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"No assessment, no learning"

Exploring student participation in assessment in Norwegian physical education (PE)

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Abstract

In contemporary educational literature assessment is viewed as a key element of pedagogy, and student self- and peer-assessment is viewed as a vital component of the assessment processes occurring within pedagogical practice. This notion is also present within physical education (PE) literature. Within this body of work however, there has been little attention on how students participate in their own assessment. The focus has rather been towards the teacher's assessment practices. The aim of this paper is therefore to explore how students themselves participate in the assessment processes that occur in PE. By drawing on assessment theory presented by Black and Wiliam (2009) and the educational perspective of American pragmatist John Dewey, the paper presents a theoretical reconceptualization of assessment that can occur within learning situations. By utilizing this conceptualization to analyse empirical material gathered within the Norwegian PE context, the paper presents findings under three main headings. These are participating in establishing; (1) where the students are in their learning, (2) where the students are going in their learning, and (3) how to get where they are going. The paper concludes with a discussion of the results and general implications of the findings for both practitioners and researchers interested in the phenomenon of assessment in PE.

Keywords: Physical education, Self-assessment, Peer-assessment, Student participation, John Dewey

Introduction

In educational literature assessment is a crucial aspect of curriculum and pedagogy (see e.g. Baird, Hopfenbeck, Newton, Storbart, & Steen-Utheim, 2014; Black & Wiliam, 2009; Shepard, 2000). Investigating assessment as a key factor within teaching and learning is now prominent within physical education (PE) scholarship (see e.g. Chan, Hay, & Tinning, 2011; Hay, 2006; López-Pastor, Kirk, Lorente-Catalán, MacPhail, & Macdonald, 2013). There is however a tendency for PE scholars to focus their attention on the practice of assessment, rather than the impact assessment has on learning. This is a tendency that is both historical (Hay, 2006), and visible in contemporary work. In addition, while contemporary scholarship within PE focuses on *formative* (e.g. MacPhail & Halbert, 2010; Ní Chróinín & Cosgrave, 2013; Redelius, Quennerstedt, & Öhman, 2015; Tolgfors & Öhman, 2016), as well as *summative*¹ aspects of assessment (e.g. James, 2018; James, Griffin, & Dodds, 2009; Svennberg, 2017; Svennberg, Meckbach, & Redelius, 2018), most current scholarship tends to be teacher centered. This does not mean that researchers ignore how students perceive assessment practices in PE (e.g. MacPhail & Halbert, 2010; Redelius & Hay, 2012), but rather that the assessment practices explored tend to be the teachers' assessment practices. Teacher centered investigations are important because they create ideas and recommendations for how to conceptualize, develop and implement *quality* assessment within PE (e.g. Leirhaug & Annerstedt, 2016; Penney, Brooker, Hay, & Gillespie, 2009; Tolgfors, 2018). At the same time, the focus on teacher assessment practices has resulted in relatively little attention

¹ The terms *summative* and *formative* refer to the intended function of the assessment practices (see e.g. Black & Wiliam, 2009). Assessment carried out primarily with a summative function, is assessment carried out in order to determine student ability or knowledge in relation to certain criteria, often referred to as assessment *of* learning. Assessment carried out primarily for a formative function, is assessment carried out to aid students in further learning, often referred to as assessment *for* learning (for use in PE literature see e.g. Hay, 2006; Redelius & Hay, 2012).

directed towards how students participate in their own assessment. While examples of such literature does exist (e.g. Hastie, Brock, Mowling, & Eiler, 2012; Peneva & Karapetrova, 2013; Potdevin et al., 2018), this literature presents specific assessment tools or techniques for students to apply within PE, while subsuming a need for such strategies to be initiated by teachers. Research that investigates the assessments that students make within ongoing PE however, seem absent. Based on the idea that exploring this aspect of assessment could broaden researchers' and practitioners' understandings of assessment in PE, the research question explored in this paper is: *How do students participate in assessment processes that occur in Norwegian PE?*

Assessment frameworks and student participation in PE literature.

Within the body of literature related to assessment in PE, several conceptual frameworks of assessment are used (López-Pastor et al., 2013). As within larger educational discourses, much used concepts such as formative assessment, summative assessment, assessment for learning (AFL) and authentic assessment are all used within PE scholarship (see e.g. López-Pastor et al., 2013; Ní Chróinín & Cosgrave, 2013; Redelius & Hay, 2012; Tolgfors, 2018). A common trait within these different assessment frameworks is that they describe how teachers can or should practice assessment in order to measure or promote student learning. In addition, while many of these frameworks implore teachers to engage students in the assessment process, it is often hard to grasp what that participation entails in practice.

