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Searching for the 'How'
Teaching methods in Swedish physical education

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Abstract

Over the last few decades, focus in educational research – as well as in policy – seems to have shifted from teaching to learning. As a result of this, we know little about what different teaching methods are used in the subject, and how. The purpose of this article is to explore how different teaching methods are used in Swedish secondary physical education. Video recorded physical education lessons in eight Swedish secondary schools were used to identify different teaching methods. Kirk's (1996) elaboration of the Spectrum of teaching styles formed the basis of the analysis. In subsequent interviews, teachers (8) and students (24) were asked questions about teaching and learning in the subject. All of the five methods that Kirk (1996) outlined were identified in the lessons, but they were very unevenly used. The task-based method was the most frequent one, while the guided discovery method was hardly used at all. The impression was that the teachers did not seriously consider the selection of methods in relation to objective, content and group of students. The students, for their part, described a situation where they were often left to their own devices regarding what they were supposed to learn. Based on the analysis, we argue that teachers need guidance to improve and develop their deliberate use of teaching methods in general, and especially student-centred methods. This is necessary if the goals of the subject are to be achievable for all students. We conclude that the marginal focus on teaching methods in physical education is not related to a parallel increase of the interest in student learning in the subject. On the contrary, the low interest in the use of different teaching methods seems rather to be related to a low interest in what students are to learn in the subject.

Keywords: physical education, didactics, Sweden, teaching methods, student learning

Lately, a number of researchers have noted a shift of focus in educational research from teachers and teaching to learners and learning. According to Biesta (2012), for instance, the 'learnification' of society and education has meant a "disappearance of teaching and the concomitant disappearance of the teacher" (Biesta, 2013, p. 35). In a similar way, Carlgren and Marton (2000) and Wahlström (2009) point to a shift of focus in the educational process from teachers' teaching to students' learning, or as Metzler (2011) put it, within the area of physical education in schools, a move from "[w]hat should the teacher be doing" to "[w]hat should the teacher be getting the students to do in class" (p. 13). We contend that this reduced interest in teaching also mirrors a reduced interest in teaching methods.

The issue of a reduced interest in teaching methods is perhaps highlighted by the Swedish Schools Inspectorate (SSI) who, in 2012, maintained that a limited use of different teaching methods had led to that physical education and health teachers were unable to individualise teaching, hence also unable to help all students reach the aims of the subject (SSI, 2012). Since we were involved in a large study about teaching and learning in secondary school physical education and health simultaneous to SSI's survey, the purpose of this article is to explore more in-depth how different teaching methods are used in a Swedish context, and discuss the relationship between the use of different methods and the obligation to help all students learn and develop. To what extent are different teaching methods used in Swedish Physical education and, importantly, what does the use (or non-use) of different teaching methods mean to students' learning?

Setting the scene

In the pedagogical literature of the 1960s, interest in teaching methods was relatively high. This interest was largely based on the idea that 'the right teaching method' could help all students learn (Sundberg, 2005). Since then, however, the interest in teaching methods seems to have decreased. This is certainly true within a Swedish physical education context (Karlefors & Larsson, 2015). This echoes, we believe, what Biesta (2012, p. 35) claims to be an "erosion" of the understanding that teachers primarily are to *teach*. Further, it probably also links to changes in school governance, where the previous content-driven national curricula were

replaced by goal- or outcome-driven curricula. In Sweden, this shift was prominent in the school reform of 1994 (Redelius & Hay, 2012). The point with returning to a focus on teaching and teaching methods is not that old models of teacher control should be restored. Rather, as Symeonidis and Schwarz (2016) maintain, drawing on Biesta's work, the idea of teaching is that teachers "should respond to articulations of how students experience what they encounter at school" (p. 40). In Biesta's view, teaching is of course not disconnected from learning, but can be differentiated from learning in terms of paying attention to content, purpose and relationships as core items for teaching (Biesta, 2013). This focus on content, purpose and relationships of teaching was also highlighted in 2012 in a report from SSI (2012) about Swedish physical education and health teaching.

