for conceptualising student reflection in the PE context: 1) Why reflection is important: a matter of intelligent practice; 2) Students must learn to reflect – in relation to what?; 3) What should students reflect on?; and 4) The *how* questions: creating conditions for reflections through indeterminate situations. Drawing on these four key ideas, we present an example of how our theoretical discussions can form the following three intertwined principles for a pedagogy of student reflection in PE practice for PE teachers moving beyond a theory-and-practice divide in PE: 1) a pedagogy of becoming through reflection; 2) a pedagogy of reflecting on the plurality of embodied and situated meaning; and 3) a reflective pedagogy of enquiry and discovery.

**Conclusion:** Throughout this paper, we argue that students need to learn to reflect, we suggested how reflection could be facilitated and we proposed that the *why(s)*, *what(s)* and *how(s)* should be the objects of student reflection in PE. It is necessary to highlight that our suggestions for a pedagogy of student reflection are not complete nor definite but could serve as points of departure for future discussions of student reflection in PE.

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## Introduction

In physical education (PE), students are supposed to develop a wide array of knowledges in, through and/or about movement (Arnold 1979). Some of this knowledge is commonly considered more *theoretical* (such as knowledge about how the body functions or aspects of health), and others, more *practical* (such as various motor skills in and through movement and other types of movement learning). Finding ways to teach PE that allow students to connect and integrate these forms of knowledge has been the focus of attention for decades. For example, over 25 years ago, McBride and Cleland (1998), following up their argumentation that ‘cognitive challenges must interact with movement-oriented activities’ (42), argued for the importance of critical thinking, as the subtitle of their article indicated: ‘Putting theory where it belongs: In the gymnasium!’

However, recent studies have shown that theory/practice is still considered a taken-for-granted dualism that is difficult to deal with in PE practice. For example, Svennberg’s (2017) study from Sweden revealed that written assignments to assess students’ theoretical knowledge about movement have become more prominent, replacing assessments of students’ knowledge in and through movement. Casey and O’Donovan (2015) reported that teaching anatomy and physiology as parts of PE has moved parts of PE from the gymnasium and the playing field into classrooms and has ‘transformed the subject from a practical to a theoretical one’ (354). Furthermore, Bowes (2010) problematised why so many senior school PE lessons in New Zealand seem to be dominated by students accomplishing workbooks and taking notes from theoretical PowerPoint presentations. Quennerstedt (2019) argued that this might make students competent in formulating knowledge about movement rather than knowledge in and through movement. Thedin-Jakobsson (2004) further argued that in Sweden, health has, in many senses, become the theoretical aspect of PE that is discussed in classrooms, whereas movement and sports are regarded as the practical parts of PE that are honed in gymnasiums where little or no theory is needed. Tolgfors (2018) also problematised the higher status of written assignments and argued that ‘embodied learning and oral reflection should be regarded as [. . .] forms of knowledge [that are as important as] written evidence of learning. If not, there is a risk of a counterproductive dualism between theory/practice in the subject of PE’ (325).

Hence, although making connections between theory and practice is considered important in educational practice, it seems like distinctions, and often taken for granted ones, are made between theoretical and practical activities in PE. These distinctions operate both at a conceptual and practical level. A direct consequence of this could be that some PE teachers would choose to move parts of their teaching to a traditional classroom that is considered better equipped for theoretical activities (i.e. written tests or health lectures) while maintaining their practical activities in sports halls, gymnasiums, the outdoors, or other spaces that are considered suitable for physical movement (see, e.g. Casey and O’Donovan [2015]). So, what if this dualism is not a necessary starting point for what is done and why in PE practice?

While we regard creating both physical and conceptual metaphysical distinctions between theoretical and practical activities as problematic, we simultaneously acknowledge the challenges teachers experience in finding ways to enable students to bridge different forms of knowledge in PE. The gap between theory and practice and related dualisms like body/mind, inner/outer or structure/agency is not an unfamiliar challenge for educationalists in general. Dewey almost a century ago (1928) discussed the disastrous effects with a priori distinction between practice and theory or between body and mind. Hence, in line with Dewey, we believe there are ways for teachers to enable students to develop capabilities that incorporate elements of both theoretical and practical forms of knowledge in PE rather than isolating and creating barriers between them. After all, it is important to have in mind that the two notions of theory and practice, respectively, is a construction to make sense of different forms of knowledge and not a dualism that merely exists or must exist. Accordingly, in this paper, we rethink how the relationship

between theoretical and practical forms of knowledge can be understood and, consequently, how PE teachers can develop ways of connecting these forms of knowledge together with their students. We do so by using the most preferred means among educational scholars of bridging theory and practice: reflection.

