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Juggling with gender. How gender promotes and prevents the learning of a specific movement activity among secondary school students

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ABSTRACT

Research on motor learning frequently reports gender differences. However, there seems to be limited tools in the research with which to make use of these insights in educationally relevant ways. Movement learning and gender are intensely researched in movement education research, but the issues rarely intersect in the literature. The purpose of this article is to shed light on how movement learning and gender norms intersect when students learn to juggle. A pedagogical intervention in two secondary school classes (15–16 year olds) was explored ethnographically. Two composite narratives illustrate how gender norms affected the juggling practise to a different extent in the two classes, indicating that these norms are highly contextual. Learning to juggle seems to include aspects of both 'doing boy' and 'doing girl', i.e. regarding respectively controlling objects in space and persistent practising. The findings indicate some ways in which teachers can help students transcend traditional gender norms.

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Introduction

This article signifies an attempt to outline a perspective on movement learning that includes a socio-culturally sensitive dimension, thus re-enforcing the educational relevance of movement learning theory. Research on movement learning based on motor skill assessment protocols frequently report gender differences among children and adolescents concerning their ability to perform various types of movements (e.g. Jiménez-Jiménez et al. 2011; Tzuriel and Egozi 2010). Typically, object control proficiency, for example, object manipulation, such as in throwing, catching or kicking, stands out as one area where boys are found to outperform girls (e.g. Barnett et al. 2010). However, within this performance and product oriented research there seems to be limited tools with which to understand these differences in ways that make them educationally relevant in movement education contexts (Barker, Bergentoft, and Nyberg 2017; Larsson and Quennerstedt 2012). While both *gender* (e.g. Flintoff and Scraton 2004; Larsson, Fagrell, and Redelius 2009; Penney 2002) and *movement learning* (e.g. Barker, Bergentoft, and

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Nyberg 2017; Nyberg and Carlgren 2015; Wallian and Chang 2006) are recurring topics within the more process oriented research, these two topics have rarely intersected (for exceptions, see, e.g. Verscheure and Amade-Escot 2007; Verscheure and Debars 2019).

Recently, the authors of this paper embarked on a project specifically with the aim to explore movement learning. The ambition was, however, to include socio-cultural aspects of the learning processes, as is often the case in research about movement learning seen, for instance, as information processing and 'skill acquisition' (cf. Barker, Bergentoft, and Nyberg 2017). A visit to two secondary school classes who were invited by the researchers to practise juggling called attention to the impact of gender norms for movement learning. The following vignette depicts how we were rather suddenly reminded of the influence of gender in movement education, but also how gender norms are sometimes very context specific.

> Today we are visiting the classes for the first time. The students of the first class stroll into the gym hall. Although boys and girls emerge from separate changing rooms, they mix as they approach the low wooden benches where they sit during the introductory gathering. When the lesson starts the teacher, Ben, stands face to face with the students, who are sitting with girls and boys fairly mixed. Here and there the students are interacting quietly with one another. They talk, gesture and, occasionally, hug each other.
>
> The day after, we are in same gym hall, waiting for another class to arrive. This time, however, as the students enter the gym, girls and boys seem to make sure to stay clear of each other. This class also gathers on the benches, but there is minimal contact between boys and girls. All the girls in the class are sitting together at one side while the boys are sitting at the opposite side, with a gap of about a meter between the two groups. There seems to be minimal communication between girls and boys in this class. Apparently, the students' actions in the gym are affected by quite different gender norms in the two classes.

The purpose of the research project is to explore movement learning processes and what developing movement capability can mean when socio-cultural aspects are not left out of the picture. Specifically, this article aims to shed light on the impact of gender norms on movement learning processes among secondary school students during a sequence of juggling practice. Knowledge about how learners negotiate gender norms when learning movements is key when researchers aspire to formulate theory that is purposive in movement education contexts (Barker, Bergentoft, and Nyberg 2017).

