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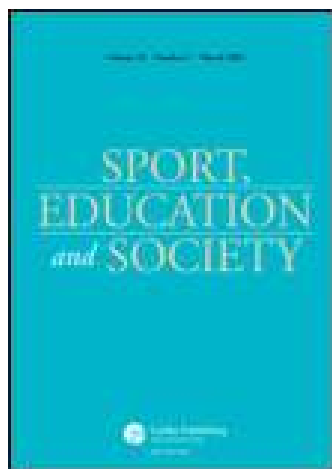
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## Sport, Education and Society

Publication details, including instructions for authors and subscription information:

<http://www.tandfonline.com/loi/cses20>

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Published online: 22 Aug 2011.

To cite this article: Øyvind F. Standal & Gunn Engelsrud (2013) Researching embodiment in movement contexts: a phenomenological approach, *Sport, Education and Society*, 18:2, 154-166, DOI: [10.1080/13573322.2011.608944](https://doi.org/10.1080/13573322.2011.608944)

To link to this article: <http://dx.doi.org/10.1080/13573322.2011.608944>

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# Researching embodiment in movement contexts: a phenomenological approach

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This article takes a phenomenological approach to understanding embodiment in relation to teaching and learning taking place in movement contexts. Recently a number of studies have pointed to the potential that phenomenology has to understand the meanings and experiences of moving subjects. By presenting two examples of our own work on embodied learning, and discussing these in light of a distinction between phenomenology as philosophy and as methodological orientation, our aim is to move beyond the recent celebration of the potential of phenomenology, and show concretely and practically how phenomenological approaches to embodiment can be performed. We hold that it is necessary to give the notion of embodiment a form, content and substance, which is informed by empirical work.

**Keywords:** *Embodiment; Movement; Phenomenology; Embodied learning; Qualitative research*

## Introduction

Embodiment has become a key concept in many disciplines like the cognitive sciences, sociology, philosophy and now also in the broader field of human movement studies (e.g. sport sciences and physical education [PE]). Though the concept is used in different ways, one reason for its increasing popularity is that it serves as a means for overcoming the problems of mind–body dualisms (Cheville, 2005).

In a recent special issue on *Body pedagogies* in this journal, Shilling (2010) identifies a theoretical cleavage in the articles on body pedagogies between, on the one hand, a Foucault-inspired interest in the overarching discourses on health, obesity and fitness, and on the other hand, articles that are phenomenologically inspired, trying to take account of the embodied experiences of the individuals who are subjected to these discourses. These two approaches represent different perspectives on embodiment, and our contribution is specifically phenomenologically oriented in the sense that we take seriously the embodied experiences of subjects in movement contexts where teaching and learning takes place.

According to Brown and Payne (2009) phenomenological approaches to PE ‘remain on the margins’ (p. 419) as compared to the more prominent post-structuralist and Foucault-inspired work. These authors also state that this might

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‘accurately mirror the absence of theory and paucity of research about the phenomenology of movement within the physical education literature’ (p. 420). They thus concur with Connolly (1997) who stated that the phenomenological tradition is neither strong nor encouraged in PE. This seems to be case also in the broader context of human movement studies (Tinning, 2010).

Over the past decades, there has been quite a bit of academic work heralding the promise and usefulness of phenomenology to research in movement contexts (cf. Allen-Collinson, 2009; Bain, 1995; Brown & Payne, 2009; Hockey & Collinson, 2007; Kerry & Armour, 2000). These papers have partly reviewed empirical work relying on a phenomenological perspective and/or attempted to present basic tenets and concepts of phenomenology as they relate to the study of human movement. One problematic issue that recurs in these texts is the assumption that researchers who work with phenomenology must clarify in-depth the philosophical foundations of the particular phenomenological approach they use (Brown & Payne, 2009; Kerry & Armour, 2000).<sup>1</sup> This assumption stems from Kerry and Armour’s (2000) claim that there exists a ‘major dichotomy’ (p. 2) between Husserlian and Heideggerian phenomenology.