Over several decades, a significant body of research within the context of PE has shown that reflection offers a way for human beings to use practical experiences to add life to theory and use theory to create meaning out of practical experience (e.g. Fletcher and Chróinín 2022; Johansson 2023; Standal and Moe 2013). In the field of PE teacher education (PETE) and PE in schools, studies have emphasised how predominantly pre-service, but also in-service, teachers bridge theoretical knowledge and practical teaching through reflective processes (e.g. Moon and Lee 2022; Standal and Moe 2013). However, far less attention has been given to how teachers can understand and make use of student reflection to enable their students to make connections between ‘theoretical’ and ‘practical’ knowledge through reflection in their teaching. Additionally, knowledge about how (and even whether) students learn to reflect and how they actually reflect seems scarce. Given the differences between being a PE teacher and a PE student, we argue that there is a need to further develop how reflection can be understood to support students in learning to reflect and to comprehend how they can learn to reflect. Indeed, teacher reflection and student reflection have quite different purposes and, consequently, are quite different. While teachers typically reflect in order to teach or learn how to teach, student reflection in PE practice is always embodied and situated and aims to develop physical, cognitive, social and affective competencies for life (see for example Norwegian Directorate for Education and Training 2020; Ministry of Education 2019; Queensland Government 2019 for examples of learning aspirations related to reflection from curriculum documents in Norway, Canada and Australia). Hence, we also believe it is necessary to acknowledge that student reflection in PE is different from student reflection in other school subjects such as language or mathematics, as the context and purposes differ.

Against this backdrop, the purpose of this paper is to contribute with knowledge about student reflection in PE practice. To fulfil the purpose, we first aim to discuss the concept of reflection to provide some clarity about what student reflection might be in the context of PE practice. Then, we seek to reconceptualise reflection in a way that might enable PE teachers to bridge the gap between theory and practice in new and, hopefully, fruitful ways with their students. In the final section, we present an example of how our theoretical discussions can form three principles for a pedagogy of student reflection in PE practice.

## Understanding reflection: a family of traditions in educational research

According to Fendler (2003, 20), reflection can be understood as a ‘catch-all term’ in both educational research and educational practice. Indeed, the various ways of understanding and talking about reflection create ‘mixed messages and confusing agendas’ (Fendler 2003, 20), which was also highlighted in Standal and Moe’s (2013) review of literature on reflection and reflective practice in PE and PETE. To outline some of the differences in the concepts surrounding reflection, we draw on Fendler’s (2003) historical account of four traditions for understanding teacher reflection.

In the first tradition, the Cartesian rationality tradition, which was heavily influenced by Descartes, reflection can be seen as a process of developing self-awareness. A fundamental assumption is that valid knowledge can be generated by the self about itself. This view of reflection implies that all forms of reflection are desirable in a way, as they demonstrate increased self-awareness.

The second tradition stemmed from the work of John Dewey and his seminal book *How We Think*, which he revised several times. For Dewey (1910), reflection is a key enabler of taking more intelligent actions towards a more democratic society. Dewey conceptualised reflection as a form of enquiry similar to the scientific method, which uses a cyclical, rigorous and systematic approach (Rodgers 2002).

A third way of understanding reflection is through the work of Donald Schön, particularly his work around professional reflection-in-action and reflection-on-action. Schön (1983) embraced the unpredictable nature of education and suggested that reflection can enable practitioners to raise critical questions about taken-for-granted habitual practices and to give complex social situations new meaning. In many ways, Schön's view of reflection emerged as a response to cognitivist learning theorists' view of reflection as an active construction where learners reorganise and store external information and, thus, gain possession of new mental schemas through active reconstruction of new knowledge. Although both Dewey and Schön distanced themselves from a technocratic view of reflection, Schön did not share Dewey's view of reflection as parallel to the scientific method. In contrast, Schön viewed reflection as an intuitive process of developing knowledge that is immediately relevant for practice.

The fourth and final tradition is that presented by Fendler (2003) on the feminist anti-establishment interventions. In this tradition, there is a fundamental assumption that expert knowledge has been socialised by masculine agendas. Hence, reflection offers a route to getting in touch with one's self and thinking in ways that have not been shaped by such discourses.