Gender and learning in movement education

The impact of gender in movement education is by no means an unexpected discovery. A wealth of research has offered insights into the issue (e.g. Fagrell, Larsson, and Redelius 2012; Flintoff and Scraton 2006; Larsson, Fagrell, and Redelius 2009; Penney 2002; Verscheure and Debars 2019). Nor is the insight that socio-cultural dimensions affect learning processes surprising. Modern learning theory typically highlights the necessity of contextualising learning processes socially and culturally (see, e.g. Lave and Wenger 1991; Wertsch 1998; see also Kirk and Macdonald 1998; Quennerstedt and Larsson 2015). There are however, remarkably few studies about the socio-cultural dimensions of movement learning where systematic attempts to learn a particular movement capability are recurring. Important exceptions in this regard are Verscheure and colleagues' studies about the didactic contract in the school subject physical education, and how a

differentiated didactic contract results in a gendered construction of physical education content (Amade-Escot, Elandoulsi, and Verscheure 2015; Verscheure and Amade-Escot 2007; Verscheure and Debars 2019). However, while Verscheure's focus is on how the didactic contract specifically affects the content of physical education lessons, the focus in our study is primarily on how learners negotiate the endeavour to explore and learn new movements.

Unlike in the studies of Verscheure and colleagues, gender and other social norms are often treated as something in and of themselves. That is, movement education practice, and the activities that constitute this practice, are in focus, rather than what learners are supposed to learn, regardless its relation to gender. Consequently, gender is sometimes related to participation and physical activity levels where the research typically indicates that 'boys are more active than girls' (e.g. Cairney et al. 2012; Dagkas, Benn, and Jawad 2011; Hannon and Ratliffe 2005). Arguably, the focus on participation and physical activity is a consequence of the sometimes limited attention paid in both research and practice to educational aspects of movement education. The focus on participation and activity is certainly relevant from a health perspective, but at the same time we believe that it sometimes obscures the educational purpose (Nyberg and Larsson 2014), particularly if the focus is heavily geared towards morally normative perspectives of health (Quennerstedt 2019).

Some research about gender and learning in movement education contexts exists, but then 'learning' is often used in the sense of learning to display appropriate gender regardless of the explicit educational purpose. Learning movements seem to play only a marginal role in this research. For the most part this research indicates that learners (girls and boys) seem to learn quite stereotypical gendered behaviour and approaches to movement education and physical activity (Constantinou, Manson, and Silverman 2009; Joy and Larsson 2019; Larsson, Redelius, and Fagrell 2011; see also Paechter and Clark 2007). Only to a limited extent do learners learn to challenge gender stereotypes (Larsson, Quennerstedt, and Öhman 2014; Verscheure and Debars 2019).

Outside the area of movement education, there is more research about gender in relation to learning specific content (e.g. Paule 2015). A number of researchers have explored the relationship between gender and student learning in different school subjects, for example, when it comes to science education (e.g. Bonnette, Crowley, and Shunn 2019; Danielsson 2012), mathematics education (e.g. Palmer 2009; Prendergast 2018), and language education (e.g. Alloway et al. 2003). Student learning in other practical-aesthetical subjects, such as music (Ho 2009) and craft (Kokko 2012) has also been investigated. Most of the above studies focus primarily on perceived competence rather than on learning processes.

Some scholars specifically deal with how certain movement activities can be related to gender. Some time ago, Young (1980) suggested that, due to social norms, girls to a greater extent than men learn to spatially restrict their movements. About the same time, Connell (1983) highlighted that the same norms, conversely, allow boys to move more freely through space. These observations have later been empirically explored in the sense that knowing (i.e. expressing ability in) certain movement activities is related to 'doing boy' (e.g. games; see Fagrell, Larsson, and Redelius 2012; Pringle 2008) while others are related to 'doing girl' (e.g. dance; see Gard 2008; Larsson, Redelius, and Fagrell 2011; see also Pellegrini and Smith's [1993] study about high school recess).

The above results should not be interpreted, however, as boys and girls cannot potentially learn any movements and movement activities. It simply means that at that time and in that context, specific ways of moving contribute to making learners intelligible as 'normal' gendered individuals. Further, it possibly means that since learning is to some extent about 'becoming someone else' (Gard 2008; Larsson and Quennerstedt 2012), some movements and movement activities will be experienced as more difficult to learn because they are experienced as 'not (for) me'. One important question to us is how this difficulty can be understood educationally. How gender norms intersect with learning movements is to a great extent unexplored. This raises questions, such as, how do learners negotiate gender norms when learning movements? How do they approach and solve, or fail to solve, tasks based on which they, over a series of several lessons, are supposed to learn through participation in a particular movement activity?