Given the conceptual frameworks used in PE scholarship it is not surprising that PE assessment literature is largely teacher centered. This does however not mean that PE literature utilizing these frameworks are not producing knowledge about student participation in assessment. Literature uncovering for example that the principles of AFL when applied, seem intended rather than practiced (e.g. Leirhaug & MacPhail, 2015; MacPhail & Halbert,

2010; Redelius et al., 2015; Tolgfors, 2018) does provide insight into teachers' ability and/or desire to engage their students in assessment processes. Another example can be found in literature developed within the Norwegian context. Here scholarly work suggest that while there has been curriculum reforms, including developing new educational laws and guidelines informed by AFL principles (Leirhaug & Annerstedt, 2016), teachers' assessment practices are very resistant to change (e.g. Arnesen, Nilsen, & Leirhaug, 2013). Furthermore, while students thereby should participate in the assessment processes occurring in Norwegian PE, it seems that self- and peer-assessment is seldom used (Leirhaug & Annerstedt, 2016).

In short, there are few frameworks that conceptualize assessment from a student perspective, or even view students as practitioners of assessment independent of teachers. As this paper aims to explore student participation in assessment processes, a conceptual framework for assessment that considers students as central actors within assessment is therefore presented.

A reconceptualization of assessment.

When reconceptualizing assessment, it is important to ascertain how assessment is being viewed in this paper. Several conceptual frameworks exist, many holding their own definition. In this paper assessment is based in fundamental ideas provided by Black and Wiliam (2009). The starting point of Black and Wiliam's understanding of assessment is located in three key processes within learning and teaching presented by Ramaprasad (1983). These are; (1) establishing where the learners are in their learning, (2) establishing where the students are going in their learning, and (3) establishing what needs to be done to get them there. From this starting point Black and Wiliam developed the following definition of formative assessment:

“Practice in a classroom is formative to the extent that evidence about student achievement is elicited, interpreted, and used by teachers, learners,

or their peers, to make decisions about the next steps in instruction that are likely to be better, or better founded, than the decisions they would have taken in the absence of the evidence that was elicited.” (Black & Wiliam, 2009, p. 9)

While Black and Wiliams definition of assessment is made within a formative assessment framework, the definition taken together with the three key processes include both summative and formative aspects. Taken together the definition and the key processes thereby cover many of the different functions normally associated with educational assessment, while at the same time providing room for students to be central actors. The meaning that this paper therefore ascribes to educational assessment is that; assessment is any process where teachers, learners or their peers elicit, interpret and use information in order to ascertain (1) where the students are in their learning, (2) where they are going in their learning, (3) how to get there, or any combination of the three.

In order to explore the research question posed in this paper such a general understanding of assessment is however not enough. A theoretical perspective is needed to operationalize assessment in order to explore it. More specifically, it is important to locate a perspective that provides insights helpful to; (1) identify student learning within PE practice, (2) enable understandings of goal or criteria formation, (3) enable understandings of how students can elicit and interpret where they are in their learning, and (4) enable understandings of how students figure out how to get where they are going in their learning. A perspective that has previously been utilized within PE literature to do this has been chosen, namely the educational perspective of American pragmatist John Dewey (see e.g. Aarskog, Barker, & Borgen, 2018; Quennerstedt et al., 2014; Quennerstedt, Öhman, & Öhman, 2011).

Dewey and assessment

While Dewey rarely used the term *assessment* in relation to learning, he wrote extensively on different ways humans can and do elicit, interpret and use information in order to make decisions when learning (Dewey, 1916/1980, 1922/1983, 1938/1997). Dewey's theorizing about learning builds upon the idea that *new* learning arises in *indeterminate situations* (Dewey, 1938). Simply put, situations where we do not know what to do. According to Dewey, as we experience our lives, we usually think and act based upon previously developed *knowledge* and *habits*² (Dewey, 1938/1997). However, sometimes we also meet situations where we do not know how to act. In such instances we must find out how to behave. Dewey argued that it is when we meet and resolve such situations we develop new habits and knowledge (Dewey, 1916/1980, 1938/1997). The reason why Dewey's perspective is interesting in relation to assessment is because he described different methods of solving such situations. Methods that contain ideas that can help operationalize assessment processes occurring as students learn.