These four traditions do not cover all the different ways in which reflection is understood or conceptualised in education. For Dreyfus and Dreyfus (1986), even the absence of reflection can be seen as an expression of having reached the expert level in skill acquisition. This perspective might resonate for us working in a movement context; for example, how much reflection does a competent gymnast do during a routine at the parallel bars? To further manifest the complexity of reflection, there has also been a discussion of whether different ways of reflecting can be put in a hierarchical order (Van Manen 1977), such as purely descriptive reflections ('This happened'), reflections supplemented by an explanation ('This happened because of X, Y or Z') and reflections on an object from a broader sociopolitical or ethical social justice perspective ('This happened and this is problematic from a social justice perspective'). While some people might argue that such hierarchical ordering of reflections might shed light on whether reflections help to transform practices or merely manifest habits and normal ways of doing things (Wackerhausen 2015), others, such as Latour (1988), have argued against ranking different forms of reflection, as they are all equally significant.

Reflection can mean different things to different people from different theoretical positions. Considering the challenges pointed out in the Introduction – i.e. in separating students' physical doings ('embodied actions') in the gym from their cognitive doings ('thinking') in the classroom – we believe there is a need for new conceptualisations of reflection that can capture the situated and embodied nature of students' experiences in PE. Before we explore such new conceptualisations, we will narrow the scope of this paper by looking more specifically at what we know about student reflection in PE.

### ***Student reflection in PE practice: an area of neglect?***

As mentioned, much of the attention given to reflection in PE research has been directed towards teacher reflection. In contrast, this paper starts with the assumption that student reflection is a fruitful way to move beyond, or rather, to dissolve the theory/practice dualism in PE practice. However, some questions still stand, such as: *How do teachers teach reflection?*, *How do students learn how to reflect?*, *What do students reflect on and in relation to what?*, and *Why do they reflect?* Throughout this section, we argue that the ways of teaching reflection and the ways students learn to reflect are currently neglected topics in PE literature and practice that are worthy of further in-depth attention.

First, however, we must acknowledge that although student reflection in PE practice has not gained considerable attention in the literature per se, related concepts, such as critical thinking, of which reflection is a part, have been explored for a long time (e.g. McBride and Cleland 1998; Pill and SueSee 2017). McBride (1992) defined *critical thinking* as 'reflective thinking that is used to make reasonable and defensible decisions about movement' (115). In other words, there has

been, and probably still is, a belief that making students critical thinkers (in which reflection could be an ingredient) about their movements in PE can be educational for them.

More recent studies also shed light, at least anecdotally, on how reflection can support student learning by bridging theory and practice. One good example is the study of Mong and Standal (2022), in which they combined practical activities with reflective questioning to help secondary students explore body ideals and their influence on training, nutrition, lifestyle and health. The authors found that using written logbooks as reflection media was an effective method for increasing students' awareness of their own health. In these logbooks, the students answered reflective questions such as *Who decides what a body ideal is?*, and *Is there only one existing body ideal?* (Mong and Standal, 745).

Furthermore, several studies have explored innovative teaching methods that, in different ways, build on the assumption that reflection is essential to enhance students' learning. More specifically, different pedagogic models or approaches in PE have integrated reflection as a key element to support student learning. For example, in describing the meaningful PE approach, Fletcher and Chróinín (2022) argued, touching on the *why* of reflection, that reflection can help students '(a) identify the purposes of their participation, (b) ascribe value to their efforts, and (c) connect their participation to their wider lives' (461). Reflection is also highlighted as a key strategy in teaching personal and social responsibility (TPSR) to make students aware of their strengths and weaknesses in taking responsibility for themselves and for others (Hellison 2011), and as a key component for different teaching styles described in-depth in the book on the spectrum of teaching styles in PE (SueSee, Hewitt, and Pill 2020). For example, using teaching style D ('self-check') involves making students reflect on their own learning process in relation to criteria provided by the teacher.

These assumptions are also supported to some extent by empirical investigations. For example, Nilges (2004) found that reflection facilitated by journaling and questioning could help fifth-grade students find meaning through movement, and O'Connor's (2018) investigation made him suggest that reflection might help students to better understand and articulate what meaningful movement entails for them both in PE and in other movement contexts. Beni, Fletcher, and Chróinín (2019) facilitated reflections to help students understand why they were learning different skills through the Teaching Games for Understanding approach and how these skills were relevant to the game. The authors found that these reflections enabled the students to articulate some of the skills they were practising and which skills they needed to work more on to improve their participation in the game. Sánchez-Hernández et al. (2018) further found that using cooperative learning and critical reflection enabled students to challenge gender relations in PE. Similarly, Bjørke and Moen (2020) found that primary school students' group reflection helped them develop competence in working together.

