Knowledge in physical education – ‘voices’ from YouTube

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Paper presented at AARE conference in Melbourne 2011

Several scholars exploring school physical education (PE) argue that neither students nor teachers seem to have a developed and explicit idea about issues of knowledge, and what students are supposed to learn in PE beyond the ‘busy, happy and good’ agenda (Placek, 1983; Siedentop, 2002; Tinning, 2002; Larsson & Redelius, 2008; Quennerstedt, Öhman & Eriksson, 2008). Conclusions are then sometimes simplistically drawn that knowledge and learning doesn’t seem to be a relevant part of the daily practice of PE. However, it can be argued that the claim that knowledge isn’t a part of the practice of PE entails an idea of knowledge and learning restricted to the processing of information, concept development and processes of the mind. (Rovegno & Kirk, 1995; Sfard, 1998; Macdonald, 2004; Quennerstedt, Öhman & Öhman, in press).

In order to go beyond knowledge restricted to information processing, this paper draws on John Dewey’s re-understanding of knowledge and epistemology, and his transactional methodology where he rejects ultimate, universal truths or absolute knowledge (Dewey & Bentley, 1949). Instead knowledge is regarded as something practical, something “we use in order to live, work and act in the world” (Biesta & Burbules, 2003, p. 69). In relation to PE, the transactional perspective can be used as a framework to understand how teachers and students act in PE in terms of how they “deal with the events of life” (Wickman, 2006, p. 52), in this case in the practice of PE. In this way different knowledge and various types of knowledge can be regarded as valid, useful or ‘true’ in PE practice because students and teachers act as if it is true. In this vein, Wickman (2004) reminds us that: “because speech and action are situated in socially shared practices (Lave 1996) the meaning people make is always imbedded in a practice with its aims and the socially shared meanings needed for participating” (Wickman 2004, p. 327). Consequently, through teachers and students actions, actions of course mutually dependent of customs, traditions, other people, artefacts etc, a practical epistemology that can be seen as an assemblage of individuals-participating-in-socially-shared-practices takes shape (Wickman, 2004). Knowing, is accordingly, with a transactional understanding of epistemology, not exclusively something within the mind of human beings, but rather something practical, something we do (Biesta, 2007), thus practical epistemologies.

In this paper practical epistemologies in PE is explored using video clips on the public video sharing web site YouTube. YouTube is the largest user generated social network site where different video content is visibly reflected on a public arena (Cha et al, 2007),
and can be understood as a practice where users publicly create and negotiate different social networks (Lange, 2007; Quennerstedt, 2010). With a point of departure in a transactional understanding of epistemology, the purpose of the paper is accordingly to explore practical epistemologies in PE through investigating how knowledge is produced and reproduced in students’ and teachers’ actions in PE practices posted as clips on YouTube.

**Method**

With a transactional understanding, epistemology can accordingly be seen as both part of and a consequence of human practices where knowledge is produced and reproduced. Knowing, and in consequence questions of epistemology, can thus be conceived of as something we do, something practical. In this article these practical epistemologies in PE is explored in terms of how knowledge is produced and reproduced in PE practice.

However, the question of knowing and how knowledge is produced and reproduced is not in a transactional perspective metaphysically separated from the question of what kind of knowledge that is produced (Dewey & Bentley 1949). Exploring how knowledge is produced and reproduced in students’ and teachers’ actions consequently also involves taking into consideration in what direction the process takes in terms of what performative functions different actions and participants have in the production and reproduction of knowledge. Practical epistemologies in this sense becomes an amalgamation of how and what even though the question of how is in the foreground of the analysis in this paper.

**Data analysis**

The analysis of the YouTube video clips has been conducted in three steps, all focusing on participants’ spoken and embodied actions in the studied event (Quennerstedt et al in press).