Assessment as perception

One method of learning that Dewey describes is the method of trial and error. The method of trial and error refers to trying to solve an indeterminate situation by trying out different

² In general terms 'habit' refers to our previously learnt predispositions to respond to our environment in particular ways (Dewey, 1922/1983) where responses are not just intellectual and cognitive, but also emotional and psychomotor. For more insight into habits and their generation, alteration or affirmation see; growth as plasticity and habits as expressions of growth (Dewey, 1916/1980, pp. 49-54), habits as social functions and habits and will (Dewey, 1922/1983, pp. 15-32) or the principle of continuity (Dewey, 1938/1997, pp. 35-39) Knowledge on the other hand concerns itself with the connections between actions and consequences, and within a Deweyan perspective, knowledge is a cognitive phenomenon (see e.g. Biesta & Burbules, 2003a; Dewey, 1916/1980, pp. 151-164).

actions until the situation is resolved. Within this method Dewey's view on human *perception* is central. Simply put, perception refers to a process of continuously eliciting, interpreting and using information from the environment in order to *know* what to do when facing an indeterminate situation (Dewey, 1896). This means that when students try to solve indeterminate situations, they are always in a process of eliciting, interpreting and using information in order to figure out how to behave. It is therefore possible to conceive students as always assessing when learning. Importantly, assessment viewed as perception does not necessarily involve thinking before, or even after we act. Neither is it assessment in terms of a process where we necessarily have a conscious goal or even establish what we already know that can help us solve the situation. It is rather an unconscious trying to ascertain how to get out of the indeterminate situation. It is assessments in the sense of being a process where we try to ascertain *how to get there*, with *there* being something we do not yet know. Importantly while students therefore in a way will always assess through perception when learning, they will not necessarily be able to communicate this to either teachers or to researchers through interviews or questionnaires.

Assessment as part of reflective experience

Reflective experience, in contrast to trial and error, involves reflective thinking both before and after we act (Dewey, 1916/1980). Reflective experience always involves a transformation of indeterminate situations into what Dewey termed problematic situations. A transformation emerging from conscious ideas about what the actual problem could be (Biesta & Burbules, 2003b). After such a transformation, reflective experience involves developing hypotheses based on information about the situation and previous knowledge through thinking. This is followed by testing the hypotheses through overt actions and subsequent reflection upon the possible connections between our actions and the consequences we undergo as we act (Dewey, 1910/1997, 1916/1980, 1938). The process continues through new ideas, hypotheses,

testing and reflection until the problematic situation is solved. In relation to assessment, the difference between assessment as perception, and assessment that occurs as part of reflective experience therefore lies in the intervention of thinking. Conscious thought helps us both define where we think we are going and to develop hypotheses of how to get there.

Importantly, while perception therefore can be seen as an unconscious attempt to figure out *how to get there*, where *there* is an unknown, the intervention of thinking makes it possible to develop ideas about where *there* is. In addition, it enables the developing hypotheses of *how to get there*. In order to explore student participation in the assessments that occur within PE, it is therefore important to somehow gain access to student thoughts as they try to solve indeterminate or problematic situations.

Assessment as individual and social

So far, we have suggested that a Deweyan understanding can help to conceptualize assessment as being able to ascertain where we are in our learning through testing, as figuring out how to get there through perception, and assessment through conscious thinking providing hypotheses about both where we are going and how to get there. From this perspective assessment *can* be viewed as an individual affair occurring within social and cultural contexts. This makes individual assessment and learning a possibility within human experience.

However, this understanding of 'solo' assessment on its own does not leave room for all the social forms of assessment that is commonly associated with educational assessment. We therefore need to include other ideas from Dewey's educational framework.

Dewey's understanding of *Communication*³ is important in order to operationalize assessment so we can gain access to all the social forms of assessment that can and do occur within teaching and learning contexts. While it is true that Dewey conceptualized all learning as occurring through experience, communication is the means by which humans can share experience. He writes: 'Men live in a community in virtue of the things which they have in common; and communication is the way in which they come to possess things in common.' (Dewey, 1916/1980, p. 5) Communication thereby enables the possibility of shared experience. It enables students to seek information, advice and warnings from those with wider experiences and to share their own thoughts and ideas, including those concerning assessment. Communication is, in other words, the method that can be used in order to make assessment a social enterprise. This means that by exploring the communication that occurs between the actors in PE it is possible to gain access to a wide variety of assessment processes. Practices commonly associated with assessment, such as teacher feedback, providing learning goals or different tests applied, can all be explored by gaining access to the communication occurring. In order to do this however, a methodology and research methods suited for this task is needed.