While these studies, most of which touched on the *why* or *what* of student reflection, to some extent showed, that reflection can support student learning, scant attention has been directed towards *how* reflection can be understood in PE practice. That is, *how* or *if* reflection is taught to PE students and *how* PE students learn to reflect. In contrast to in-service or pre-service teacher reflection, PE student reflection seems to be something the students merely do ('at best') without being taught how to do it. Therefore, there appears to be a need to understand reflection in a way that will help teachers to teach students to reflect more deliberately and consciously.

In the next section, we will elaborate on four key ideas surrounding reflection that, together, provide a framework for conceptualising student reflection in the PE context, and consequently, how teachers can teach reflection and how students can learn to reflect, including the *why* and *what* of reflection. Questions guiding us in this discussion were *What can we learn from the different traditions of reflection to conceptualise it in a PE context?*, *What do we want students to reflect on?* and *How do we facilitate deliberate reflection?* First, however, we will reflect on why reflection in PE is needed.

## Key ideas on student reflection

### *Why reflection is important: a matter of intelligent practising*

When discussing teaching and learning, the first question should always be why something is worth doing from an educational perspective (Quennerstedt 2019). In arguing for why PE teachers should facilitate students' reflections, we borrow the concept of *intelligent practice* originally introduced by Ryle (2009) and elaborated and used by Nyberg, Barker, and Larsson (2020; 2021) in a PE context to understand what it might mean to learn, develop and be competent in PE. More specifically, rather than reducing being competent in PE to physical skills, Nyberg, Barker, and Larsson (2020) argued that 'the process of learning [in PE] can be compared to exploring a landscape [and] choosing different paths and directions in order to discern details and their relationships in a continuously more nuanced way' (204). In this process of exploring a landscape, we believe that embodied and situated reflection is key to identifying one's paths, directions, and next steps through a process of intelligent practice. In Ryle's (2009) original descriptions of intelligent practice, learners gradually become conscious of their actions, seek to change them based on mistakes made and are aware of the significance of learning from others. The following extract from Ryle (2009) offers an illustrative example of the process of intelligent practice:

... a mountaineer walking over ice-covered rocks in a high wind in the dark does not move his limbs by blind habit; he thinks [of] what he is doing, he is ready for emergencies, he economises in effort [and] he [conducts] tests and experiments; in short, he walks with some degree of skill and judgment. If he makes a mistake, he is inclined not to repeat it, and if he finds a new trick effective, he is inclined to continue to use it and to improve on it. He is concomitantly walking and teaching himself how to walk in conditions of this sort. It is of the essence of merely habitual practices that one performance is a replica of its predecessors. It is of the essence of intelligent practices that one performance is modified by its predecessors. The agent is still learning. (30)

As Ryle (2009) illustrated, an important distinction is that between habits and intelligent practice. While habits are considered results or outcomes of drills (e.g. learning a particular motor skill and being able to reproduce it), intelligent practice also includes:

[...] the stimulation by criticism and example of the pupil's own judgment. He [*sic*] learns how to do things [while] thinking [of] what he is doing, so that every operation performed is itself a new lesson to him [on] how to perform better. (31)

Although it is useful to distinguish between habits and intelligent practice, it is simultaneously necessary to acknowledge the dialectical relationship between them. For example, through processes of intelligent practice, learners might develop new habits or refine their old habits as moving human beings. Therefore, intelligent practice can be seen as the process of continuously experimenting with different ways of moving. Importantly, intelligent actions will never guarantee success, but through a cyclical and reflective process of experimenting, analysing the consequences of the actions taken, identifying new possible actions and trying out new actions, learners potentially become gradually more competent as movers, as their habits are always in the process of becoming. An emphasis on intelligent practising is currently found in some curriculum documents (for example Norwegian PE focusing on students' ability to 'øve' [practising]). At the same time, it has been removed from others (for example Queensland senior PE in Australia recently removing 'intelligent performance' as a key concept).

Brinkmann and Giese (2023) recently suggested that practising, in contrast to focusing on automatism, memorisation and optimisation of motor skills, focuses on creating meaningful and transformative educative experiences for students. Indeed, the authors concluded that 'practising as a social and educational activity, therefore, requires a reflection on the premises and goals of pedagogical actions' (2). We support these authors' claim and underpin that student reflection (facilitated in the way that we will outline later) should be considered a prerequisite to intelligent practice. In other words, in the absence of deliberate reflection, intelligent practice is quite difficult in PE practice.