As stated, knowledge about how learners negotiate gender norms when learning movements is key when researchers aspire to formulate theory regarding movement learning that is purposive in movement education contexts (Barker, Bergentoft, and Nyberg 2017). In our project it became obvious that a greater focus of actually developing specific movement capabilities raised a number of new questions regarding the influence of gender in movement learning processes.

Theoretical framework

The theoretical framework of the research project was based on the work of philosophers of knowledge Gilbert Ryle (2009, orig. 1949) and Michael Polanyi (1998, orig. 1958), specifically on how they theorise knowledge not as a possession (noun) but as *knowing*, i.e. a process (verb) (Nyberg and Larsson 2014; Nyberg, Larsson, and Barker 2020). In this article, we draw specifically on Polanyi's (1998) notion of *personal knowledge*. Polanyi stresses the experiential aspect of knowing and how learning and coming to know is to a great extent about expanding the subsidiary awareness. This will allow for new features come to the foreground of our awareness. Polanyi maintains that all knowing is personal in the sense that our individual experience constitutes a perceptual background on which we rely while relating to issues in the foreground of our awareness. When learning to juggle, for example, depending on our previous experiences, some aspects of juggling fall into the background while other aspects come to the foreground. Polanyi refers to the background as 'subsidiary awareness' and the foreground as 'focal awareness'. As we gain new experiences through practising, what is in our focal awareness, and what falls into our subsidiary awareness, changes (Nyberg, Larsson, and Barker 2020).

In this article, we link Polanyi's notion about personal knowledge with a particular understanding of gender which foregrounds performative dimensions, but which also includes experiential aspects. In her theory about gender performativity, Butler (1990) contends that gender is expressed by what we do, that is, the iterative acts that constitute gender. Another expression for gender performativity, although not originally based on Butler's writings, is 'doing gender' (West and Zimmerman 1987). However, Butler (2004) has focused particularly on the 'undoing' of gender, i.e. those aspects of gender performativity that allow for human beings to do gender differently. Juxtaposing our perspective of learning and knowing movements (movement capability) with our understanding of gender performativity and (un)doing gender means that gender norms may expand or

restrict the actions of boys and girls, thereby also affecting the experiential background based on which boys and girls focus their attention. Relating back to the example of 'throwing like a girl' (Young 1980), gender norms affect the ways in which girls (and boys) experience their bodies. Young writes:

> We (i.e. girls) often experience our bodies as a fragile encumberance, rather than the media for the enhancement of our aims. We feel as though we must have our attention directed upon our body to make sure it is doing what we wish it to do, rather than paying attention to what we want to do *through* our bodies. (144)

However, it should be pointed out that gender is highly fluid (Butler 1990). This fluidity means, both, that actions which in some contexts may express gender, may in other contexts not express gender at all, and that people may fluctuate between differing gender expressions. For example, in our introductory vignettes, gender to some extent framed the students' actions as they entered the gym in both classes, albeit in different ways. Stereotypical gender norms seemed to affect student action in one of the classes to a much greater extent than in the other class. However, all students seemed not to be affected in the same way. Importantly, gender is not originating in the person, but occurs in the intersection between action and context. Our ambition is to inquire into the ways that gender affected not only entering the gym and starting the lesson but also the students' exploration, learning and knowing of juggling.

Methodology

The methodology of the project has been presented and elaborated on in previous publications (Barker, Nyberg, and Larsson 2019; Nyberg, Larsson, and Barker 2020). It consisted of a pedagogical intervention which was outlined by the researchers, planned in detail jointly by teachers and researchers, and executed by the teachers. Juggling was selected because it was deemed to be fairly explicit when it comes to students' possibilities to assess by themselves whether they 'get it!' or whether they 'can't quite do it yet'. Also, it was selected because it did not connote either 'being sporty' or 'being fit' (Tidén, Redelius, and Lundvall 2017). Exploration, in our case embodied exploration, was used as a pedagogical approach mainly because it matched our understanding of developing capability as this concept was theorised by Ryle and Polanyi. Embodied exploration describes 'the process of developing movement capability as "discerning" the aspects of experience involved in moving in particular ways' (Barker, Bergentoft, and Nyberg 2017, 427, with reference to Nyberg and Carlgren 2015). Within this perspective, coming to understand a movement and coming to master that movement are two sides of the same embodied process (Nyberg and Carlgren 2015; Nyberg and Larsson 2014). It should be noted that embodied exploration was selected as a pedagogical approach in order to *allow for* learners to explore movements. Our ambition was not to assess the relevance or efficiency of this approach. Nevertheless, since our context of study is physical education in schools, the role of teachers (and researchers) are an inseparable aspect of the practice. This means that what teachers did and did not do during the learning sequence, cannot be left out of the analysis.