Methodology and methods

In order to address the research question posed in this paper a methodology developed within a larger research project that explores students' participation in the school subject of PE in Norway (Aarskog et al., 2018) was applied. In this paper, this methodology was used in combination with the theoretical framing presented above. The chronology of the design and points of data-collection and analysis are schematically presented in figure 1, but before

³ For more insight into the concept of communication, and how communication is possible within a Deweyan perspective see e.g. *Nature, communication and meaning* in Dewey (1929, pp. 166-207)

turning to a detailed description of each method step and the different phases of analysis, the research context and participants are presented.

[Insert figure 1 here: Research design]

Research context and participants

This paper uses material gathered within a larger research project exploring students' participation in PE in Norway. Two classes from different schools, a 10th grade class with 23 students (age 15-16) and an 8th grade class with 30 students (age 13-14), and their respective teachers were recruited for the project. The project was reported to the Norwegian Centre for Research Data (NSD)⁴, and prior to the study, informed consent forms were signed by both students and their guardians, as well as the two teachers that participated in the study.

Data collection.

Participatory observations

Data collection started with four 90-minute lessons observed through participatory observation (Delamont, 2004; DeWalt & DeWalt, 2011) in each class. The author observed by taking on the role as an assistant teacher, a student and a researcher observing from the sidelines. This was done by agreeing with both teachers that for two lessons the author would participate as an assistant teacher, and for two lessons as a student. Within these lessons it was also agreed that the author could move to the sidelines to observe and take notes whenever possible and desirable. In addition, a second researcher observed one of the lessons in each class from the sidelines, and the observations made were discussed between the author and the co-researcher after the lesson. By doing this the author was able to gain access to student and

⁴ When a study does not specifically investigate and/or store data surrounding medical or health related topics, NSD is the central institution that pre-approves research projects in Norway

teacher experiences, while also generating knowledge about the context (DeWalt & DeWalt, 2011). The movement between roles was done in order to avoid limiting the possible experiences and interactions, and thereby to extend the knowledge that could be generated. Within the observation period, field notes were taken during and immediately after each observed lesson. The main goal was to identify how it looked when students found themselves in indeterminate situations, as well as gaining knowledge about the specific actors and the specific context of each class.

Video observations

One week after the participatory observation period, video observation (Derry et al., 2010) was used to capture one entire lesson with each class. Two cameras on tripods with good microphones were placed in diagonally opposite corners of the gym to capture all the actions occurring. In addition, a third portable camera with a directional microphone was used to zoom in on selected situations. An additional microphone was also placed on the teacher, in order to capture the oral interactions between students and the teachers.

Stimulated recall interviews

The third method step used were stimulated recall interviews (SRI's) (Dempsey, 2010). Here two boys and four girls from the 10th grade, and three boys and four girls from the 8th grade, along with both teachers, were interviewed. The interviews were conducted no more than 2 weeks after the video observations were conducted, and consisted of playing the participants audiovisual recordings of their own behavior, followed by discussing aspects of those recorded situations (Dempsey, 2010). In addition, general questions about the planning, implementation and assessment of the lessons and PE in general were discussed. All interviews were audio recorded.

Analysis

The analysis process was continuous throughout all method steps. However, several phases were dedicated solely to analysis. The first phase consisted of preliminary analysis of the field notes and were conducted in order to plan for the video observations. This was done by reading and re-reading the notes, highlighting sections, and discussing these among two researchers. The next analysis phase was a preliminary video analysis in order to choose which situations and subsequently which students to interview. This was done by first editing the different camera angles into one coherent lesson following the teacher of each class. Then these video edits were viewed and re-viewed by the author and a co-researcher, and potential students to be interviewed were selected. A new period preceded, where edits were made for each potential student using the angles that best captured the student's interactions. These edits were viewed and reviewed and specific students and video segments for interviews were selected. The selection of students and video segments was based on the video material holding the following key situations of interest. The students being involved in (a) indeterminate situations on their own, (b) situations where they experienced indeterminateness within group work, (c) situations where the teacher provided feedback one to one, and (d) situations where the teacher provided feedback to a group. The preliminary video analysis thereby closely resembled what is called a part-to-whole deductive approach (Derry et al., 2010).