The claim that empirical work, aspiring to be phenomenological, must clarify the ontological and epistemological standpoints of the phenomenology employed because there is a dichotomy between the phenomenologies of Husserl and Heidegger is problematic for two reasons. First, the degree to which there exists such a dichotomy can be questioned. Recent studies of the so-called *Nachlass* (i.e. the large, unpublished work of Husserl) argue against this position. Zahavi (2003), for instance, states that ‘it is certainly striking how many similarities there are between Husserl’s account of the relation between self, world, and other, and the accounts to be found among the later phenomenologists (Heidegger, Sartre, and Merleau-Ponty)’ (p. 77). Clearly there are distinctions between the different phenomenologists, but they should probably not be construed as major dichotomies. In any case, we hold that this is a question to be left for the professional philosophers, and that it should not be construed as a hindrance for empirical researchers with a phenomenological leaning who work within movement contexts.

The main problem, however, is that by making such a claim, the authors confuse the phenomenological method developed in and for philosophy, with phenomenologically oriented (qualitative) methods. A correct distinction is made by Kerry and Armour (2000) between phenomenology as philosophy and as methodology, but it is incorrect to import the standards from the former in order to evaluate the quality and credibility of the latter. This is a category mistake because phenomenology as philosophy ‘is not an empirical discipline’ (Gallagher & Zahavi, 2008, p. 29). Empirical work must thus be characterized as phenomenological in a different sense than the philosophical approach. This means that it follows other procedures and it must accordingly be judged by other standards.

In terms of phenomenology as methodological orientation there are different approaches developed by different researchers (e.g. Giorgi, 1984; Moustakas, 1994; van Manen, 1990). These all describe steps that must be taken in a phenom-

ological study, but they also agree that doing phenomenology is not possible by following a step-wise procedure. More important is the adoption and practice of a certain attitude of sensitivity to the phenomenon under study, the lived experience of the research participants, and the way their experiences are expressed through actions, speech and silences. This attitude must be sustained and cultivated throughout the research process.

Though there is a crucial distinction between phenomenology as philosophy and as methodological orientation, this does not mean that the former cannot inform the latter. Rather to the contrary, we believe that an engagement with the arguments and findings of phenomenological thinkers (rather than their particular ontological and epistemological stances) can be highly illuminating for empirical researchers in the context of human movement studies. This is a point already made several decades ago (Arnold, 1979), but as recent review articles suggest (Allen-Collinson, 2009; Brown & Payne, 2009), empirical work is still lacking.

Our aim in this article is to move beyond the celebration of the potential of phenomenology and show, *concretely and practically*, what phenomenological approaches to embodiment can be. We will do this by first giving examples from our own research on embodied learning. These examples are not meant to be independent and sufficient analysis of the phenomenon we are studying—for that each of them would need their own journal article—but it is rather to illustrate by way of examples how a phenomenological approach to embodiment in the context of teaching and learning movements can be performed.

### **Empirical studies of embodiment**

In this section we will present two of our own studies on embodied learning.<sup>2</sup> The purpose of this is to show that and how it is possible to integrate empirical work in movement contexts with phenomenology.

#### *Intercorporeal learning*

In Standal's doctoral dissertation (Standal, 2009), the embodied and situated learning that takes place at a rehabilitation institution was investigated. More specifically, a field work was conducted at a rehabilitation program that emphasizes learning of basic wheelchair skills and adapted physical activities like ball games, dancing and wheelchair racing. Empirical data were generated through close observations (van Manen, 1990) at two such programs, each lasting two and half weeks. Towards the end of the programs, semi-structured interviews (Kvale, 1996) where conducted with participants, peer consultants (i.e. experienced wheelchair users who are hired into the rehabilitation center for the purpose of serving as role model in these programs) and rehabilitation staff.