As a final remark, it is important to emphasise how reflections in PE practice must encapsulate the situated, practical, and embodied nature of PE. Hence, in concluding our argument about why student reflection is needed in PE, we find it necessary to be explicit about what we *do not* think should be the reason for making students reflect in PE: behaviour modification, or more precisely, teachers' use of reflection as a tool for making students accept whatever we might believe is the 'correct' answer or solution to tasks they encounter in the lessons. As Nyberg, Barker, and Larsson (2020) argued, there is much research in PE that conveys narrow and reductionist views of what constitutes being competent, able or skilful in PE, and that does not encapsulate the open-ended nature of movement capability in the context of PE (see also Quennerstedt 2019). Hence, although intelligent practice is about moving somewhere (for example in relation to physical improvement), we find it important to acknowledge intelligent practising not necessarily lead to observable improvement.

On that note, determining what intelligent action and practice exactly are, would be problematic, as they might differ between individual students and their previous experiences of and in movement. Instead, reflection can be a way of allowing the individual student to develop what Descartes considered self-awareness (Fendler 2003) as a moving human being. This also opens up the possibility of learning about oneself without being influenced by masculine discourses on what constitutes ability, as emphasised by the feminist tradition of reflection. A key epistemological prerequisite in these perspectives of reflection is that learners can generate valid knowledge about themselves.

### ***Students must learn to reflect: but in relation to what?***

A second consideration on how reflection could become a part of teachers' pedagogical practices in PE is acknowledging that students must learn to reflect because in PE, reflection should always be embodied and situated in movement and, thus, differs from reflection in other school subjects in some respects. In other words, we must realise that to reflect beyond the more surface reflection that we do all the time is a particular capability that, as with any other competencies, needs to be learned, practised, and assessed over time.

Based on what we know from research and practice, learning to reflect is considered important in educating future teachers and in the continuing professional development of in-service teachers (see Fletcher and Chróinín 2022; Johansson 2023; Moon and Lee 2022; Standal and Moe 2013). More specifically, pre-service teachers learn to reflect through, for example, their accomplishment of various reflective tasks and assignments, both in courses provided on-campus and as parts of their practicum (Murphy, Marron, and Coulter 2021). It also seems that many in-service PE teachers reflect, for example, through the establishment of reflective communities (Bjørke, Standal, and Moen 2021). While the typical depth or criticality of these reflections can be problematised (Van Manen 1977), teachers seem to engage in reflections that help them to solve practical problems they might encounter and develop their pedagogical skills (Standal and Moe 2013).

Although it is obviously good that both pre- and in-service teachers learn to reflect and engage in reflective practices, we simultaneously ask, *What about the students? Why is there so little focus on how students should learn to reflect in PE practice? That is, why is focus not directed towards how students reflect on what to learn, how to learn and why they should learn ways to promote their learning?* It is quite paradoxical that while we know from research that PETE students need time and guidance to learn how to reflect (i.e. Moon and Lee 2022; Standal and Moe 2013), students in PE, on the other hand, seem to be more or less left to themselves in learning to reflect. Particularly as (at least some) curriculums include learning expectations about student learning in PE (for example Norwegian Directorate for Education and Training 2020; Ministry of Education 2019; Queensland Government 2019).

Nevertheless, we think there is a distinction between suggesting that students need to learn to reflect and that they do reflect. We do believe students, at least according to some ways of



understanding what reflection is, reflect in action and maybe even on action in PE (Schön 1983). It is, for example, reasonable to believe that many students, while doing or after doing cooperative activities or different sports skills, somehow reflect on the experience. From an educational perspective, however, it can be questioned whether these reflections are accidental or unstructured without a particular educative direction. There is also a need to move away from merely ‘puzzling’ over something towards a more systematic, deliberate, and rigorous process of reflection for it to have an educational value. Indeed, educationalists such as Dewey (1910) conceptualised reflection as an ‘active, persistent and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it, and [the] further conclusions to which it leads’ (6). We, therefore, argue that reflection needs to be more than making students take actions based on spontaneous interpretations or explanations that mainly draw on their previous experiences and habits. On the contrary, we believe that reflection should offer a way for students to become aware of their previous experiences, beliefs, and taken-for-granted ways of doing things and, thus, consider the strengths, weaknesses and limitations associated with these habits, for example, a particular way of moving. By making their own habits and previous experiences in the context of movement objects for reflection, similar to how Wackerhausen (2015) outlined second-order reflections, students are supported in challenging and questioning their previous practices in a way that supports their development and growth. Over time, such reflective processes of connecting previous, present and future experiences can be important catalysts for the creation of new habits or the development or refinement of old habits that should allow learners to have richer experiences in the future. This leads us to our next point: what students should reflect on.