After their comprehensive review of teaching in the middle-years of physical education and health, SSI (2012, p. 3) held that teachers in the subject need to develop their teaching methods in order to help all students reach the goals. According to SSI,

> [t]here seem to be a number of question marks for many teachers about what methods can be used to individualise the teaching. This risks not only having consequences for what education the students get, but also how the teachers assess the students in relation to the knowledge requirements of the subject (p. 27; author translation).

SSI concludes:

> It is not unreasonable to argue that the teachers generally need broader and more varied teaching methods. This is necessary in order for them to translate the subject's identity as a subject of knowledge in the teaching and assessment of the students in a manner that corresponds to the intentions of the curriculum and the syllabus (p. 27; author translation).

Finally, it is maintained that:

> The teachers who succeeded in this [simultaneously paying attention to content, purpose and relationships; our note] have often put students' learning at the centre, where the activities undertaken during lessons support learning rather than its goals. With such a view of the subject, students are offered a broader repertoire of didactic tools that the teacher can apply in situations when educational challenges arise (p. 20; author translation).

It is not our intention here to verify or falsify SSI's findings and conclusions. We do acknowledge, though, that there are issues regarding the activities in Swedish physical education and health, and notably about teaching and teaching methods, that need to be explored further. Incidentally, SSI's review was conducted simultaneous to our own data collection in the research project 'Physical education – a subject for learning?' We believe that this has created an opportunity for us to qualitatively explore what might lie behind the findings of SSI's survey.

Teaching methods

The concept 'teaching method' refers to the didactical question 'how', i.e., how teachers teach and how students learn (Quennerstedt & Larsson, 2015). Other definitions of the concept (Kirk, 1996; SNAE, 1980) also include both the teachers' and the students' efforts. Metzler (2011, p. 13) describes teaching method as "ways to instruct" and argues that other concepts, such as strategy, method and style, are synonymous to teaching method and can be used interchangeably. In this paper we use the concept 'method'. More than one method can be used in the same lesson depending on its objectives and the content to be learned (Metzler, 2011, p. xiii). Although Biesta is working within another tradition as compared to Metzler, we believe that Biesta's (2013) call for a focus on content, purpose and relationships is broadly similar to Metzler's contention that the intersection of methods, content and objectives are always significant for student learning, arguably with the addition of relationships (between methods, content and objectives as well as between these parts and students and teachers).

When the issue of teaching methods was a prominent feature of the educational agenda during the 1960s, American educationalist Musska Mosston began to explore the kinds of teaching styles that physical education teachers used to achieve more variation in the teaching and learning process, both as a means to adapt to different objectives with teaching and as a way of paying attention to the needs and interests of different students (Mosston & Ashworth, 2008). The number of styles that Mosston discovered gradually increased to eleven and is known as a Spectrum of teaching styles (henceforth called the Spectrum). The Spectrum became very influential and, according to Camacho and Brown (2008, p. 86), it has had the "most pervasive influence on physical education peda-

gogy internationally". As such it has been researched from many different perspectives (see Byra, 2000, 2006 and Mosston & Ashworth, 2008 for a review of the research). Metzler (1983, p. 146) holds that one of the Spectrum's most important contributions is that it "has generated a common jargon for us to use when talking about teaching."

In Sweden, however, the Spectrum is relatively unused and unknown among physical education teachers (Annerstedt, 2007), and Swedish research on teaching methods in the subject is sparse. Some studies partially explore teaching methods in the above mentioned research project 'Physical education – a subject for learning?' (see, e.g., Barker & Annerstedt, 2014; Barker, Quennerstedt & Annerstedt, 2015; Karlefors & Larsson, 2015). However, in the main, new research on teaching methods in a Swedish physical education context is more or less non-existing.