One of the research questions for this project was how peers are resources for each others' learning. A clear finding was the importance given to the opportunity of

observing and learning from others in a similar situation (Standal & Jespersen, 2008; Standal, 2009). In the empirical material, the participants underscored the importance of learning wheelchair skills in the presence of other, more experienced peers. For one thing, the skill becomes ‘more real’ when newcomers see it performed by a veteran than when it is showed by a non-disabled instructor. Expanding on this, some participants held that it was better for their learning outcome when the skill was shown by someone who had ‘felt it in the body’, and who ‘could not just stand up and walk once they have showed the technique’. In addition, some skills (e.g. transferring from the floor to the chair) are practically impossible to show in a realistic manner when the instructor has full function in arms and legs.

Also, it was expressed by staff members that when peers interact—uninterrupted by instructions—skill learning sometimes seemed to go easier. One of the professionals at the rehabilitation center explained that she had experienced countless times having worked the whole week to teach a particular skill to a participant without being particularly successful. However, upon returning to work after the weekend, she found that the participant had worked with an experienced wheelchair user and learned more than she had been able to convey during the previous week.

Observation and imitation is generally considered as an important learning mechanism, but the process by which it takes place is accounted for in different ways and terms in different theoretical approaches. For instance, social-cognitive psychology (Bandura, 1986) will explain it in terms of information-processing, whereas situated learning (Lave & Wenger, 1991; Wenger, 1998) will see it as an outcome of participation in a community of practice. In this project, learning through observation and imitation was illuminated with the help of phenomenological philosophy.

*Embodied learning.* Embodied learning, for Merleau-Ponty (1963, 1964, 1968, 2002), is closely related to habits. Habit is a flexible, adjustable and situated ability to act, which also entails the possibility for creativity, and is expressed in actions as a corporeal know-how: ‘[Habit] is knowledge in the hands, which is forthcoming only when bodily effort is made, and cannot be formulated in detachment from that effort. The subject knows where the letters are on the typewriter as we know where one of our limbs is, through a knowledge bred of familiarity’ (Merleau-Ponty, 2002, p. 166). This know-how is an expression of embodied knowledge through a bodily *I can*, which is prior to *I know*. That is, in habits it is not necessary to go through an intellectualistic process of first getting to know in theoretical or mentalistic way, before one can act.

A crucial distinction in Merleau-Ponty’s account of embodied learning is that between body schema and body image (Merleau-Ponty, 2002, pp. 112–170). Whereas the body image is ‘a complex set of intentional states and dispositions—perceptions, beliefs, and attitudes—in which the intentional object is one’s own body’ (Gallagher, 2005, p. 25), the body schema provides a marginal awareness of the body’s postures and movements, and thus takes account of the surrounding world in a pragmatic fashion. The body schema can incorporate objects in the

environment into its structure, so that the limits between the body and environment become blurred (Merleau-Ponty, 2002). While the body image represents an objectification of the body or parts of the body, the body schema gives a pre-objective sense of the body in action. Body schema and body image are not clearly separated systems, but they form a crucial analytical distinction, which is useful to uphold for the understanding of embodied learning. We return to this later.

Merleau-Ponty argues that in the acquisition of habits, the body schema is rearranged and renewed. In this process, our existence is expanded, thus making the world more meaningful to us (Crossley, 2001). In this sense, embodied learning is an ontological question, because it enables us to see and experience the world differently.

*Intercorporeal learning as transfer of body schema.* In the interviews conducted towards the end of the program, the participants were hard pressed to say how or what they had learned from others. However, statements like ‘I learn from him by seeing how he does thing’ or ‘you look at how they manage the wheelchair. How easy it is for them’ (Standal, 2009, pp. 178–180) suggest that observational learning is not so much facilitated by verbalization as it is conditioned on visibility and the intersubjective relations formed with other learners.