### **What should students reflect on?**

Although little research has investigated student reflection in PE, we in this paper argue that students are always reflecting in PE practice. Hence, key question is what we in education want them to reflect *on*. In other words, what should the situated and embodied object(s) of reflection be?

A prerequisite for reflection is that the learner reveals the potential significance of an experience (Dewey 1916). Rodgers (2002) exemplified this with the rhetorical question: *How many apples had fallen on heads before Newton perceived the inherent significance of the event?* (850). In other words, educators need to facilitate, without telling, students to notice and explore events that might be important for their learning in relation to the purposes – the *why(s)* – discussed in the previous section. An experience of adversity can, for example, be everything from educative to mis-educative based on how the learner deals with it and based on the environment in which the learner is experiencing the challenge. For PE to be educative, our main argument in relation to PE practice is, therefore, that students should shift from constant reflection on anything to particular reflection on the *why(s)*, *what(s)* and *how(s)* of learning and education (see, e.g. Quennerstedt 2019) without of course dismissing students’ own legitimate purposes for participation. For example, reflections can be directed towards students’ previous experiences of movement, their abilities and strengths, their bodily experiences or what they find meaningful as movers. We argue that by reflecting on the *why(s)*, *what(s)* and *how(s)*, students do not only develop movement capabilities but also learn how to learn. For some educationalists, such as Dewey (1916), what students do and learn in school should also be related to what they can use in settings outside school. In that respect, learning to reflect could be something that students can transfer to other areas of their lives in the process of becoming educated in and beyond PE.

While it must be ensured that reflections have an educative direction (aspirations from the curriculum help constitute what the educative direction might be), there is simultaneously a need to consider the open-endedness of PE. Put another way, objects for reflection should not be too exclusively narrow and limited to restrict individual thinking, creativity, and reasoning. For the

individual student to experience reflection as meaningful, the learners' previous, present, and future experiences must be put at the heart of the reflection in and on action (Schön 1983). For example, by supporting learners in identifying what and how they had experienced movement and how such experiences might inform and shape the way they currently experience a PE lesson, reflection can help them to have richer experiences in the future. This leads us to our final point: that reflection must be taught in a way that allows students to experience it as meaningful and relevant for their learning in PE practice. Although we argue that students should learn situated and embodied reflection in PE practice, students must be enabled to experience how reflection can help them become learners rather than merely followers.

### ***The how questions: creating conditions for reflections through indeterminate situations***

Because of the *why(s)* and *what(s)* of reflection discussed in the previous sections, and thus, to move away from coincidental reflections with potentially limited educational value, teachers should also consider *how* students' reflections might come about in PE practice. A point of departure when discussing the *how* questions is again to acknowledge the situated, embodied, and practical nature of reflection as well as of learning in PE. In other words, there is a need to create conditions for reflections that allow students to make connections between themselves as learners, their previous embodied experiences, and the environment that they are experiencing at present instead of creating barriers building on pre-determined dualisms such as body/mind, theory/practice, inner/outer or process/outcome.

This complex nature of experiencing and learning in PE turns our attention towards a transactional view of reflection. More precisely, a transactional view focuses not only on the students but also on the conditions for reflection, which shape students' thinking and future actions (Dewey and Bentley 1949). For example, an important condition is the objects of knowledge that transactionally come to make sense for students through practical engagement in the context of experience. Thus, the act of knowing is a result of enquiry into or engagement with indeterminate situations, which potentially makes learning reflective as well as embodied. Dewey understood indeterminate situations as incomplete situations or gaps in which the learner experiences unknowingness, disturbance, tension, friction, insecurity and/or uncertainty (see Andersson, Garrison, and Östman 2018). One example is a student who, in PE, experiences tasks or different movements that are somehow connected to previous tasks and movements that the student has experienced but, at the same time, requires something new or different. Such experiences urge the learner to explore different ways to perform the task to reach a state of clarity and harmony (Dewey 1916). This means that learners must find themselves in situations they have not yet experienced, and teachers must encourage their students to explore how the task can be performed (see Quennerstedt 2019). For Dewey, engaging learners in these indeterminate situations is a prerequisite to learning, as these situations enable them to reconstruct their previous spheres of experience. They become transformative by experiencing, as Todd (2014) highlighted, 'small, transformative moments that punctuate classroom life' (232).