*The first step* is about exploring habits-of-action in terms of how students and teachers act in ongoing PE practices when they habitually produce and reproduce certain knowledge. In *the second step* of the study focus is on what kind of knowledge that is produced in terms of the performative functions different actions have in the creation of knowledge. Through the exploration of how students and teachers act in ongoing PE practices as well as what kind of knowledge that is produced *the third analytical step* explore and describe practical epistemologies in PE practice. The results of step one and two can be regarded as part of and the result of individuals-participating-in-socially-shared-practices. Hence, the relation between how and what makes the description of practical epistemologies in PE practice, presented in the results section of the paper, possible.

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1 In this paper a participant is something (actions, agents, artifacts, localities etc) that does something in the production and reproduction of knowledge in a certain practice.
**Methodological considerations**

YouTube is the largest user generated video sharing website where different video content is presented on the Internet, in terms of what Burgess and Green (2009) calls a co-created site of participatory culture. Drawing on Burgess and Green (2009), Quennerstedt (2010) argues that YouTube can be understood as a disordered public archive of in this case ongoing PE practices, created by both students and teachers.

The ambition in this article is not to explore individual students or individual teachers, but rather teachers and students collective actions in PE practice. The events studied in the video clips can then be regarded as a public display on YouTube, of an already public practice, PE, so the ethical issues connected to questions of privacy, confidentiality and informed consent is more related to individual students exposure of sensitive information than the risk of identifying individuals in an ongoing everyday public event (Ess, 2007; Frankel & Siang, 1999, NESH, 2003; Burnett, Consalvo & Ess, 2009). When such exposure occur, the video clip can be omitted without endangering the results of the in-depth study.

The selection of clips used in this study is based on a search on YouTube in October and November 2009 using search terms in English and Swedish. In a previous study (Quennerstedt, 2010) the whole data set of clips from 285 PE lessons from 27 different countries was used (for a comprehensive analysis of the data and a discussion of using YouTube material see Quennerstedt, 2010). In this in-depth study, however, a smaller sample was used. In this analysis YouTube clips from 50 PE-lessons from 12 countries was used.

The clips was selected from the point of view of the quality of the clips in terms of audio and video as well as the length of the clips in order to facilitate an in-depth analysis. However, the smaller sample can also be seen as representative in relation to the larger sample in terms of countries as well as the main activities in the clips (Quennerstedt, 2010). The main activities in the selected clips are; ballgames n=13, fitness training n=10, warm-up n= 6, gymnastics n=4, athletics n=4, dance n=4, odd activities n=3, relays n=2, and racket games n=1.

**Results**

The practical epistemologies identified in the study are; Knowing by doing correct, Knowing by trying, Knowing by imitating, Knowing by praising and cheering, Knowing by cooperating, Knowing by creating, Knowing by changing clothes, Knowing by being in a certain locality, and Knowing by resisting. The categories are different ways of how knowledge is produced and reproduced in PE practice and describes the functions different actions and actors have in how knowledge is produced and reproduced as well as in what direction this takes.

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2 UK n=15, USA n=13, Sweden n=10, China n=3, Singapore n=2, Australia, Canada, Germany, Indonesia, Japan, Philippines, Sri Lanka n=1
Transcripts from the data are presented in terms of illustrative stories from the YouTube clips offering a reasonable illustration of the analysis of the whole data set.

\textit{Knowing by doing correct}\

Knowing by doing correct is about movement according to a correct norm for how the movement is to be carried out. The correct norms can be in relation to sport, motor development, fitness training or dance in terms of knowledge in specific movements, knowledge in and about physical training, knowledge in and about sport, and knowledge in specific activities.

The way to conduct movements as well as different activities is in the clips habitually performed by sport, fitness training and motor development, and there are accordingly correct and incorrect ways of moving. Certain ways to move, thus, becomes privileged and the students are guided towards certain patterns for how to move. In the study, knowing correct movement is produced and reproduced through; correction, following rules, language use, repetition, organisation and artefacts, and demonstration.