Merleau-Ponty takes intersubjectivity, or intercorporeality, to be a carnal, pre-reflective relation between self-other-world. Through this relation, an intercorporeal system between acting body-subjects and their shared world is formed (Merleau-Ponty, 1963, pp. 168–169; Merleau-Ponty, 2002, p. 410). Being a part of this system, I can ‘appropriate the conducts given to me visually and make them [my] own’ (Merleau-Ponty, 1964, p. 107). This process takes place through a *transfer of body schema* (Dillon, 1997).

Later phenomenological philosophers have taken up and developed Merleau-Ponty’s idea of intercorporeal learning (Casey, 1998; Jespersen, 2003; Sheets-Johnstone, 2000). For instance, Sheets-Johnstone states that:

Skill-learning is rooted in the capacity *of one bodily presence to be attentive to another and to pattern movement along the lines of the other*, imitating the way in which the other performs something . . . imitation is not senseless copying but consistently engenders the possibility of deviating from and innovating common practice (pp. 358–359. Italics in original).

Precisely this bodily presence of others was pointed out as important for the participants in this study. In this process, a bodily identification of a tradition (in this context: useful ways of performing wheelchair skills) embodied by others takes place, so that the image of others provides the details of the skill.

This is similar to Marcel Mauss’ account of transmission of habits as a form of apprenticeship, where ‘the individual borrows the series of movements which constitute [the bodily skill] from the action executed in front of him’ (Mauss, 1973, p. 73). The analysis provided in this example shows that observation and imitation is not a learning process where the learners stand back and observe before

they try out the skill. Rather, it is an embodied social process of being with others in a joint effort of learning.

### *Experiencing one's own training*

In Engelsrud's projects with young dance students (Engelsrud, 2010) the subjective experiences of individual training was investigated. The research context was a school of contemporary dance which offers a study program where the students' collaborative influence is emphasised in the curriculum. It is expected that the students through a dialog with the teaching staff will learn how they can discuss and reflect upon their own artistic practice. The empirical work is based on the students' own reflections and experiences of their training during a period of three years, as these experiences are expressed in students' logbooks. The individual training was guided through Engelsrud's teaching as well as her maintaining dialogues with the students about their experiences in the logbooks.

The role of the researcher, according to phenomenology, is conducted with awareness towards the experiencing student. The researcher influenced the students' embodied learning by teaching them, inspired both from scholars in phenomenology of movement (Rouhiainen, 2003; Sheets-Johnstone, 1999; Østern, 2009), and action research (McKerman, 1996; Schriver, 2003).

The students were guided to explore their own movements and asked to identify what kind of differences could be discovered between the part of the individual training that required hard work in order to develop and improve, and on the other hand, when to stop the striving, relax and be present to what is being experienced. The themes explored were among others: Intentional touch, inner expansion of breath, sensitivity to their own movement patterns with respect to levels of tension, inner spaces and volumes of body organs, nervous system and senses, balance in relation to visual perception. This is one example of how the students were guided:

We are going to spend some time on the floor; you can lie down and find the position that you find the most comfortable. Spend some time finding out how you would prefer to lie right now. Be attentive to the relationship between your body and the floor and allow the weight of your body to be just as it is. Pay attention to your breathing; allow your breathing to enter your body and slide out of your body. If anything I say or any sensations you have make you uncomfortable, allow space for this by taking a break. You need not think that you are going to change something, but attempt rather to be where you are, in your own body weight, against the floor.

The empirical material in the logbooks revolved around one main question: *what were the essential experiences of your individual training today?* After every training session the students were supposed to reflect on this question. Some wrote after every session, some seldom. All together the material from the logbooks consisted of about 200 pages of text. In the analyses, aspects of the lived experience were uncovered from the students' descriptions by a 'selective reading approach' from the researcher (van Manen, 1990, p. 93). The material was read through several times,



and analyzing the logbooks created an opportunity to gain insight into the students' embodied learning processes, expressed through their reflections about experiences (Schriver, 2003).