The eleven teaching styles that are defined in the Spectrum (Mosston & Ashworth, 2008) are grouped into six reproductive – direct or teacher-centred styles, and five productive – indirect or student-centred styles. The threshold between teacher-centred and student-centred methods is based on the relation between teachers' and students' involvement in the decision-making before, during and after a lesson. Student influence increases progressively from the teacher-centred 'command style' to the most student-centred 'self-learning style'. There is a clear relation between aims, content and methods in the Spectrum. Reproductive teacher-centred methods are designed for the "replication of specific known skills and knowledge" (Chatoupis, 2010, p. 8) in sports such as gymnastics, whereas productive student-centred methods are designed to emphasise the students' discovery of new knowledge (Chatoupis, 2010; Mosston & Ashworth, 2008) by solving problems and creating movements.

Research into teaching styles based on the Spectrum has resulted in some critical remarks, for instance, about an over-emphasis on teacher behaviour (Chatoupis, 2010; Metzler, 1983), i.e., the idea that "teacher behavior causes student learning" (Metzler, 1983, p.148). Another critique concerns the difficulty of identifying the different styles due to their overlap (Metzler, 1983). In order to overcome this problem, Kirk (1996) merged the eleven styles into five methods; three of which are teacher-centred and reproductive (command method, task-based method and reciprocal method), and two of which are student-centred (guided discovery method and problem solving method). In this article we use these five methods as a means to identify and categorise different teach-

ing methods in the empirical material, and each method is introduced and exemplified in the five different findings sections.

Method

The article is based on material from the project 'Physical education – a subject for learning?' where physical education researchers from four different Swedish universities participated. Broadly, the methodology of the project, which is presented more in-depth in a separate publication (Quennerstedt, et al., 2014), is based on a Swedish Didactics of Physical Education research tradition (Quennerstedt and Larsson, 2015), which can be seen as a blending of socio-cultural learning theory (Säljö, 2000; Wertsch, 1998), and a continental didactics research tradition (Amade-Escot, 2005, 2006). Methodologically this integration of socio-cultural and didactical research means that the traditional 'didactical triangle', i.e. the relationships between content, teacher and learner, is socio-culturally contextualised in order that researchers do not to miss out on aspects concerning the norms and values that are permeating physical education teaching in its cultural, institutional and historical contexts (Quennerstedt and Larsson, 2015).

Since the concept teaching method is not originally theorised within a socio-cultural framework, it has been re-conceptualised within such a framework for the purpose of this study. In general, socio-cultural perspectives on didactical issues, including teaching and learning, are based on teaching/teachers, knowledge and learning/students being socially and historically constituted (Säljö, 2000, 2005; Wertsch, 1998). We see teaching methods as historical configurations that have evolved in specific cultural, institutional and historical contexts in order to promote certain types of learning among certain types of learners. Using the concept teaching methods in the above outlined perspective means investigating 'why' teachers teach a particular content in a particular way to particular students in a particular context. The word why is put between quotation marks because we do not view the process as entirely deliberate. Rather, it is culturally ambiguous, which means that certain methods are often linked to certain content because 'it seems reasonable' from the perspective of the teachers (and sometimes the students), or because 'one usually does it like this'.