The two participating teachers, here called Ben and Mary, volunteered to participate because they shared an interest in developing their teaching on the basis of current

research. They were both in their thirties, and with just a few years of teaching experience. Ben knew one of the researchers from teacher education but Mary did not. They were the physical education teachers of two different classes (students age 15–16 years) at the same school. The students of both classes volunteered to participate in the study and signed written consent forms, which also informed them about the purpose of the project as well as the methodology, that their participation was voluntary and that they could cancel participation at any point of the project, that their participation would be kept confidential, and that the collected information would only be used for research purposes. Overall, the project was conducted based on the Swedish Research Council's (2017) ethical guidelines.

The planning included ten lessons of juggling practise. Due to sickness, there were only eight lessons with Mary's class. In the other class, one extra lesson was included because the students wanted to practise more as a preparation of a 'closing juggling show', which was performed on the last lesson. The lesson sequence included three lessons with practise at different stations, where the students could use different objects to explore juggling, and which included different questions that were supposed to guide the students in their exploration. The stations included different material (balls, bean bags, skittles, scarves, etc.), tasks (for example, exploring 'what happens' if you juggle while standing up or sitting down, or whether it can be helpful to practise catching and throwing in different ways), and organisation (individual, pair or group exploration). Three subsequent lessons were used for group juggling activities, where the students were encouraged to explore how juggling could be performed in group settings. Lessons seven to nine were used mainly as preparation for the juggling show. We made particular efforts to make explicit that the closing juggling show was not for assessment purposes. Its main purpose was to offer a festival-like ending of the unit. In fact, throughout the project we endeavoured to emphasise that the purpose of the research was not to measure how fast or well the students learned to juggle in any particular way. Instead, we stressed that we were interested in what they were paying attention to in what we have called the 'landscape of juggling'. For example, we discovered that finding patterns and rhythm, and navigating one's position and throwing and preparing for the next move are prominent features of the students' 'juggling landscape' (Nyberg, Larsson, and Barker 2020). Nevertheless, we found it quite hard not to encourage students based on implicit notions about 'good performance' either when they expressed joy about having learnt something new or when we felt that one or another student made progress.

Data collection during the juggling unit can be termed ethnography-inspired (Nova 2014), and it included participant-observations (Angrosino 2005) and ethnographic-type conversations (Spradley 1979). Concretely, throughout the lesson sequence one of the researchers took notes while the two other researchers wore GoPro cameras mounted on their chest. Taken together, the notes and the resulting video films, which amounted to 38 hours, offered a useful means to provide thick descriptions of both overall patterns and specific events during the lessons. Ethnographic-type conversations (Spradley 1979) took place when the researchers approached students with questions such as, 'what happened here?', 'what is difficult in this activity?' and 'what made you accomplish this?' These conversations typically lasted from a few seconds up to a couple of minutes. In addition, the students were asked to write about their experiences of exploring juggling, however, in this article we use only video material as a source for analysis.

Overall, the analysis of the video material followed the coding principles described by Patton (2002) as convergence and divergence. Convergence here designates a process where incidents that included what we perceived as having a potential gendered connotation were preliminary identified. These incidents were subsequently summed up into categories of gendered patterns of action, such as some boys' propensity to occasionally interrupt the juggling practice by throwing balls of different sorts into basketball hoops or handball goals. This was a kind of shenanigan that few girls participated in. In the 38 hours of video footage, only once did a girl throw a ball towards a basketball hoop. Attention to convergence was followed by attention to divergence, which meant a careful examination of the identified patterns with regard to whether they were occurring in both classes or only in one of the classes.

More practically, the analysis was conducted based on three steps. Initially, the first author made a preliminary coding with a specific focus on gendered patterns of action. He watched each lesson and notated all incidents that included what he perceived as a potential gendered connotation (convergence) on a minute-by-minute basis. Secondly, he re-analysed the identified patterns with regard to whether they were occurring in both classes or only in one of the classes (divergence). The aspiration was to find out how gender norms contributed to in any way differentiate the juggling landscapes of girls and boys. For example, what do boys and girls in the two classes seem to pay attention to in their practising? How can their ways of moving be described? How do students (boys and girls in the two classes) respond to the teachers' actions and ways of structuring the activities of the lessons? In a third step, the co-authors took the stance as critical friends, which meant that the first author presented preliminary analyses to the co-authors which were subsequently discussed jointly by all three researchers. The resulting codes were used to construct vignettes to illustrate the findings.