In several clips teachers correct and help students to pay attention to the ways they are supposed to move.

\begin{quote}
In this Swedish lesson the students are doing different fitness exercises in a circuit-training course. In one segment the teacher is correcting two students how to stand with good balance and their feet wide apart when throwing a medicine ball to each other. After that the teacher goes to correct two students how to lift ergonomically correct when they in pairs are lifting each other with one of the students sitting on the other students shoulders.
\end{quote}

In this lesson the teacher corrects the students to perform the exercises more effectively or more safely with regards to fitness and ergonomics. Another example is in UK lesson where the teacher attends students doing leapfrogs over a vaulting-horse. In the clip the teacher corrects and helps the students to do a correct jump according to gymnastics as norm.

Furthermore, students correct each other in some instances. In a clip from a school in Singapore students work in pairs doing weight lifting and correct each other’s way to lift in relation to how weight lifting as a sport is supposed to be executed.

\begin{quote}
In the lesson student one is doing power clean lift with a barbell. Student two is standing in front of student one, watching, correcting, instructing and showing student one how to improve his lifting. After the correcting instruction student one changes the way to lift and improves the technique in relation to weight lifting as norm. After a couple of minutes the students change places and student two lifts and student one corrects.
\end{quote}

In other clips, the \textit{following of rules} of specific activities often in terms of the specific rules and techniques of a certain sport is performing certain knowledge. Following rules is something students do as a habit of action, here illustrated by Japanese children playing volleyball with balloons.

\begin{quote}
Japanese students aged 7-8 years are playing ‘volley ball’ 3 on 3 with balloons on a badminton court. The students are hitting the ball 2-3 times within the team before hitting it over the net. They are using the correct techniques of volleyball even if it is not necessary when playing with balloons.
\end{quote}
When the balloon has not passed the net in tree strikes, or when the same student hit the balloon twice the game stops. Also when the balloon is about to land outside one of the badminton lines in the floor, the students lets the balloon go.

In a particular event the balloon is about to land outside the court, but since a balloon is a balloon this is hard to predict for the student in question and the balloon lands inside the court. The student then shows disappointment at herself for not 'saving' the balloon.

In this illustration it is clear that the rules of volleyball apply, even if the activity in itself is school adapted. The rules of the activity in this way regulate the correct way to act, and rules and techniques from competitive activities seem to be privileged. This is also visible in play and games in terms of when to be eliminated or in students' movement patterns, gestures and ideas of a specific game. The same applies to certain forms of movement where techniques and exercises in, for example, athletics or gymnastics becomes the regulating norm. It is not the movement quality of jumping or rotating that is on the agenda. Instead it is doing a correct somersault or a correct long jump.

What's more, the language use of both teachers and students privilege certain ways of producing and reproducing knowledge in PE practice. In the studied clips there is an obvious language use from natural sciences, from sport and from fitness training. One teacher talks about 4-4-2 and 4-3-3 line-ups in soccer, another teacher instructs how to technically perform a long jump:

one foot (...) two foot. (UK)

In another clip from Singapore (15) the teacher instructs the students how to perform a bench press:

The teacher instructs a group of students standing around in a semi-circle. One student is lying down on a bench at a bench press machine.

Teacher: On a bench with tall people like him (...) usually we tend to isolate the lower back for back support (...) to avoid it, get your (...) (pointing at the student's feet) (...) on the bench (...) (student puts his feet on the bench) (...) for back support.

(...)  
Student starts doing bench presses and the teacher turns to the other students.

Teacher: What muscle group?  
Student 1: pectoralis major  
Teacher: yes (...) pectoralis major (...) and (...)  
Student 2: (inaudible)

In this clip, the language use deriving from physiology and anatomy points to the importance of a certain type of knowledge.

In the clips the correct norms for how to move is also obvious in that the students are to repeat the correct moves in order to learn the appropriate way to move. This is in the clips visible in when teachers teach a specific dance, for example, square dance or when
young children are expected to do elementary gross motor movements repeated in a loop, for example, when reiterating movements using right arm and left arm differently during a ‘movement story’ created by the teacher.

Another way to produce and reproduce a correct ways to move is to *demonstrate* the movement as a teacher, or let an able student show the movement. In this UK clip students are doing jumps over a vaulting horse using a springboard.