As mentioned, Dewey (1916) emphasised the need for systematic processes of enquiry to address the problems encountered when finding oneself in an indeterminate situation. In other words, merely giving students open-ended tasks without specific answers and directions would probably not suffice. Indeed, there is a need to help students learn *how* the reflective process of enquiry might help solve their problems. Although we, like Schön (1983), do not believe that students must be forced to take a rigorous scientific approach to all problems, there is simultaneously a need to consider how students can be encouraged to conduct embodied enquiry and guided situated discovery. Although some teaching styles (see SueSee, Hewitt, and Pill 2020) more naturally align with our conceptualisation of reflection, we simultaneously believe reflection should be seen as a vital ingredient for all pedagogical approaches since, as we have suggested, students are always somehow reflecting.

### Three principles for a pedagogy of student reflection in PE

So far, to bridge the gap between theory and practice in PE, we have presented a theoretically grounded argumentation for why students need to reflect, the need for them to learn to reflect, how reflection could be facilitated, and that the *why(s)*, *what(s)* and *how(s)* could be the objects of reflection. However, an important question (or probably one of many) remains unaddressed: what our conceptualisation of reflection might look like in a PE context. Therefore, in the final section, building on the suggestions in the 2018 AIESEP keynote (Quennerstedt 2019), we propose three pedagogical principles for a pedagogy of student reflection in PE.

Before doing so, however, we need to acknowledge that it is probably not only one way to facilitate reflection, as reflection might differ depending on the context in which it takes place. This is crucial since, as we have argued, reflection is always embodied and situated. For example, reflecting on different bodily norms, reflecting on previous experiences of a particular way of moving and reflecting on how to improve physical skills will require somewhat different pedagogical approaches. Nonetheless, we believe that they have some commonalities that can be seen as three intertwined pedagogical principles for a pedagogy of reflection for PE teachers moving beyond a theory and practice divide. To elaborate on our suggested principles, we use the following pedagogical case as an illustrative example:

A group of 10th-grade students are entering a unit where the educational purpose is to experience and explore different movement cultures and landscapes. The students are given freedom to choose between different cultures, such as the fitness culture, organised sports, unorganised sports, or lifestyle activities.

#### *A pedagogy of becoming through reflection*

The first pedagogical principle addresses the *why* of a pedagogy of student reflection in PE. As we have argued, student reflection must be facilitated for intelligent practice that allows students to learn, develop and become competent moving humans within a wide variety of movement cultures. Students' situated and embodied reflection can support their growth into physically educated citizens directed towards diverse worthy purposes.

In the aforementioned case, we can imagine that some students in the class opted to explore the movement culture of *friluftsliv* (i.e. being in the outdoors, close to nature). On the one hand, reflection on this culture can make students better at lighting a bonfire, navigating in nature or managing safety risks, as Ryle (2009) illustrated. On the other hand, we could also consider how reflection can enable students to understand the *why(s)*, *what(s)* and *how(s)* of *friluftsliv* from, for example, a sustainability, environmental or social justice perspective, and hence, how *friluftsliv* might be inclusive for some students but exclusive for others depending on how it is approached and why, as well as that different ways of doing *friluftsliv* (i.e. locally or through expeditions) have different consequences for nature and for human – nature relations.

Thus, for a PE teacher, the principle of becoming in relation to *friluftsliv* entails creating pedagogical situations in which students:

- Find themselves in situations in which they can relate their own experiences to the environment that currently shapes the contexts of their experiences;
- Are encouraged to reflect on how these meaningful embodied experiences in nature can relate to, for example, protecting our common nature locally or globally; and
- Reflect on how their experiences could inform the ways in which they could participate in sustainable *friluftsliv* in the future, with guidance from and in discussion with their peers and teachers.

### ***A pedagogy of reflection on the plurality of embodied and situated meanings***

The second pedagogical principle is grounded in reflection as a process of creating meaning out of experiences (Rodgers 2002) and specifically addresses the *what* of a pedagogy of student reflection in PE – that is, what students should or could reflect on in the process of becoming. In line with our previous arguments, we believe that students should reflect on what meaningful participation is for them within the embodied and situated practices of PE. Given the open-ended nature of PE that we are arguing for, this meaning-making process involves identifying and creating a plurality of meanings.

In the case above, some students would probably choose to explore organised sports. Although we can assume that these students might have developed good sports-related skills, a pedagogy of reflection would also emphasise the students' reflection on what makes sports meaningful to them. From the plurality of embodied and situated meanings of sports, they could discover, for example, that sports is meaningful to them because it allows them to explore and discover intrinsic values and motives, such as the feeling of mastery, togetherness, excitement or various embodied expectations. Sports could also be meaningful to them because it enables them to satisfy more extrinsic motives, such as winning, setting a record, improving their aerobic capacity, or being recognised by others. This also highlights the need to recognise that students might have their own legitimate ends-in-view, rationales, or purposes for participating in sports activities in PE.