Inspired by what Jarzabkowski, Bednarek, and Lê (2014) call 'composite narratives' we have constructed two vignettes about fictitious lessons. Composite narratives

> merge the characters and events from multiple ethnographic observations into a single composite narrative […] The aim of such a composite narrative may be to reveal some typical patterns or dynamics found across multiple observations through one particularly vivid, unified tale. (281)

'Typical patterns' should not be confused with overall generalisations regarding gendered behaviour. For sure, our aim is to crystallise gender patterns in the respective classes. However, the purpose is not to assert general gender patterns recurring in physical education classes, but rather to point to the differing patterns recurring in two classes at the same school during a specific learning sequence. It is also in our interest to explore what, in terms of pedagogy, may promote and enforce certain elements of the patterns, such as how lessons are organised, how pairs and groups are formed, what sort of instructions and feedback teachers offer students, how students who disturb other students in their practising are handled and so on.

Findings

In the following, two vignettes will illustrate what we take to be common ways of doing and – arguably – undoing gender in the respective classes during the juggling sequence.

The vignettes will be followed by a theoretically informed discussion about gender and learning movements, including some reflections about pedagogical matters that were mentioned above.

Class A

After having checked the presence of all the students, Ben starts to explain the broad purpose of the lesson; to explore juggling. Exploration will be conducted with the use of different activities that aim to contribute to the students' development of movement capability through juggling. With our help, Ben has prepared six stations with different tasks (these were presented in the methods section).

The gathering is followed by Ben going through the stations one at a time, clarifying the purpose of each one and making sure that the students have grasped 'the point' with each station. He is quite specific about the tasks, but he stays clear from signalling that there are 'correct' movements to be performed. The students seem, in the main, to be attentive to what Ben says. Only minor distraction is occurring, for instance, one student whispers something in another student's ear, and one student throws a ball to himself while listening to Ben. After going through the six stations, Ben divides the students into pairs. The pairs are both single and mixed sex and Ben has composed them in advance. Most students seem to accept being teamed up with a classmate. Subsequently, Ben tells the students that they will have time for exploration at three out of the six stations before the lesson ends. Then the students distribute themselves among the various stations and start working with their tasks. Ben invites the students to devote about ten minutes of exploration at each station.

It is obvious that 'exploring' movements is a new experience to many of the students. They seem to be more used to receiving instructions about 'how to do it'. Some of them, boys as well as girls, ask us – the researchers – if we can instruct them. We try to respond in ways that we believe is appropriate in relation to the embodied exploration approach; mainly through asking questions about what they aspire to do and what they think that they need to practise and pay attention to in order to become capable of this. In the main, though, the atmosphere in the gym is focused but calm, with most students exploring what it could mean to juggle using different equipment, tasks and groupings. We, the researchers, wear GoPro cameras mounted on our chests, and spend some time with different individuals, pairs and groups, occasionally asking questions.

During the lesson, it is possible to identify a number of conventional gender norms, for example, regarding clothing and appearance. Girls typically wear long sleeves and tights, while boys wear t-shirts and shorts. A lot of girls have make-up and long hair set in a ponytail. No boys have make-up and most of them have short hair. There are exceptions from the rule, but we note few, if any, indications that students challenge the gendered norms of appearance and style. In this sense the students 'do gender' in the same way as has been reported in earlier Swedish research (Larsson, Redelius, and Fagrell 2011). When it comes to how the students approach embodied exploration of juggling, however, boys and girls seem to act in similar ways – and roughly reach the same results (Barker, Nyberg, and Larsson 2019). Exploring juggling seems *in this class* not to be an apparent way of 'doing gender'. Or conversely, perhaps it can be seen as way of *undoing* gender in relation to the teacher-centred and performance oriented approach that otherwise

seems to favour boys. The video material indicates that both boys and girls are involved in testing juggling with different objects, in different positions, with and without peers, as well as devoting time and energy to repeating the same or similar movement patterns with persistence. Both boys and girls ask questions, for instance, about what they may focus on – or what they may explore, how they can improve or how Ben or the researchers think they are performing.