The teacher is helping the students over the vaulting horse, instructing them as they jump and cheering them on. The students do not seem to understand the instructions.

Student 1: Show us how you do it (...) you do it

Student 2: We can keep on filming

Teacher: (hesitantly inaudible)

The teacher again hesitates, but eventually demonstrates a leap frog, and all students cheer.

In this clip the students urges the teacher to show them the correct way to do the jump. They seem to expect that there is a correct way. In other clips the teacher in the same way uses her/himself as a role model during the whole event to demonstrate correct ways of performing a certain movement in, for example, fitness training or in ballgames.

The ways in which correct movements are performed in PE practice is also privileged through the *organisation* of the activity as well as the *artefacts* used. This is obvious for example when students play basketball. The game is in some clips organised as elite adult basketball with ball size, height of hoops, size of the field and lines in the floor. The students act habitually in this setting with correct moves, postures an ways to run in the field in basketball. Also in gymnastics the use of gymnastics equipment like springboards, vaulting horses or horizontal bars habitually privilege certain correct ways to move in both students and teachers.

*Knowing by trying*

Knowing by trying is about experiencing different activities on offer in PE practice without any explicit demand on skill, ability or learning. Here it is about knowing about the activity rather than knowledge in the activity. It is familiarity rather than knowledge. In the clips this is particularly obvious in sport activities as well as in different ‘odd’ activities. Lacrosse, shot put, handball, self-defense and golf is as reasonable in PE practice as paintball, roller skating, square dance, excergames and climbing trees.

In the clips it appears as a habit-of-action to try different activities in a kind of smorgasbord approach. This is visible in the many different activities offered, that students ‘just do it’ as well as in the attention teachers give the students for trying rather than performing, knowing or learning the activity.

In the gym, equipment for high jump is out with the addition of cones on the floor to help students run in a semi-circle in the run-up towards the landing bed. This looks like sports (high jump) for real, although the arrangement of the equipment restrains the jump because it reduces students’ running speeds. The cones, in this way, rather make the students miss the landing bed. When the
students jump they do so with little resemblance to actual high jump, and the teacher evaluates the students as they try, not if they pass the bar or for any form of technical ability, but because they are trying.

Teacher: Ready ... one – two – three

The student runs towards the bar and jumps with both feet together and throws herself at the bar and lands on her stomach on the landing bed.

Teacher: Goooooood!

In the clips there are in many cases a correct way to do things, for example a high jump, a specific dance or a somersault. But the students are not corrected or instructed in relation to this norm. Instead they are praised for trying.

Another illustration of this is a Swedish lesson with golf as activity.

Several students are on the golf range hitting golf balls. Some students are very good golfers. One male student especially is using an excellent golf swing, while others students are busy trying to hit the ball, quite unsuccessfully, with, from a golfing perspective poor technique. (Sweden 71)

In this clip it is clear that the students have not been given any instructions about how to grip a club, stand or do a golf swing. Instead the students are ‘just’ trying golf and trying to hit the ball, and doing things properly, or skillfully, does not seem important. What counts is that you try. The students who have the ability to perform the activity already seem to possess it beforehand. In these cases it is not about learning or knowing the activity, but rather, experiencing and being acquainted to the activity through multi activity programs.

**Knowing by imitating**

In the investigated YouTube clips, it appears as imitating movements and ways to move is a reasonable way of producing and reproducing knowledge in PE-practice. In the data the teacher is instructing and demonstrating, and students habitually act through trying to imitate the movements the teacher demonstrates. This is obvious in dance, athletics, fitness training, aerobics and occasionally in ballgames.

In a UK lesson the teacher is demonstrating in step up/aerobics. The teacher starts a certain move like stepping up and down on the step up board while using the arms in different ways. It is obvious that this is the first time for the students since they initially don’t know what to do. One after the other the students start to follow the teachers moves and when most students can imitate the move, the teacher continues to the next exercise. In the back a couple of the students are not able to follow the teacher, but the teacher doesn’t notice or take notice of this.

After a couple of minutes the students in the back are starting to fool around, dancing, giggling and randomly walking up and down the step up board.