Data collection

Data was collected from eight Swedish secondary schools. The schools were selected strategically, based on location (different parts of Sweden; inner city, small town or rural school) and, for the part of the four upper secondary schools, education program (academic or vocational). This selection was not used to offer a general picture of Swedish physical education teaching, but to permit, as far as possible, a varied empirical material. In order to allow analysis of both 'what happened' at the lessons, and teachers' and students' experiences of what happened, the project included both video recorded lessons and audio recorded interviews with students and teachers. Parts of the interviews were based on video sequences. A total of 32 lessons, lasting between 40 and 80 minutes, were video recorded using two cameras, one stationary and one handheld camera, to allow for both overview and close review. In order to scrutinize the teachers' didactical considerations, they were interviewed before each lesson about their objectives, the content and possible difficulties with the lesson, and again after the lessons about whether their intentions had been achieved. Each interview lasted for 5 to 10 minutes. Analytically, we had a specific focus on so called 'didactic irritations', i.e. occasions during the lessons when teachers' (and possibly also students') ideas about what to achieve and how to achieve it were clearly visible because they were negotiated by teachers and students (Rønholt, 2002). This might be about how teachers organise a lesson, how they instruct during the lessons, or how students respond to that organisation or instruction. Three or four sequences that were considered to convey didactic irritations were identified in every school and these were shown and discussed in the in-depth interviews with the eight teachers (60-90 minutes) and 24 students (45-60 minutes) that took part in the interviews. When looking at the video clips, the starting question in all interviews was: "Can you tell me what is happening here, from your point of view?" This question was not intended to serve as validation of what was going on in the gym. Rather, it gave the researchers an opportunity to hear other explanations to what was going on as compared to the researchers' own interpretations, regardless of whether these explanations correspond with what teachers and students experienced during the lesson or if they were rationalizations.

The video films, the transcribed pre- and post-interviews, and the in-depth interviews with teachers and students are used in this study to focus on the How-question (teaching method), in relation to the Why

(objective) and the What (subject matter and outcome) in terms of the students' experiences of their learning. For a more thorough description of the data collection procedure, see Quennerstedt, et al. (2014; see also Amade-Escot, 2005, 2006).

Analysis

The analysis was conducted in four steps. First, all the videos were viewed and the sequences with different teaching methods were identified and labelled using Kirk's (1996) description of the five teaching methods. Second, the teaching methods in the didactic irritations were identified, analysed and labelled with reference to the same five methods (Kirk, 1996). As all the five methods were present in the didactic irritations, the selection could be limited to these sequences. Third, didactic irritations with different teaching methods were selected, resulting in examples from four schools: two lower and two upper secondary schools. Fourth, the pre- and post-interviews and the in-depth interviews were analysed with a focus on the teachers' reasoning about the methods occurring in the selected video sequences. Questions about individualisation were raised, but otherwise no explicit questions were asked about teaching methods during the interviews. The questions rather revolved around what the teachers wanted to accomplish with their teaching and how to achieve that, which at least partly raised issues about teaching methods. One typical sequence illustrating each of the five methods was selected. The teachers' reasoning about their choice of method was added, as were the students' comments about what they had learned in these sequences. The following sections begin with a brief description of each of Kirk's (1996) teaching methods. This is followed by a representative example from the video recorded lessons, in order to illustrate the interpretations.

Findings

Teacher-centred reproductive methods

When teacher-centred methods are used, the teachers make all decisions on objective, subject matter and teaching methods. The students are expected to follow the teachers' instructions, although their involvement in such decisions progresses from the command to the reciprocal method.

Command method

Here, the teacher controls the decision-making and the students are expected to follow the teacher's directives or movements. Kirk (1996) exemplifies the command method with an aerobics class (a similar example is included in our material). Other activities in which the command method is used for the main activity – altogether eight lessons – are ballroom dancing (four lessons), ball games, spinning, theory and trampoline jumping (one lesson each).

Our example of the command method comes from a higher secondary school lesson in trampoline jumping with approximately 25 students (a mixture of boys and girls). The objective of the lesson, as stated by the teacher both in the pre-interview and to the students, is to practise some basic trampoline jumping exercises with the intention to rotate and perhaps do a somersault. The teacher explains that as she is a very experienced instructor in trampoline jumping, the students can rely on her (implying that jumping on a trampoline is potentially dangerous). She then continues to give some safety instructions. She explains how important it is to be able to jump high in order to subsequently do a safe somersault. However, she is much vaguer about the necessary technique behind such a high jump or why height is so important. The students are told that they can make their own decisions about how they want to challenge themselves. On the other hand, due to the risks involved with trampoline jumping, the teacher will decide who is allowed to do a somersault and when.