Towards the end of the lesson, when the students have explored three of the six stations, they are asked to leave the equipment and pick up their tablets. Their task now is to write notes about what they experienced while exploring/practising, specifically about 'what was easy' and 'what was hard' about the juggling, and what made them feel that they 'improved', including what this improvement consisted of and what enabled them to improve in any particular way. The class spend about ten minutes for this exercise. As was the case in the beginning of the lesson, girls and boys are fairly mixed and interact directly with each other. When a number of students have reported that they are finished writing, Ben ends the lesson and the students leave for the changing rooms.

Class B

After having checked the presence of all the students, Mary starts to explain the broad purpose of the lesson, which is to explore juggling. Exploration will be conducted with the use of different activities intended to contribute to the students' development of movement capability through juggling. Mary is briefer than Ben in her explanation of the purpose of the lesson. She has prepared the same six stations. However, Mary does not go through the stations to make sure that the students have grasped what the stations 'are about'. Instead, she encourages the students to read the instructions that are placed at each station. Neither does Mary pair the students together in any particular way. Instead, she asks them to team up with a classmate on their own, review the different stations, and finally select three stations that they would like to explore further. Since there was little exchange between girls and boys from the outset, having the students get into pairs by themselves basically means that girls team up with other girls while boys team up with other boys. Hence, the initial gender division remains throughout the lesson.

Pretty soon loud music is streaming from the speakers that sit just below the ceiling in the hall. The music is initiated and managed by a few of the boys, who seem also to take some pleasure in incrementally increasing the volume. This is only one way in which doing gender among girls and boys differ in this class compared to the other class. In this class, several of the boys disengage with the task of exploring juggling, starting instead to interfere with other students, mainly boys, through talking to them, jumping at them, throwing balls at them, and other types of disruptive play. This kind of behaviour however often disturbs other students – boys and girls – who are not explicitly targeted. It may well be that girls also disengage from the practice, but then this is not easily detected on the video films because they refrain from doing other disruptive activities instead.

Now and then boys who were just recently concentrating on juggling burst out into eruptions of energy, where different sorts of balls and other objects are tossed across the gym and where the boys are making short rushes around the gym. It is almost as if the hard concentration that is required when trying to throw and catch balls or other sorts of objects demand a subsequent release of energy. Frequently, about 30 seconds

of intense practising is followed by a few minutes of turmoil of this kind before the students are 'back on track' with their task. Some boys seem to have disengaged entirely. Seemingly as a pastime, to get the lesson time going, they seem instead to develop alternative objectives for the lesson. They engage in what is conventionally called 'off-task', which occasionally attracts Mary's attention. She does not tell them off, though. She appeals to them to get themselves on-task. They smile – and do nothing. Alternatively, the disengaged boys interfere with other boys who still persist in their exploration of the juggling landscape. It is often about 'interference from a distance', which means that the boys throw juggling balls, bean bags or other objects from some way away, like projectiles from a howitzer, which makes it hard for the boy (or girl) who is interrupted to immediately see who threw the ball. Also this attracts Mary's attention, but the result of her attempts to appeal remain the same. 'I know them so well,' she tells us, 'they don't mean bad.' Since juggling balls are not really made for this kind of treatment, pretty soon much of the gym hall floor is covered with small beads from the disintegrating juggling balls.

During this lesson, the researchers see only limited value in approaching the students to ask questions because there is limited time for exploration and practising. Conversely, few students pose any questions to the researchers. It seems to be difficult for those students who did not to some extent master juggling at the outset to benefit from the lesson. The rowdiness of the lesson makes it virtually impossible to focus on exploration and practising. Towards the end of the lesson, this class is also asked to leave the equipment and pick up their tablets to record reflections about their exploration. Some of the students, a lot of girls but also some boys, follow the call, but a lot of the boys and an occasional girl prefer to continue juggling – or do nothing. When time is up the students are allowed to leave the gym for the next class.