After the preliminary video analysis, interview guides for the teachers and selected students were developed (Dempsey, 2010). In addition, some general questions about the planning, implementation and assessment that occurred within the different contexts were developed. Both the video segments shown, and the audio data collected during the interviews were transcribed and thematically coded and analyzed using MaxQDA, a software program for arranging extensive interview texts. The material was first coded using an *inductive* approach

where the transcribed material was coded and thematically organized using terms and phrases directly from the gathered material. After this a period of *deductive* coding was undertaken where codes and themes used were based upon the theoretical frameworks developed for different parts of the research project (Braun, Clarke, & Weate, 2016).

Findings

From the theoretical framing presented it follows that assessment is viewed as processes of eliciting, interpreting and using information in order to ascertain; (1) where the learners are in their learning, (2) where the learners are going in their learning and (3) how to get where they are going? The findings will therefore be presented according to these three ‘questions’.

Participation in establishing where the learners are in their learning.

Assessment carried out in order to establish where the learners are in their learning, is by far the assessment processes most commonly associated with the term *assessment* by the participants. When asked about assessment both teachers and students associate assessment with establishing what students know or can do and is often equated with grading practices. In terms of students participating in such assessment processes, the findings seem to align with the findings of Leirhaug and Annerstedt (2016). During the observation periods, the teachers do not initiate any systematic self- or peer-assessment strategies as part of their practice. Furthermore, the teacher interviews indicate that such strategies are rarely used within the studied classes. This absence is indicated in the following interview extract:

Researcher: Are the students involved in the assessment practices in this class?

Teacher: eh, not directly. I try to let them think it sometimes, for example if somebody sits on the sidelines, I ask them to take notes or something, I have done that.

Researcher: do they assess themselves at all?

Teacher: that... no, they have not been writing logs for example, but I do try to tell them about what is being assessed, and then it is up to them to assess themselves in relation to that. How do you think you are doing in terms of skill? In terms of fair play? How do you think, well effort for example? Have you given it your all today?

So, while the teacher reports asking reflective questions meant to initiate self-assessment, there seems to be a lack of systematic strategies initiated by the teacher. However, when students are interviewed specifically related to the problems they try to solve in PE, all report clear ideas about whether they manage different tasks or not. The interviews also indicate that many students have clear perceptions of whether the tasks provided are something that they already know how to do or not. Students say they gain such understandings through different means, ranging from individual self-feedback through 'feeling that it's right' or 'seeing that it works', to more social forms of feedback through teacher comments or looking at peers. A key observation here is therefore that despite teachers not initiating systematic self- or peer-assessment strategies, students seem to elicit and interpret information about where they are in their learning. Through analyzing teacher comments, comparing themselves with peers and through their own feelings and impressions, they do participate in the assessment processes.

Participation in ascertaining where the learners are going.

In line with previous research (Redelius et al., 2015), the teachers observed communicate unclear learning goals at the start of lessons. The focus is rarely directed towards learning but rather towards what the students are supposed to do, the activity they are going to have, or towards providing general motivational monologs to inspire student effort. Another similarity to previous research is that the students provide ambiguous and vague answers when asked directly about what they are supposed to learn in PE.

On the one hand, this could indicate that the students have unclear ideas about where they are going in their learning. On the other hand, from a Deweyan perspective consciously determining *where one is going* when learning can occur as indeterminate situations are transformed into problematic situations. As such, establishing where one is going when learning does not necessarily mean developing ideas about what one is supposed to know or be able to do after an entire PE lesson or PE in general. It can also mean developing ideas about what one is supposed to be able to know or do in order to solve specific problems occurring during a PE lesson. With this in mind it is important to take note of the fact that all students interviewed reported ideas about what they were trying to do within almost all situations they were interviewed about. For the most part these ideas reflect what the teacher told them to do when assigning tasks. The starting point of establishing where the students are going in their learning therefore seem predominantly communicated by the teacher. However, the students observed and interviewed did participate in clarifying the task at hand by asking questions for clarification. In addition, the students also developed additional ideas framing the problematic situations they faced. One example can be 10th grader Axel, who clearly saw winning as part of the problematic situation.

Researcher: Ok... But let me ask you, what are you trying to do here, what is your aim?

Axel: Well my aim is to get the pass quick, along the floor, so that it is possible for my partner to send it back to me just as quickly.

Researcher: Ok.