For PE teachers, a pedagogy of reflection on the plurality of embodied and situated meanings could therefore entail:

- Creating situations in which students notice and become aware of what makes organised sports meaningful for them in different situations;
- Creating situations in which students experience, discuss and negotiate the plurality of their own and others' meanings in organised sports with their peers; and
- Encouraging students to reflect on how meaningful participation in organised sports relates to their previous experiences and how, as a consequence, they can participate meaningfully in movement contexts in the future.

### ***A reflective pedagogy of inquiry and discovery***

Not surprisingly, given that the first two principles highlight the *why(s)* and *what(s)* of a reflective pedagogy of students' reflection in PE, the third principle addresses the *how(s)*. In line with our previous line of reasoning, a reflective pedagogy should be characterised by inquiry and discovery in a process of experimenting, analysing the consequences of action and trying out new possible actions. However, for this to happen, students must first experience a kind of interruption, disturbance and/or uncertainty that makes them acknowledge the need for them to become inquirers. Furthermore, for the inquiry process to lead to actual discovery, teachers should create situations that allow especially for embodied hesitation, dwelling on and deliberation.

In the case presented above, some students might choose to explore lifestyle movements, such as skateboarding, to encapsulate the situated and embodied nature of learning in PE. They could explore how they can use the skateboard in ways that are meaningful to them. Hence, the teacher becomes the facilitator of inquiry, providing sufficient guidance without giving all the answers and facilitating moments of hesitation and embodied deliberation. A consequence of a reflective pedagogy of inquiry and discovery is the provision to students of ample time to experiment, fail, identify new ways of doing things, dwell, succeed, reproduce, refine, and perfect their actions, alone and together with their peers.

For PE teachers, a reflective pedagogy of inquiry and discovery can entail, for example:

- Creating situations that stimulate curiosity and direct students' attention towards exploring and experimenting with different aspects of skateboarding that they find interesting;
- Supporting students' exploration by facilitating open-ended tasks and assignments such as 'explore five different ways to stand on a skateboard with different amounts of speed' or 'investigate how you can feel in balance on the skateboard, and how this feels like'; and
- Creating environments that invite students to use their creativity and support collaboration in exploring movement.

### Concluding reflections on student reflection

Throughout this paper, we (1) posited that students need to learn to reflect to be able to apply that skill educationally, (2) proposed how reflection could be facilitated, and (3) suggested that the *why(s)*, *what(s)* and *how(s)* should be the objects of student reflection in PE. More precisely, we discussed how reflection can be understood in the context of student learning in PE, after which we transformed our theoretical discussion into three principles for a pedagogy of student reflection. In doing so, we offered a novel and hopefully productive perspective on how students can reflect and learn to reflect in PE in order to develop competencies with both practical and theoretical elements. It is necessary to highlight that our suggestions for a pedagogy of student reflection are not complete nor definite but could serve as points of departure for future discussions of student reflection in PE. That said, we also acknowledge that our reconceptualisation of reflection opens for a range of new questions for both PE practice and PE research. For example, how can teachers assess reflection as an embodied, situated, and practical activity? And further, how can researchers investigate student reflection methodologically?

It appears as though little has happened since McBride and Cleland in 1998 advocated for putting theory into gymnasiums rather than creating distinctions between them. We still believe creating boundaries between theory and practice, for example, by always having theoretical lessons in classrooms and practical sessions in gymnasiums, is generally an unproductive idea. Importantly, a pedagogy of reflection does not mean less movement in PE. On the contrary, an understanding of reflection that does not set out to create unbridgeable and pre-determined distinctions between theory and practice, body and mind, and process and outcome can support student learning in movement through intelligent practice. By doing so, we emphasise that reflection in PE practice cannot solely be understood as a cognitive activity and should always involve practical, situated, and embodied experiences of movement.


The educational value of PE has been under contention for a long time. As a final remark, we argue that bridging theory and practice through reflection could strengthen both the P and E in PE so that it becomes PE rather than P and E. This is perhaps particularly relevant for contexts in which health is an explicit part of the subject, such as in Sweden, Australia, and New Zealand, where one risk of having a PE and an H – where PE means practice and H means theory – or even P and E and H if these aspects of the subject are not meaningfully connected.

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