*Body and world.* For dancers, one crucial issue in the last decades has been the transformation from dance as a visual art form to an art form where communication is based on spaces of experience created between audience and artists. The research interest was to create a material that aimed to contribute to explore the dance students' bodily experiences. The phenomenologist Samuel Todes' perspectives on movement were chosen as inspiration for analyses (Todes, 2001). Todes is concerned with how movement is shaped by and shapes this field: '*through movement we do not merely notice but produce the spatiotemporal field around us, our circumstantial field, the field in which things appear to us and in which we feel alive*' (p. 49. Italics in original).

We could not feel alive in this spatiotemporal field if we were unable to move. Todes claims that the spatiotemporal field is a field of our needs, and as such it can endure only insofar as these needs are met by what appears in this field. The relevance of Todes for the analyses of the logbooks is that it provides a means for making sense of the relevance of the students' experiences and their longing to dwell in their own development of practical perception, questioning when to rest and when to push. Todes perspectives legitimates that it is enough for the students *to explore* their bodily situation and reality, sensations, emotions that reside in the feeling body.

*To endure one's own experience.* To endure one's own experience was challenging for the students. To be concerned with the outcome of the training and to have in mind 'I will be finished soon' was often a struggle that the students revealed in the logbooks. Todes wrote that:

The field of our experience can endure only so long as our experience is endurable. This implies that the regularity of our experience is a measure of the satisfaction of our needs and that all our needs must be to some extent satisfied if there is to be any experience at all (pp. 50–51).

To feel ones' body moment to moment implies to 'give into' the gravity, to stay present with the breathing, to be able to differentiate between stressed movement and movement that emerge from a soft strength. When the students discovered that the breath is rhythmic and that exhalation and inhalation is in sync with the movement, they discovered that there is a huge difference between mechanical and organic movement: When the students moved without breathing or sensing integration of different body parts, they described the movements as more 'machine like'. The students stated that they felt the movements as organic and connected when they had 'the whole weight and volume' present in the movement and let the breathing initiate the movement.

The majority of students expressed that they had less knowledge about how to observe and be sensitive to their body from what they felt inside<sup>3</sup> as compared to how the form of the movement looked in a mirror. Several emphasized that doing individual training also gave them a freedom to sense from the inside of the body.

According to Todes, 'to search for an objective account makes sense only on the presupposition that the felt world we actively live in is just as it appear to be' (p. 52). In line with the perspective of Todes, one student's wrote in the logbook:

The experience of me when I train is completely different from day to day. In the beginning of this session, I was filled with a guilty conscience about this, due to a feeling that I was working too little or poorly. I have understood this feeling, but not so often.

To cooperate with oneself and accept one's own experiences gradually became something the students really longed for. One student wrote: 'Most of all I long to lie down and do the kind of training that I feel that my body needs there and then'. The majority of the students wrote in the logbooks that their habitual thinking about the training program was to perform it as 'a duty'. However, as several of the students also stated, 'to do ones' duty' is not satisfying in the long run and this attitude toward training was not helpful in achieving more skilful movements.

*Attentive trying.* Through their embodied learning, the students' focus gradually changed from an orientation towards training as 'doing my duty' to 'being aware'. The expression 'allow the movement' is something that the students explored; as well as what 'I am active' means in relation to 'movements within me'. For Todes, movement consists of an active-passive relation, and it is exactly in this relation that movement happens. By developing an investigatory stance in relation to exploring own movements, others and the surroundings one can feel activity-passivity as a reciprocal relationship. This perspective supports students' cultivation of awareness in the body during moving. When the students realized that they felt something, even if it was dizziness or imbalance they could start to integrate movement that felt connected and satisfying. Relaxation into gravity and using soft breathing seem to be formative for such an integration.

The students experienced that to be present with whatever is available to them was beneficial for their embodied learning. It seemed satisfying for them that the starting point every day was to listen from and with the feeling body and perceive the environment. They learned during the practices to make more refined discriminations about how they moved during their training, and what became gradually clear to the students was that in attentive trying there is no striving to achieve a goal that can be describes apart from the activity.