In several clips the teacher act rather as an entertainer, as a role model of how to move, while students act as passive imitators. The students listen to instructions, watch the teacher and try to copy the teacher with regards to the specific move as well as how to move in context.
In a Swedish lesson lacrosse is played and the teacher is playing in one of the teams. He is running, helping, passing, encouraging both teams, shouts pass the ball to NN, and is centre stage as a role model of an active, co-operative, positive player. The students seem to imitate the teachers’ ways to act on the field and passing around the ball gets privileged over winning the game.

In another lesson the students are supposed to sit still on individual dots on the floor, while the teacher demonstrates approximately twenty different fitness exercises in a circuit-training course. After that the students start to imitate what to do in the different exercises trying to copy the teachers demonstration. Also in some clips showing athletics, students imitate, for example, how to perform a long jump in relation to what the teacher previously has demonstrated.

Knowing by praising and cheering

Praising from teachers and cheering from the students is another way how knowledge is produced and reproduced in PE practice. The praising shows the students what’s important, what actions that are good and valued in PE practice, and also what knowledge to pay attention to. In the investigated clips teachers praise students if they do movements correct, for example, in dance or gymnastics, if they improve their performance, or if they put an effort into the activities during the lesson. In a US lesson the teacher is praising the 8-10 year old students in different ways during a fitness and motor development workout where the students are working in pairs doing different exercises with and without equipment.

During the fitness exercises, the teacher is shouting great job, great job. He supports and helps students that struggle with the exercises. He calls out cheerfully and he pats them on the back. The teacher ends the lesson doing high fives with all students.

In this clip the teacher, through the praising, guides the students towards noticing the importance of putting an effort into the different fitness exercises. It is not students’ abilities in focus, but rather their physical effort in relation to their individual abilities.

On the other hand, in a Swedish lesson in gymnastics where the students are doing different jumps on a springboard the teacher in a similar way as the US teacher shouts “Yeeees, Very good. Very good” or something similar either when the students are doing the jump correctly, or if the student improves the jump from one jump to the next. Here the praising guides the students in relation to their improved performance in a specific gymnastics exercise.

The cheering more often than not comes from other students in terms of encouragements, appeals, pep ups, applauds and comments. In clip where cheering occurs it is mostly in relation to efforts and performances in sport, for example, scoring in soccer, or running towards a base or catching in softball. Here the actions show the importance of performance and ability in sport. In some cases there is also pepping and cheering from other students in relation to physical effort during fitness training.
Knowing by cooperating

The analysis shows that knowledge in how to cooperate is a relevant part of PE practice. Cooperation in this case is students working together to attain a common goal. One common goal in several of the lessons in the larger data set (Quennerstedt, 2010) is working together to defeat another team in for example relays. An illustration of this is from a Swedish PE lesson.

Two teams are competing. One in each team holds a ball between her/his knees. In this position the students are jumping ahead and are supposed to hand the ball over without the use of their hands. The students are trying different techniques in handing over the ball, and students on the side are commenting. The relay starts with the teacher shouting ready-steady-go, and the students are cheering and discussing how to handle the handing over in a way to do it faster in order to beat the other team.

Student 1: It must be easier to put your leg the other way.

Student 2: But you can’t do it like that. What is he doing? It looks weird. I must post this on YouTube.

The students are also during the relay trying different ways to hand the ball over more effectively.

Working together to attain a common goal is also obvious in dance assignments, where the students are to create a dance display in front of an audience. Here the activity is directed towards creating a dance- or movement activity to music in a group and performing the creation in front of an audience of other students and the teacher. The displays demonstrate well rehearsed, choreographed and well synchronized performances to music. Performing the actions with synchronicity seems to be more imperative than the quality, precision or creativity of the individual moves. The inventiveness instead lies within the formation of the commonly created and rehearsed display, where the shows presented indicate cooperation in the preparing stages up until the studied event.