Axel: So that we get the most passes, and win.

Other examples provided by the students interviewed were to manage the task while not looking stupid, doing their best, get good grades or simply having fun. For most students the

actual problem perceived seemed to be a combination of different ideas. The key observation here is not that students have different understandings of the problem to be solved, but that students themselves participate in establishing where they are going in their learning.

Participation in establishing how best to get where they are going.

When establishing how to get where the students are going in their learning, several different strategies are applied by both students and the teachers. It is clear from the analysis that the teachers do help students understand the problems to be solved and try to demonstrate and explain how students can manage the tasks. However, when teachers get involved they often provide feedback in terms of telling students what to do, and this does not seem to initiate student reflection. Instead such feedback seems to initiate students into immediate action. They try something, and if this does not work, they try something else. Teacher feedback provided to students therefore seems to affect student perceptions of where they are going, but not generate conscious thoughts about how to get there. In Deweyan terms, teachers seem to initiate student self-assessment as perception.

The use of perception in order to figure out how to solve indeterminate situations within PE does not however seem restricted to when the teachers get involved. When students were interviewed about their thinking within different situations, the most common response was to answer in terms of emotions felt and summative assessments of how they think they managed the tasks. In such situations, using information in order to hypothesize different solutions does not seem present within the students' assessment process. When asked what and why they did as they did, students often replied that they just try something without knowing why, and if that does not work, try again. Importantly, the video material clearly depicts students trying different strategies and actions within the situations, but when interviewed they simply state that this happens automatically. Such processes closely resemble assessment through

perception. One example is provided by 10th grader Ava when interviewed about a situation where she is dribbling a ball around peers in floorball:

Ava: Well here we are just dribbling the ball around the gym, trying not to crash into anybody. As if dribbling is not hard enough on its own.

Researcher: Do you remember if there was anything that you wanted to achieve here?

Ava: Well I try to manage as best I can, and preferably try not to run into someone.

Researcher: Yeah, but it seems you are focusing on dribbling the ball from side to side here, do you remember if that was something you thought about?

Ava: Eh... No...

Researcher: Was it more that it just felt natural, or? What do you think?

Ava: Well it seemed natural, you know, because that was what we had practiced most, you know. And the tempo was not that high, and then it's like, then you can manage much longer, and you have better control. That's what I felt anyway.

Researcher: Ok, but did you choose to keep the tempo low to keep control?

Ava: ...

Researcher: Did it just turn out that way?

Ava: It just turned out that way, I think.

Researcher: So, it is not something you think about?

Ava: No

Researcher: So, it not like for example if you lose control then you choose to slow down?

Ava: well, yes if I lose control, like, when it goes too fast, I slow down, but it's like, it always gets better again, you get better control, and then the tempo goes up.

Researcher: But is that something you choose?

Ava: No, that happens all on its own.

While Ava initially indicates that dribbling while moving around as hard, her assessment process, choosing to slow down to regain control and speed up when she regains control, does not seem based on conscious thinking. Her aim is to manage to dribble the ball without crashing, but the assessment of what to do next is not conscious. She tries until she fails, then starts over and tries again, all while unconsciously adapting her behavior to the changes in her environment.

While assessment as perception thereby seem the most used process to determine what to do in order to solve a task, there are examples of reflective thinking intervening in the process. Moreover, while student assessment often starts as a process resembling perception, it sometimes transforms if the indeterminate situation does not resolve itself. One example is provided by 10th grader Rachel and her thoughts surrounding practicing passing the ball to a peer in floorball.

Rachel: Well, here we were supposed to pass the ball along the floor to the person on the other side.

Researcher: Yeah?

Rachel: It went ok to pass it but receiving was a bit harder.

Researcher: Ok. Do you remember what you thought about that?

Rachel: Well I thought that I had to do better next time, and when I tried to receive it and it bounced away, then I thought that I had to dampen the ball before it bounced into the wall.

Researcher: Do you know how to dampen the ball?

Rachel: No not really (laughing). I improvised a bit.

Researcher: Did you think about how to dampen it?

Rachel: That you kind of have the blade straight down towards the ground, and tight so that the ball stops right into it, or hold the stick kind of loose, and the blade a bit above ground, so the ball does not bounce away.

It is clear from the example that Rachel's assessment process does go further than just trying, and continually altering her approach. Based on her observations Rachel transforms the problematic situation, and dampening becomes the actual problem. Then she goes on to hypothesize two different ways of how one can dampen the ball. The key observation here is not whether her hypotheses are right or not, but that she does participate in her own assessment in such a way.