The first 50 minutes of the lesson are devoted to basic jumps, with the aim of jumping as high as possible and a shorter sequence of stream jumps. Before the stream-jumping starts, the teacher introduces some military drills (referring to how she instructs gymnastics) and demonstrates the military position 'at ease'. While clapping her hands she changes position to standing 'to attention'. All the students stand to attention on her signal. The jumping starts and some students are spotting their class mates..

After the stream jumps the students are able to choose either between continuing with the same basic jumps or challenging themselves by jumping on two vaulting boxes with a thick mattress on top. The students are instructed to jump onto the boxes and stand on the mattress. Some of them are encouraged to do a forward roll. However, in this particular lesson the students are not allowed to do a somersault.

In the above described sequence the teacher controls the decision-making. She even increases the level of discipline by using military commands. However, she seems not to be very attentive when it comes to instructing and giving feedback to individual students who decide not to jump onto the mattress or challenge themselves. Their chances for improvement are restricted once they have decided not to jump.

Afterwards, the teacher expressed satisfaction with the lesson. She used the command method, she argued in the interview, to minimise the risk of accident, but also because in her experience, the command method is more effective for trampoline work. The interviewed students were aware that the objective of the lesson was to jump high. However, they did not know why trampoline jumping was considered to be an important activity, or which skills they were practising when jumping. Their impressions of the events during the lesson also differed. One interviewed student was dissatisfied because he was not allowed to do somersaults – something that he was able to do in his leisure time activities. Another student was happy that she had actually dared to do the forward roll. A third student was not very good on the trampoline and therefore did not dare to do a forward roll, but instead did only the basic jumps.

The learning outcome of this sequence differed between the students. Only one out of the three students felt that she improved her performance. The teacher may have gained time by using the command method, but it cannot be ruled out that it was at the expense of both the most and the least skilled students.

Task-based method

The task-based method is more student-centred than the command method, because it gives students an opportunity to work individually (or in pairs or groups) at their own pace and with their own shortcomings. The teacher makes all the decisions about objectives, content and methods and is supposed to give personal feedback to the students while they are working on their own shortcomings (Mosston & Ashworth, 2008). The activities are often organised in a circuit, with different exercises at every station (Kirk, 1996).

One out of nineteen of the examples of the task-based method in the study is a table tennis lesson, which is organised as part of a circuit. The teacher is a table tennis coach in a club in his spare time, but he does not like teaching table tennis at school physical education because he says

"it's not for real", referring to the students' heterogeneous skill levels. His objective with this lesson is to get Year 9 students to practise racket and ball control and to stimulate an interest in playing table tennis.

During the lesson, different table tennis exercises are organised at eight tables, with an obstacle course as a 'bonus activity' for some cardiovascular and strength training. The teacher demonstrates the different exercises with the aid of a student who plays table tennis in the same club as the teacher is coach. The activities are also described in handouts that are placed on each table. Marginal instruction is offered on how to succeed with the activity and what can be learned.

Some of the exercises are playful, while other exercises offer a choice between playing and scoring, or just trying to hit the ball over the net as many times as possible. Each student is allowed to choose his or her own partner and the pair have approximately four minutes to work at each station. Loud music is played in the background and the students seem quite active. As the teacher moves around the gym he offers sporadic feedback, but very little instruction on technical issues. One of the students said that, "Physical education is like this – there is one swift instruction about the activity and how to perform it, then you forget about it." The activity *per se* seems to be more important than learning and improving in anything particular (cf. Larsson and Nyberg, 2016).

After the lesson the teacher expresses satisfaction that the students 'had fun'. This statement, together with his statement about the students' heterogeneous skill levels, could explain his choice of method – allowing the students to practise table tennis at their own pace, which is a kind of individualisation. He says that today he stimulated interest and that in the next lesson he might teach the students some technical skills. The students' experience of table tennis differed. One of the interviewed students played table tennis in a club while the other did not, but both of them thought that table tennis is a fun activity.