However, knowing by cooperating is not necessarily doing things together. For example, in ball games it is not the cooperation aspect that is observable in most of the clips. Instead it is more often individual technical efforts. It is show rather than team performance, attitude and expression rather than results. However, in one clip the common goal to cooperate is obvious in a ball games lesson where the teacher is playing a game of lacrosse together with the students. The teacher here acts as a role model in how to act in relation to teammates.

In a Swedish PE-lesson lacrosse is played and the teacher participates trying to create a 'good' game by passing several students, encouraging and moving to help students to do an easy pass. In the game the passing becomes privileged over a goal of the winning the game. In one event one student is right in front of the goal with no one from the other team between her and the goal. She then chooses to pass the ball back to a teammate instead of scoring a goal.

This illustrates how working together to attain a common goal of playing together produces and reproduces knowledge in and about sports in a different way than as sport performance and winning the game.
Knowing by creating

In the studied YouTube clips there is limited presence of experiential and creative aspects within PE practice. However, in dance assignments and displays these aspects can be identified to some extent. Dance displays seem to be a relevant part of PE practice judged from the larger data set and is mainly directed towards creating a dance- or movement activity to music often in groups, and performing the creation in front of an audience of other students and the teacher. The actions of the performing students as well as the on-looking teacher and students are in line with ‘a show’ - a stage, audience, cheers and applause (Quennerstedt 2010).

The creative aspect of knowledge production and reproduction lies in the creation of the program where the students often use previous experiences from, for example, salsa, hip-hop, martial arts, or they re-actualize styles of movements and specific moves from the world of music or from movies, for example, Michael Jackson, 'boybands', Rocky, or Pulp fiction.

Under the headline “This is an assignment we did for PE. Do your own dance. Well ... (Ja det gick ju som det gick”), four boys are performing first individually and then as a group. The first boy is doing free moves to modern pop music. After that a boy is doing boxing moves with clear inspiration and music from the movie Rocky. The third boy is doing Michael Jackson inspired moves to ‘Billy Jean’, and finally there is an imitation of a song and dance act American-idol-style. In the final part of the display the four boys are doing synchronized, large moves boy band style with a lot of attitude involved.

How the creation process is carried out leading up to the display can’t be identified in most of the clips. The results of the creative process, however, are obvious. In clips where the process is visible, it lies in rehearsing of the final product, the show. In their creations the actions of the students are for the most part well rehearsed, choreographed and well synchronized. The movements are often composed of simple gross motor steps in time to the music. Performing the actions with synchronicity seems to be more imperative than the quality, precision or creativity of the individual moves. This is visible in the communication between the students during the display, that they often look at each other to confirm their movements in terms of coordination and synchronicity. In the clips the creativity seems to lie within the formation of the common display.

Knowing by changing clothes

An important part of the PE practice and the participation in PE seems to be the changing of clothes into gym clothes. There also seem to be certain norms for what kind of clothes students change into, most often clothes reasonable in sport or clothes for physical exertion. The changing and the types of clothes the students are changed into produce and reproduce knowledge in the activities offered. It also performs the sweaty student, what students are supposed to do and how they are supposed to do it – with intensity and physical exertion.

In several of the clips in the larger data set (Quennerstedt, 2010) and in some of the clips in this analysis, students are excluded from the lesson (they have to sit on the side) if
they haven’t changed clothes. This is noticeable in the comments students make during the films as well as the comments they have posted on YouTube in connection to the clip.

Me and my friends during gym class when we didn’t have our gym clothing (US)

It is also visible in comments in relation to why the teacher don’t react when the students are walking around the track like:

... as we have tracksuits and trainers on (US)

The importance of changing clothes and the knowing the changing performs is particularly evident in events where the activities offered or the ways other students are doing the activities does not involve physical exertion. In several clips it is rather activities where most students are standing still on the agenda, for example, karate, listening to instructions about shot put or trying the video game ‘dance, dance revolution’. In other clips the students are not acting in ways that include physical exertion, even if it is on the agenda. Here the exclusion is reasonable only if we consider the expectation of physical activity in PE.