However, not only do students assess as part of reflective experience on their own. Such processes also occur when students enter explicit negotiations with peers or with the teacher. One example of such a situation occurred when 8th graders Sophie and Ross worked within a group to learn a folkdance. In this situation the teacher provided feedback in terms of trying to demonstrate what to do, but when the teacher moved on to another group, the students stopped practicing and started discussing how to manage the specific dance. As Sophie said in her interview:

Sophie: We stood and talked about it

Researcher: Are you talking about what you are practicing, or other things?

Sophie: Eh... I think a little bit of both, but we did talk about how we could manage the dance, and how we were going to do it

Researcher: Ok, what do you think about that

Sophie: That it is very important.

Researcher: Did you feel that it helped?

Sophie: (Nods in agreement)

Ross's interview corroborates Sophie's understanding of the same situation and as he says:

Ross: I think we stood and talked about what we could do better, like how we could improve

Researcher: So, do you come to some sort of an agreement then, or?

Ross: No, I don't think so, I don't think that it was agreement that was the deciding factor here. I think that it simply was that we had to think, think how, like how to turn, or where to turn first, and then like when to turn back, and how to do it so that it flowed

Researcher: So, you talk to figure out... (Ross interrupts)

Ross: Yes.

Researcher: How to do the dance?

Ross: Yes.

While both students report that they think the teacher feedback initially provided help in terms of understanding what to do, it is interesting that it is when the teacher steps away that the students start to discuss how to do it. It is furthermore interesting that this sort of negotiation, the proposals of different hypothesis, is most prominent when the teachers are not involved.

When the teachers are involved in the assessment process, students seem to be preoccupied with trying to copy the teacher's proposed solutions, and as such the process of creating different hypotheses integral to assessment as part of reflective experience seems to vanish. Importantly however both teachers observed and interviewed do encourage and create a space for students to negotiate between themselves. So, while not often actively involved in such negotiations, the teachers observed do create a room for such assessment practices to take place.

Discussion

From the theoretical operationalization of assessment presented in this paper, it follows that students will always in a sense assess when they learn. The question of *if* students participate in assessment is thereby pointless. The question explored is therefore *how* students participate. The findings presented in this paper indicate that while teachers do not commonly initiate strategies intended to engage students in self- or peer-assessment, students do participate in different processes that can be understood as assessment. Both through communication with teachers or peers, or as part of their own learning processes, students do elicit, interpret and use information in order to ascertain where they are in their learning, where they are going, and how to get there.

However, assessment through perception seems to be the most commonly utilized strategy by the students. This, in itself, is a little disconcerting from a Deweyan point of view because this strategy holds lower value in terms of the learning that can be produced, than does reflective processes (Dewey, 1916/1980). It is therefore promising to see that reflective assessment processes are also utilized, either through explicit negotiations between students, between the students and the teachers, or by the students themselves. However, as presented, reflective processes seem more common when the teachers do not get involved than when they do. One

reason for this could be the type of feedback commonly used by the teachers, which is to tell students what to do instead of initiating student reflection about what they could try. From a Deweyan point of view, such teacher practices could in turn result in students acquiring habits of assessing mainly through perception. The findings presented in this paper could therefore imply that it would be 'better' for the observed students learning process if the teachers did not get so much involved. However, another possibility also exists, namely that the teachers start to utilize more reflective feedback in order to engage students in reflective assessment processes. That they teach students how to assess through reflective thinking. This could be done by utilizing different techniques and strategies well explained within different assessment frameworks, or could also be done simply by asking questions rather than providing answers to student when they try to solve tasks.

To sum up the finding presented, while aligning with previous research in terms of finding little deliberate teacher usage of strategies to involve students in the assessment processes, show that students do participate in the assessment processes that occur in different ways. In the author's opinion this should not be ignored, but rather it seems to unveil a significant potential. The findings indicate that teachers do not need to involve students in assessment, they are already involved. What teachers need to do is to utilize more reflective feedback in order to engage and guide students into utilizing more reflective assessment processes. They need to teach students how to assess reflectively, not simply get them involved in assessment.