## Discussion

In this article, we have provided two quite different examples of how embodied learning can be researched empirically. The aim has been to show concretely and practically how the potential of phenomenology, both as philosophy and as a methodological orientation, can be realized. In order to advance research on embodiment in movement practices where teaching and learning takes place we have suggested that it is important to uphold a distinction between phenomenology

as philosophy and phenomenology as methodological orientation in the study of embodiment and embodied learning.

We have argued against a conception of empirical, phenomenological research which holds that it is necessary to elaborate on the ontological and epistemological standpoints of the particular phenomenology at play. The reason for this is that this conception relies on what appears to be a false dichotomy between Husserlian and Heideggerian phenomenology. We hold that phenomenologically oriented researchers who are concerned with empirical investigations of embodiment should focus their attention on the results that the various phenomenological thinkers provide and how this can be brought to bear on their empirical work.

Looking at the two empirical studies presented here, it is clear that they are quite different in a number of ways: They take place in very different movement contexts (rehabilitation and higher dance education), the participants are different (people with disabilities and highly skilled movers), the time frame differs significantly (three weeks vs. three years), and the methods for generating data are different (field work with close observation and interviews, and an action research project). Perhaps the only thing in common between the two studies is the adoption and practice of a phenomenological attitude on part of the researcher and the use of phenomenological philosophy as theoretical framework.

In relation to phenomenology as methodological orientation, the position of the researcher needs to be discussed. As we have pointed out above, phenomenological research is characterized by an attitude of sensitivity towards the experiences of the research participants. This means that phenomenology is a specific perspective embodied and used by the researcher throughout the research process, characterized by an attitude with which the researcher sees the subject as an experiencing agent, acting in a specific context. This active and reciprocal relation between agent and world informs phenomenologically oriented research from the construction of the research question to the final analyses and presentation of the empirical material. Thus, as in all research the knowledge generated in such projects is colored or influenced by the perspective of the researcher.

A more thorough discussion of the consequences of the researchers' different positions in these two examples requires more space than is available here. However, in line with the topic of this article, it is relevant to say something about the way the embodiment of the researcher influences the knowledge generated. This aspect of how the position of the researcher influences the production of knowledge is given little attention in qualitative research in general. Burns (2006), for instance, holds that although researchers are expected to practice reflexivity concerning their own position as knowledge workers, this reflexivity has been overly cognitive and mental (e.g. concerning theoretical and methodological adherence) to the exclusion of reflexivity concerning the researchers' embodied engagement in the research experience. Similarly, Finlay (2006) argues that despite qualitative and phenomenological researchers' theoretical orientation towards the body as lived, and as our connection to the world and other people, the researcher's own body still is 'strangely absent' (p. 19) in this line of research.

Furthermore, in relation to interview research one of us (Engelsrud, 2005) has pointed out the importance of acknowledging the ‘unstated aspects of communicative situations’ (p. 271). In particular, she noted that both the expressed and the unarticulated bodily experiences that arise in research are relevant material for the analysis of data. She showed that—and exemplified how—the researcher’s lived body both enables and constrains the knowledge generated in an interview study. Thus, giving attention to the rather obvious, yet often unacknowledged fact that also researchers have and are bodies can further an understanding of the conditions under which knowledge is constructed in qualitative studies. On this issue more work is needed in qualitative research in general.

Both studies presented here rely to a great extent on phenomenological philosophy for interpretation of the empirical data. The works of Merleau-Ponty and Todes are fundamental to understanding bodily movements in general (Breivik, 2008), and teaching and learning in movement contexts in particular. To some extent, this topic has been explored non-empirically within philosophy of sport (e.g. Breivik, 2007; Moe, 2005, 2007; Hopsicker, 2009). Recently, empirical work on this topic has appeared in studies of dance (Bailey & Pickard, 2010; Rouhianen, 2003; Østern, 2009).