Overall, this example is typical of the task-based method when ball games are the main activity. The exercises presented are playful look-like-sport activities (Larsson & Karlefors, 2015) but when this method is used for strength training and gymnastics, the activities are sometimes too difficult and the students are able to avoid the exercise and do something else instead. In this sense the method used made some students avoiders. The organisation of the activities allowed the students to be active during the lesson, with the activity per se as the main focus, but did not seem to offer any specific learning.

Reciprocal method

The reciprocal method transfers more responsibility to the students in that they are expected to work independently or in pairs with an activity selected by the teacher. When working in pairs, one of the students acts as an observer and gives feedback to his or her partner. A criteria sheet, prepared by the teacher, describes the activity and what the instructor needs to focus the feedback on. In our material, the reciprocal method is used deliberately in four sequences and sometimes overlaps with the task-based method (see Barker, Quennerstedt & Annerstedt, 2015).

The example is taken from the final part of a badminton lesson with a Year 7 class. The teacher says: "If you feel that you need to stretch, you must take the responsibility to do so. We will see how many of you stay. Thank you for today." The teacher 'gives the students an opportunity to take responsibility for their own learning'. Two girls, Maja and Lotta, and three boys, Peter, Sven and Kurt, (the names are fictitious) stay in the gym while the rest of the class go to the changing rooms. The two girls are active in sports that demand flexibility and are used to stretch after the lessons. The students sit on the floor in different positions. Sven receives some instruction from Maja and tries to follow her exhortations, but gives up: "I can't do this, it's impossible." The other two boys are more successful. Lotta demonstrates another exercise and instructs Sven by correcting and giving advice, but Sven cannot do the correct stretching in this exercise either. Finally, Lotta demonstrates an exercise that Sven can perform successfully

During the interview, the teacher explains why stretching is optional for the students. He does not want to discuss the advantages and disadvantages of stretching with the students:

> Yes, but there is so much discussion about stretching right now, especially in soccer. The coaches in soccer say that the players shouldn't stretch; stretching isn't good for the Achilles tendon and whatever. That's what the students say. I don't have any demands on stretching, but it reduces the risk of injury if you are flexible.

Another choice of method could have resulted in a critical examination of and discussion about the possible advantages or disadvantages of stretching.

In this reciprocal method sequence, the criteria sheet explaining what muscles/tendons are stretched and why is missing. Instead, responsibility for the instruction is handed over to Maja and Lotta and it is obvious

that the girls know many stretching exercises suitable for the sports they do after school. Lotta explains, "I tried to teach Sven, he cannot sit with his legs straight so we tried to teach him how to do it." Maja observes Sven's problem, but do not have the knowledge to explain why he cannot do the exercise or give him another exercise with the same function. In this sequence it is therefore questionable if Sven learns anything except about his own shortcomings.

The students are able to choose whether to participate or not in this sequence, and most of them choose not to participate. This choice can be seen as a kind of individualisation, although the dominant message is probably that learning why and how to stretch is not important.

Student-centred productive methods

With student-centred methods, many of the decisions about experiencing and discovering new knowledge are handed over to the students (Chatoupis, 2010). The aim is that they should gain a deeper understanding of concepts and cause and effect relations (Mosston & Ashworth 2008) so they are not designed primarily for skill acquisition.

Guided discovery

Guided discovery is one of two student-centred methods. When this method is used the students are given an opportunity to work, experience and draw conclusions in order to respond to the teacher's question, for example that the students should experience their "maximal threshold for cardiovascular training" (Kirk, 1996, p. 69).

The following example is one of three sequences when guided discovery is used. It is from an upper secondary school class practising floor ball (a hockey-like game played indoors using plastic sticks). After the warm up and a couple of practice drills, when the students are divided into two groups, the teacher stops the activity and asks each of the groups to get together and "find a good drill for developing defence, offence and collaboration". One boy, who is a skilled floor ball player, organises a drill which his group then starts to practise. After approximately five minutes the teacher stops the exercise and asks the group: "How did it work? Were you satisfied?" After the students' responses, the teacher asks: "Who took the lead?" and a short discussion about leadership follows. The same procedure is repeated with the other group and the

teacher summarises the sequence by saying that it is never wrong to act as a leader. However, the teacher does not follow up the question of offence, defence and collaboration that she originally asked the students to discuss.