In the investigated clips, the changing of clothes stand out as a mechanism performing physical effort, that also conducts how, when and where to be physically active. In another clip this mechanism is evident in that students are playing cricket in shorts, T-shirt and trainers, while students in school clothes (trousers and shirt) is sidelined even though this clothing would be more reasonable from the perspective of cricket as a sport. This indicates how the production and reproduction of the expected sweaty student is constituted³.

Knowing by being in a certain locality

In using a transactional approach also non-human aspects and participants can be explored (Quennerstedt et al, in press). In this way material aspects in the event that plays a part in the production and reproduction of knowledge can be paid attention to.

In the studied YouTube clips it is obvious that equipment, locality and artefacts performs movement in particular ways and the students are guided towards certain patterns of where and how to move. In sports, the use of, for example, balls, goals, a certain colour of lines in the floor, guides the students towards a certain way of performing that particular sport, just by being in that locality. It is clear in several clips that it is real sports on the agenda and that the lines in the floor or the tracks on the athletics field frame the activities. For example, in one lesson where handball is played it is obvious that a certain colour of lines on the floor sets the rules for where to be as an outfield player and where to be as a goal keeper, even though several other rules of handball (e.g. steps taken with the ball) doesn’t seem to apply in the investigated event.

³ However, in other, but few, clips students wear regular clothes or school uniform while being active on exercise bikes and rowing machines. Also younger students are in some clips participating in play, motor development exercises and dance in PE in regular clothes.
Furthermore, in fitness training the localities with rowing machines, exercise bikes and strength training machines conducts students’ actions.

In a UK lesson a group of girls are in a room with exercise bikes and rowing machines. It is noisy and a lot of shouting and laughter. Everybody seems to know what to do. A student says: Miss, can you put on the music again. The PE teacher goes and puts the music on, modern dance music with a strong beat. The students immediately starts to move to the music on the bikes and they are doing the right moves in line with training fitness on an exercise bike. Not necessarily with great effort, but habitually with the correct movements.

In this clip the students seem to know how to act and with what purpose when being in the fitness training room with exercise bikes and rowing machines. They know how the machines are working and how to use them. In their movements, and also with the music, they follow the logics of fitness training, spinning etc. In this way knowing sports and physical activity can be said to be produced and reproduced in a specific way because it is organised and executed in a certain place, at a certain time and with certain kind of equipment.

Knowing by resisting

Knowing by resisting is about events when students in an obvious way through their actions resists the offered institutionalised practice in terms of a laid back attitude or an obvious resistance strategy in relation to what is expected.

In a UK lesson with teenage girls the PE lesson takes place in a room with treadmills, exercise bikes and rowing machines. The girls are active on the machines, but they are active somewhat at random. Some are walking, rowing and biking. Others are fooling around.

Student 1: do some moves on the treadmill.

Student 2 starts to dance.

Student 1: Do some disco dancing.

Student 2 starts dancing with ‘Saturday night fever’ type of moves.

A little later student 1 shouts to student 2: read that sign

A sign on the wall besides the treadmill says; “The treadmill is the best spot to leave your gut behind. It takes an average of 14 mins to burn 200 calories compared with 21 on the rower and 27 on the bike. (Men’s health).”

Student 1: I don’t know what it (the sign) is doing in this video.

In this clip it is obvious that the lesson is about fitness training. At the same time, these students are acting in a habitual way that is not about training fitness. They are filming, talking, dancing and fooling around while being around and on the treadmill. They seem to know what to do on the treadmill, but through their actions they are at the same time resisting the offered content.

In several of the clips it appears as if the students know what is expected of them in terms of fitness training or sport, but at the same time they act differently. For example,
in a clip from a Swedish PE lesson the students are sent out to run five kilometres. Two girls are filming each other while walking-and-talking. During the clip they are discussing how to take a short cut over a wheat field and for fun if they should steal the horse they see in an enclosed pasture. They also, as a joke, discuss and demonstrate how fast they have to run to get a higher grade in PE.

Student 1: Okey (...) this is PE.

Student 2: PE (...) and here we are working really hard.

The students are walking slowly and sometimes do short 'silly' runs.