The two studies presented here bring out a productive tension within the phenomenological literature on embodied learning. In terms of the process of embodied learning, one such tension between the two studies is found in the distinction between acquisition of habits (Merleau-Ponty) and attentive trying (Todes). The learning process of the wheelchair users is described as a seemingly outwardly directed process, in the sense that learning takes place due to the learner’s ability of being able to perceive others’ movements and pattern one’s own movements along those lines. For the young dancers, on the other hand, the learning process appears to consist in the acquisition of a manner of being attentive to one’s own bodily experiences rather than paying attention to the expectations they perceived as important for training sessions. This is more of an inward process.

As pointed out earlier, it is important to not set up a dichotomy between inner and outer. This is particularly important in relation to the two studies presented above. If we were to think in dichotomous terms of inner and outer, one might think of the wheelchair users’ learning as merely an instance of socialization and the dancers’ learning as a process of improving their ability of introspection. Though there are elements of socialization and introspection, the imitation discussed in relation to the wheelchair users clearly is a creative process (Sheets-Johnstone, 2000) where skill learning is an amalgamation of the generality of the other and the specificity of the individual (Casey, 1998). Likewise, the bodily experiences of the dancers do not arise from within. Rather, as Todes (2001) points out, these experiences arise and endure in a reciprocal relation between the individual’s needs and the spatiotemporal field produced through movement.

Thus, a phenomenological approach to embodied learning shows in concrete terms how embodiment is located in the intersection between categories like inner and outer, and individuality and sociality.

One additional way of illuminating the productive differences between the two studies is by discussing more closely the notions of body image and schema. Whereas by means of the body image, the body becomes an intentional object, the body schema provides a marginal awareness of the body's postures and movements in space. One could possibly identify the former with the dancers' learning process and the latter with the wheelchair users'. However, as Gallagher (2005) points out, the body schema/image distinction carves up the conceptual landscape in a useful way, but in actual practice, the two systems interact in complex ways. Gallagher (2005) exemplifies this by saying that 'the dancer or the athlete who practices long and hard to make deliberate movements proficient so that movement is finally accomplished by the body without conscious reflection uses a consciousness of bodily movement to train body-schematic performances' (p. 35).

These intersections of dimensions of embodiment we have outlined here are necessary for a full-fledge understanding of embodied learning in movement contexts. Our observations of how embodied learning is conceptualized in the field of human movement studies tell us that it is a poorly understood concept. Indeed, at times the notion is used in a way that enforces the mind-body dualism that it tries to overcome.<sup>4</sup> Thus, it is abundantly clear that the notions of embodiment and embodied learning needs to be further elaborated through empirical work informed by phenomenology as philosophy.

In conclusion, we hold that it does not suffice to say that embodiment is a means for overcoming problematic dualisms. Embodiment is always embodiment for somebody, and as a key concept in many disciplines, it needs to be given form, content and substance in empirical situations. Our studies exemplify how embodied learning and embodiment are significantly meaningful when learners can discover, experiment, be present and learn from each other. We hope that this can stimulate conceptual and empirical work on embodiment movement contexts.

## Notes

1. Of course, this is not the only debate or problematic point in this literature. We pick up on this specific issue, because it forms an important starting point for a discussion of the relation between phenomenology as philosophy and as methodological orientation.
2. In both studies, the ethical guidelines of securing participants' anonymity and obtaining informed consent from the participants were followed.
3. Making reference to the 'inside' of the body might be interpreted as a dualistic. However, one should not see it that way, because as Merleau-Ponty (2002, p. 474) states: 'the world is wholly inside, and I am wholly outside myself'.
4. Examples are Tinning (2010) who sees embodied learning as 'the learning that resides in the body itself (in the muscles, neural pathways etc.) as distinct from the brain (as in mental, academic learning)' (p. 104) and Maivorsdotter and Lundvall (2009) who sees it as 'a knowledge that lives 'in the muscles' and because it remains embodied, individuals can in a sense do nothing with what they have learnt, they cannot 'use' it in any sense' (p. 277).

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