Concluding remarks

Previous assessment literature, both within larger educational discourses (e.g. Black & Wiliam, 2009), and PE scholarship (e.g. Leirhaug & MacPhail, 2015; MacPhail & Halbert, 2010; Tolgfors & Öhman, 2016) highlight involving students in self- and peer-assessment, and activating students as owners of their own learning as important. However previous PE

literature indicates that involving students in peer- and self-assessment comes short, at least within the Norwegian context (Leirhaug & Annerstedt, 2016). Furthermore it suggests that activating students as owners of their own learning is sometimes lacking by teachers not sharing clear learning goals, leading to students not understanding what they are supposed to learn in PE (e.g. Redelius et al., 2015).

The theoretical framing and findings presented in this paper however point out that students are always, in a way, assessing when they learn. The findings also show that the students observed in this study have clear ideas about what they are supposed to be able to do in relation to specific tasks, and through perception and reflective experience, through individual and social processes, students do assess. While Redelius et al. (2015) therefore has a point in terms of there being a lack of a language of learning in PE, and also in the author's opinion, a lack of language of assessment, this does not mean that no assessment and learning are taking place. Assessment processes where the students are actively involved and participate in both the framing, eliciting, interpret and using of information, seem to occur as an integral part of learning itself.

At the same time the notion that AFL's potential to increase student learning in some ways are missed by practitioners not following AFL guidelines could have a point (e.g. MacPhail & Halbert, 2010; Redelius et al., 2015; Tolgfors, 2018). Not because teachers do not assess students or that students are not actively involved in the assessment processes. The findings in this paper indicate that the teachers do provide feedback to help learners understand where they are and what to do next, and while not engaging in many negotiations with students, they do provide space and encourage students to negotiate between themselves. AFL literature could however have a point because the teachers observed mainly utilize non reflective

feedback with students. It is not that such assessment processes can't help and guide learning, but rather that this approach can instill students with habits of assessing mainly as perception. This is problematic because students thereby learn habits of assessment that are not conscious and reflective, and as such not communicable. They are left with habits where previous knowledge and advice from others can't be utilized in the assessment process.

It is however important to point out that the findings presented in this paper are based on observations of 55 participants and interview data from 15 participants and must be read as such. In addition, the interviews conducted tried to get a hold of student and teacher thinking. Issues such as memory retention, after hand rationalization, and the possible inability or lack of language to communicate our thinking (Dempsey, 2010), will therefore always play their part in terms of what the participants answer. Especially the difficulty in communicating thinking became apparent in the student interviews. The author conducting the interviews, therefore in some instances saw the need to provide different suggestions to the participants in order to try to stimulate recollection of thinking. While a small number of participants, and interviews sometimes including 'leading' questions is therefore a weakness that must be taken into consideration when reading the results of the study, the same weaknesses also enable the production of insights that would be hard if not impossible otherwise. By having few participants, and by combining different research methods, the methodology enables researchers to explore in depth the different decision-making processes that occur as students learn in PE. It is also the case that material produced by any interview or observation will always be a co-construction between the observed or interviewed and the one observing or interviewing, whether suggestions are provided or not. It is precisely by providing one's own thoughts and insights that one can gain deep insights into another's (Neumann & Neumann, 2012). So, while the findings and the following discussion thereby must be read with this in

mind, and while the findings cannot say that what takes place within these two single contexts take place everywhere in Norway, the knowledge produced can still be useful for both practitioners and researchers.

Practitioners and researchers could through the findings presented gain new awareness of how students can and do participate in assessment processes that occur in PE. For practitioners a key idea produced by this study is that they should take advantage of student's own assessment processes and help guide students in their assessments. Help them learn different ways of assessing and to make the assessment process more reflective, conscious and communicable. In addition, while this paper does not place its main focus on whether or not the learning outcomes produced by the assessment processes observed align with stated curriculum, the notion that students do seem to develop clear ideas about what they are supposed to be able to do or know in order to solve specific tasks in PE seem vital. This could indicate that if PE teachers design and communicate tasks in PE that align with curriculum stated learning outcomes, student learning will likely move in the desired direction. This study also suggest that this could occur even if students are unable to communicate what they are supposed to learn in PE in general.

For researchers interested in assessment this paper can hopefully inspire future research exploring the different processes that take place in PE practice from a student perspective. Inspire research that takes a close look at ongoing PE practice and tries to understand the different processes that occur within student learning, and not mainly look for what is lacking or missed. While growing, there is still a lack of this kind of research within the field of PE. Such research is important in order to broaden the understanding of assessment, of learning and their interconnectedness in the field of PE.

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