In the interview, the teacher explains that she impulsively wanted to try a method she had not planned and was not very familiar with:

> Yes, instead of me always giving directions I feel there are so many talents among the students. Use them so they can find their own way.

She seems to be unaware that she has missed an opportunity to guide the students' learning of defence, offence and collaboration. The students are not aware of the change of focus either. In the interview, one of the students states that he understood that the boy with experience "should help" the group and tell them "what to do and where they should stand." Another student, who does not take any initiatives during the sequence, says, "I do as she says, for the sake of assessment." The students are obviously not used to these kinds of tasks and therefore do not understand that they are expected to contribute, experiment and discover particular knowledge.

Problem-solving method

Problem-solving implies trying to solve a problem by creating and organising your own ideas, such as designing a dance sequence (Kirk, 1996) or creating a personal training plan. In our study, the problem-solving method is used in five lessons, for example to create a dance choreography. The example illustrated here is an aerobics lesson in a vocational class in an upper secondary school with 17 boys and 2 girls (see also Quennerstedt et al., 2014, p. 292- 295). The teacher explains to the students that the theme 'dancing and movements to music' is part of the mandatory core content of the subject. In addition to solving a particular problem that the teacher presents to the students, the students are asked 'to give of themselves', meaning that they should be creative and not be embarrassed about being creative.

In a previous lesson the teacher had introduced an A sequence and a B sequence of steps to the students. In this lesson, which was video recorded, the students are asked to put these sequences together and add arm movements. The order of the steps is described in a hand-out, but without any instruction as to how to perform them. The class is divided into

four groups that work throughout the lesson to solve the problem. The teacher walks around the room, periodically asking how the work is progressing and giving advice about rhythm and movements. The students are active during the lesson, one or two of them act as informal leaders and try to help the others to perform the right steps to the right beat and create some arm movements, but with varying degrees of success. At the end of the lesson all the students demonstrate their final movements.

In the interview, the teacher declares that he is not very familiar with music and movement and therefore wants to use a method that takes advantage of the students' knowledge. In classes in which girls are in the majority there is usually someone who is a skilled dancer and can instruct the others. The teacher is pleased with the students' intense activity and willingness to 'give of themselves' in this lesson. However, even though the students are very active, they seem not really to have time to learn to synchronise the steps and arm movements or to work with the quality of the movements.

The interviewed students assumed a leadership role despite not having any previous experience of dancing. One student summarised his problem solving like this:

> Then what I learned was that it was very hard to be the leader. Because I had to count, I had to remember all the steps and also feel the rhythm, check that the others could imitate me and as an amateur it was quite hard because I had never danced before.

Another student had a didactical reflection on how to solve the problem regarding the students who had not taken part in the first lesson: "It would have been easier to move without music from the beginning, so they had time to learn, feel the steps and then move to the rhythm." The third interviewed student described the problem solving as a creative process: "I write music for others, pop music; it's about being creative. It's my goal to find something, expand it to something, and maybe take something else away. It's no more difficult than that."

In this study, the problem-solving method is the only student-centred method that is used frequently. Interestingly, it is mainly used in relation to dancing and creating choreographies to music, i.e. content in which some teachers maintain that they have limited subject matter knowledge and where movements are less predetermined than in many sports or in ballroom dancing (cf. Larsson and Karlefors, 2015). On occasions this method is also used in conjunction with health-related content, for in-

stance when students are asked to plan their own fitness training, implement the plan and evaluate it as a written home assignment. In all the lessons in which problem-solving is used, most of the students are active and engaged. It differs, though, whether they have a clear framework with which to stay on track. Sometimes the task seems merely to be a way of getting the students active with something, and the task can be solved in a range of different ways.