Discussion

As the above vignettes indicate, gender norms are apparent to some extent in both classes, for example regarding appearance and style, including clothing, hairstyle and the use of makeup (cf. Larsson, Redelius, and Fagrell 2011). However, in a number of ways gender norms 'play out' very differently in the two classes. These differences indicate that gender is highly context specific (Butler 1990), and it seems that the ways in which gender play out impact learning differently in the two classes. The vignettes illustrate how in class B strong gender norms, particularly concerning the propensity among (some) boys to take up a lot of space and burst into frenetic motion, and the simultaneous propensity among (some) girls to restrict their movements in space and persistently endure the boys' outbursts, limit the possibilities for girls and boys to explore particular dimensions of the juggling landscape. In class A, on the other hand, weak gender norms seem to leave room for both girls and boys to explore the movement of juggling. In this sense, the students of class A undo gender (Butler 2004) to a greater extent than the students of class B.

Learning to juggle seems to require aspects that relate both to conventional feminine and masculine norms. 'Doing boy' would then be about moving freely through space (cf. Connell 1983), or taking up space. This relates, put simply, to learners exploring what it means to throw and control balls high or low, while standing up, sitting down, or walking across the gym in an attempt to discern, for example, the impact of gravity and

the properties of different objects that are tossed. Relating these insights to Polanyi's (1998) notion of personal knowledge, it seems that manipulating objects in space would correspond to doing boy, thus certain features of the juggling would fall into the focal awareness of boys. 'Doing girl', then, would be about being positioned in space (cf. Young 1980), which can be interpreted as being tantamount to what Polanyi says about the need to 'dwell' in the practice to allow for persistent practising. The possibility to dwell in the juggling landscape may allow for learners, boys and girls, to discern, for example, a throw-throw-catch-catch sequence or a certain rhythm (Barker, Nyberg, and Larsson 2019; Nyberg, Larsson, and Barker 2020). Repeating the same or similar movement patterns with great perseverance thus seems frequently to be in the focal awareness of girls. Juggling with some degree of proficiency however, seems necessarily to include both these aspects: manipulating objects in space as well as repeating the same or similar movement patterns with great perseverance.

The above discussed activity patterns in both classes arguably made learning to juggle in class B a more difficult task since learning is to some extent also about becoming someone else (Gard 2003). To learn a new practice, to move in new ways, requires a wish to become someone who moves in this particular way (Larsson and Quennerstedt 2012). We believe that the 'interference from a distance' that occurred in class B can be interpreted as one way in which some boys control and discipline each other based on gender norms. This control involved preventing themselves and their peers from becoming someone else (cf. Gard 2008), and would inevitably affect the whole status hierarchy among the boys. At least indirectly, the boys' locations within the gym affected the learning processes of many girls, who were restricted *to* tenacious practising in a limited space, and *from* versatile movements which are extended in the room. Conversely, a lot of boys were restricted *to* versatile movements which are extended in the room, and *from* tenacious practising in a limited space. We believe that these patterns, whether gender fluid or strictly binary, affect what falls within respectively the focal and subsidiary awareness of the learners (cf. Polanyi 1998). Thus, gender norms affect to a different extent in the two classes both actions and the background dimension based on which boys and girls focus their attention.

One important question here is what made the two classes differ to such an extent? There are a number of factors beyond our reach to say anything about, for example, the class biography and the individual biographies of students. We sporadically asked the teachers about such aspects, but did not endeavour to collect enough information to conduct a systematic analysis. We know that the students from both classes live in the same residential area, and that they were not assigned any particular class based on, for example, ability and social or ethnic background. We were informed, though, that the two classes had different biographies in terms of having had the same (class A) or different (class B) teachers over time. This may have affected the social dynamics in the two classes in different ways. It is possible, though, to discuss how the two teachers took part in (un)doing gender. The vignettes offer some clues to this process. Before we discuss this issue, however, we need to say some things about the conditions under which the two teachers participated in the project.

Of the two teachers, Ben, had the main contact with the researchers. He was more familiar with the project and its aspirations compared with Mary. Much of the communication between the researchers and Mary was conveyed through Ben. In hindsight, it seems that

Mary did not invest in the project to the same extent as Ben. Towards the end of the unit, Mary asked us for feedback regarding the management of the class. We suggested that she could employ a tighter organisation of the teaching. Mary responded, somewhat surprised, that she had assumed that this would not have been in line with the embodied exploration approach. Our understanding of this response was that Mary implicitly presumed that this approach is something similar to 'hands off', where verbal interaction between teacher and students of any sort should be kept to a minimum. We emphasise it was our responsibility as researchers to communicate the key features of the pedagogical approach of the intervention to the teachers. More efforts should have been devoted to have direct communication with Mary. However, regardless of *why* the two teachers differed in their approach to the project, the fact that they *did* differ can offer us important clues about how gender norms intersect simultaneously with content and pedagogy.