Student 1: We have to run five kilometres (...) and as you see we run very fast.

Both students laugh.

Student 2: Lets see now how you do things in PE (...) how well you work and how many high grades you get.

Student 1: I am going to take a short cut.

Student 2: A short cut (...) oops! (...) that is tempting.

Student 1: Then we are going to destroy their field.

Student 2: Then they will be angry (...) Show me your 'Passed with special distinction'.

Student 1 runs fast and silly on the spot.

Student 2: That is 'Passed with special distinction' plus, plus.

Student 1: Then I will run the five kilometres. I promise you that.

In this clip it is obvious that the students know what is expected of them in terms of running. At the same time they clearly resist the expectation.

Knowing by resisting can also be understood in terms of positioning yourself as a student in relation to, or rather in opposition towards, sport. In this UK PE-lesson there is, according to the tag of the clip, a throwing competition. Several girls are throwing small balls on a large grass field. On the field there are cones every 10 meters or so.

Teacher: Go

Student 1 throws the ball

Student 2 (filming): Where did it go I can’t see

Teacher: Go and put your cone down where it bounces

Student 3: My turn.

Student 3 throws the ball

Student 2: I can’t see it. It’s over there somewhere.
Student 3 runs out into the field to put the cone where the ball landed. She doesn’t seem to know exactly where so she puts it where she thinks it landed.

Student 4 starts to sing a pop song into the camera

Student 2 (to student 4): Sorry you’re not the centre of attention any more babe.

Student 2: Where did it go?

Student 5: Where is my cone?

Student 5 throws the cone out into the field

[...]

Nobody seems to pay attention to where the balls actually are bouncing (as instructed by the teacher), and accordingly nobody puts their cone where the ball landed because no one saw exactly where anyway.

[...]

Teacher: Who’s next ... Sandra?

Student 6 (who has been wandering around during the throwing): I’m not throwing

Teacher: Why not?

Student 6: Because I am busy being an artist

Teacher (after a short hesitation): Sue, what a good throw

In this clip the students are resisting the competitive aspect of sport in several different ways. The clip illustrates the habitual way of not taking measuring, or rather measuring exactly and comparatively fair, seriously by not paying attention to where the ball bounces. They just put their cones where they think it landed. It doesn’t matter. The other way is refusing to throw at all and showing that you don’t belong in a discourse of sport performance in the first place. The institutionalised practice of competition in sport, and in consequence knowing sport, in this clip becomes something else that is not disputed by students or even the teacher.

In a similar way, the students also seem to resist an identity of the sweaty student. If we look at the treadmill transcript above, or the transcript under knowing by being in a certain locality, the students are not physically active to a great extent. In these clips it seems like the students are not taking the offered activity of fitness training seriously, and in consequence not identifying themselves with being sporty or with doing fitness training. They seem to know what to do but show through their resistance that they don’t belong there.

**Concluding remarks**

Wickman (2004) compellingly argues that learning is dependent on the epistemologies used in a specific practice, and that students as well as teachers learn how to privilege a
certain practical epistemology in terms of how knowledge is produced and reproduced as well as in what direction this takes.

In addressing the epistemological question of what knowledge is and how knowledge is developed in PE from a pragmatic point of view, knowing, and in consequence the questions of knowledge and epistemology, is understood and explored as something we do, something practical. With that in mind this paper has shown that knowledge is produced and reproduced in students’ and teachers’ actions in PE practices in many different ways. Knowing is, as shown in the study, produced and reproduced through students’ and teachers’ habits-of-action by doing correct, by trying, by imitating, by praising and cheering, by cooperating, by creating, by changing clothes, by being in a certain locality, and by resisting. In these processes students relate to what Dewey (1938) calls a stable outcome of inquiry and they learn as they proceed, make new relations and resolve indeterminate situations. I would argue that PE policy, practice and research that take issues of knowledge and knowledge production in PE practice seriously, need to start asking questions about knowing and also what we expect students to learn in PE and how and in what direction do we want students to proceed in their learning.

References


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