Summary of findings

Overall, the results show that Kirk's (1996) five methods are visible in the material, albeit in a slightly distorted form and with different frequencies. Some of the teacher-centred reproductive methods are visible in all the lessons, often with an element of individualisation. Sport, dancing, apparatus gymnastics and fitness activities are all taught using reproductive methods. However, reproductive methods are not used for "precision in performance" (Mosston & Ashworth, 2008, p. 76). Instead, our observations show that the teachers are hesitant about teaching skills, and if they do teach them the students' performances are rarely followed up systematically (cf. Larsson & Nyberg, 2016). This leads to the performances being largely disregarded by the students, which negatively affects especially the students without experience of organised sport. Larsson and Nyberg (2016) have a number of explanations as to why teachers do not emphasise the teaching and learning of specific movement capabilities, which is surprising given this is a prioritised aim in Swedish physical education. Overall, student-centred methods are rarely used. The students' heterogeneous skill levels as well as the aims in the national curriculum that the teachers enforce as important, such as cooperation, self-confidence, security, lifelong learning, knowledge about the body, how to stay healthy etc. (SNAE, 2011a and b), could be met using a student-centred method, but that does not happen. The teachers do not seem to view such an approach as appropriate, or even know how to introduce it.

In the main, the teachers seem to devote little attention to which methods to select for a particular objective, subject matter or group of students. In what appears to be an 'accidental' way of using the methods, this results in the lessons 'looking like' training, sports and dancing (Larsson and Karlefors, 2015). This raises the following question: Why

are teachers not more attentive to which teaching methods they can use and when?

Discussion and concluding remarks

We set out to explore in depth how different teaching methods are used in a Swedish context, and discuss the relationship between the use of different methods and the obligation to help all students learn and develop. Overall, we found that different methods are used in the studied schools, but their presence seem to be the result of chance just as much as deliberate choice. Maybe somewhat paradoxically, in the studied physical education lessons, a marginal focus on how to use different – and specific – teaching methods to reach certain goals is not parallel to an increasing focus on learning, or 'learnification' in Biesta's words (2012, 2013). Rather, the marginal focus on teaching methods seem to relate to a corresponding marginal focus on learning. Instead, focus seems more to be directed towards activity and a wish that the students 'give of themselves,' an emphasis that Öhman & Quennerstedt (2008) see as a moral project more than a learning project. Arguably, since activity and benevolence is in focus to a greater extent than discovery and problem solving, teachers experience the reproductive methods to be more useful than the productive ones.

One could easily believe that the main use of reproductive teaching methods would benefit all students, also the ones who have less experience of leisure-time sports and other physical pursuits, but the way we see it, it is actually the opposite. Redelius and colleagues (2015) show that many teachers devote marginal time and energy to communicate what is the purpose with lessons, activities and exercises that are used in physical education teaching. This means that students with limited or no experiences of leisure-time sports and other physical pursuits will not have the same opportunity as the experienced students to grasp the meaning of certain activities and exercises. Since students are generally quite benevolent, however, few of them draw the teachers' attention to this situation. Instead, they try 'as best they can' to manage – or they simply do not attend the lessons. We believe that the School Inspectorate's critique of the low level of individualisation of physical education teaching (SSI, 2012) is at least partially related to this issue. A greater level of individualisation, perhaps with a more systematic use of productive teaching meth-

ods, may be one way to help all students learn, regardless of skill level and experience of sport, and – eventually – reach the goals of the subject.

To conclude, we believe there is a great need, among physical education teachers as well as within teacher education, for developing a systematic and deliberate approach to the use of different teaching methods in Swedish physical education. However, it is important that this focus on teaching methods is not too narrow, but takes as its starting point what students are to learn in physical education, i.e. what they are to discover, what problems they are to learn to solve, and at the same time is sensitive to the heterogeneity of the student population. To us, such development may answer the call from the Swedish Schools Inspectorate for "a broader repertoire of didactic tools that the teacher can apply in situations when educational challenges arise" (SSI, 2012, p. 20).

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