The two vignettes suggest that Ben framed the lessons somewhat more tightly than Mary. For example, Ben devoted considerably more time to going through the different stations and tasks regarding both 'what to do' and 'why to do it' – albeit without slipping into a 'this is how to do it' approach. Further, he also organised the students in pairs based on a particular pattern where boys and girls practised sometimes in mixed gender and sometimes in same-sex pairs. Mary left much more room for students to self-organise, which resulted in few students practising with students of the opposite gender (cf. Larsson, Quennerstedt, and Öhman 2014). This was particularly apparent during pair practise. Actually, the group practise generally offered more opportunities for girls and boys to share experiences in joint groups as was the case also in class B. However, since a lot of time and energy was spent on organising the activities, that is, bringing the students together into functional groups, there was not much room left for exploration. The lenient attitude on the part of Mary towards the students, enabled the students of class B to engage in a range of activities that hampered exploration, such as loud music and objects being thrown across the gym. This permissive pedagogical style exhibited by Mary is possibly related to a strategy, deliberate or not, where she endeavoured not to scold the students, particularly the boys, or be 'too demanding'. This can also be seen as Mary participating, to a greater extent than Ben, in a gendered play where she was doing woman through becoming a lenient and understanding teacher, while some boys were doing boy through mischievous and enterprising behaviour. The doing of gender in this way affected the learning processes of girls and boys (cf. Amade-Escot, Elandoulsi, and Verscheure 2015; Verscheure and Amade-Escot 2007; Verscheure and Debars 2019). Ben, on the other hand, may have contributed to undoing gender because of a somewhat tighter lesson structure and a clearer focus on the different learning tasks.

Conclusions

The article is based on an overall ambition to outline a perspective on movement learning that includes a socio-culturally sensitive dimension, thus re-enforcing the educational relevance of movement learning theory. In the article, we have sought to formulate a framework based on which gender differences regarding movement learning can be understood; a framework that embraces the contextual dimension of gender and which does not contribute to essentialising. Our purpose was to shed light on the impact of

gender norms on movement learning processes among secondary school students during a sequence of juggling practice.

Through the study, we can conclude that exploring and learning to juggle may express gendered norms in the sense that manipulating objects in space when moving freely through that same space may be seen as a conventional way of 'doing boy' (Butler 1990; Connell 1983; West and Zimmerman 1987), while repeating the same or similar movement patterns with great perseverance when being positioned in space may be seen as a conventional way of 'doing girl' (Butler 1990; West and Zimmerman 1987; Young 1980). However, the study also indicates that there are significant differences between different school classes. Further, we contend that the (un)doing of gender affects what comes to the focal awareness of learners while practising juggling, and what falls into the subsidiary awareness (Polanyi 1998). Moreover, a deliberate pedagogical practice, specifically where teachers 'help' girls and boys overcome gendered norms, may make it possible to 'undo gender' (Butler 2004). Undoing gender would then be, for example, about helping learners to clearly discern the educational purpose of a lesson or an activity, or helping girls and boys experience common learning processes in gender mixed situations. Further, we believe that undoing gender may help learners broaden the experiential background based on which boys and girls focus their attention as well as direct their focal awareness towards relevant aspects of juggling (Polanyi 1998).

Taking our findings into a school context, they mirror the findings by Palmer (2009) in her study about primary school teacher-students' attitudes towards mathematics, and by Verscheure and colleagues regarding the didactical contract in physical education teaching (Amade-Escot, Elandoulsi, and Verscheure 2015; Verscheure and Amade-Escot 2007; Verscheure and Debars 2019). In physical education, a clearer focus on developing movement capability, rather than learning pre-determined movements or merely being physically active (see also Nyberg and Larsson 2014), may be a promising way to challenge prevailing gender norms. However, like Verscheure and colleagues, we also conclude that the aspects of content and pedagogy are hard to separate in practice and need to be considered in tandem. This would imply that a gender sensitive pedagogy (e.g. McCaughtry 2006) or a queer pedagogy (e.g. Larsson, Quennerstedt, and Öhman 2014) for physical education, and possibly also other subjects, is not only about inclusion and justice from the perspective of participation, but is necessary for learning particular content. In our understanding, challenging narrow notions of ability would then include challenging narrow notions of gender.

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