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Learning opportunities in the outdoor school—empirical findings on outdoor school in Germany from the children’s perspective

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ABSTRACT

This article examines learning processes and learning opportunities in the outdoor school based on 13 focus-group interviews with children (ages 8–9) at three German elementary schools. For 1 year, cross-curricular teaching had taken place once a week outside the classroom—in natural settings, at cultural sites or on school grounds. The article discusses the learning potential of the outdoor school in terms of activities that the children perceive as dominant, i.e. *playing*, *moving* and *social cooperation*. It will discuss and reflect upon the learning opportunities that arise as well as on the limitations of learning in out-of-school settings and the role of learning in the children’s perception. The study reveals that the outdoor school as a place of teaching, play, exploration and experience offers formal and informal learning opportunities and encourages children to engage among themselves and within their social and inanimate surroundings by challenging them physically, cognitively, perceptually and socially. Learning processes initiated through play, activity and social cooperation are often not perceived by the children as ‘learning’ in the formal sense. Apparently, a significant proportion of the outdoor school’s potential lies in the combination of teacher-structured and informal learning processes that arise spontaneously.

KEYWORDS

Learning; outdoor learning; outdoor school; Draußenschule; children’s perspective

1. A weekly ‘outdoor’ school day?!

Not only classrooms, but also natural and cultural locations too can be teaching venues and thereby inspire a wide variety of learning processes. The idea of children learning regularly and as an integral part of compulsory education at places outside the classroom is nothing new. Schools in Scandinavia as well as Scotland, England and New Zealand have been incorporating the local environment into their teaching activities for years, and this practice is frequently encouraged by educational policy initiatives (Bentsen, 2016; Christie, Higgins, & Nicol, 2016; Cosgriff, 2016; Fägerstam, 2012; Waite, Passy, et al., 2016). In Germany, in contrast, visits to out-of-school places are generally organised as occasional excursions within specific subjects or as interdisciplinary week-long projects (Erhorn & Schwier, 2016). The idea of regular ‘outdoor school days’ is fairly new in German schools (Gräfe, Harring, Sahrakhiz, & Witte, 2015).

This article presents the empirical findings of a 3-year project on the *Draußenschule* (outdoor school) that ran in Germany from 2014 to 2016. This scientifically monitored project, which for the first time created wider public awareness for the concept of the outdoor school in Germany, was initiated, tested and evaluated at three public elementary schools. It was run by the Johannes Gutenberg University of Mainz and *Deutscher Wanderverband* (German Hiking Association) and was sponsored by the German Federal Agency for Nature Conservation with funding from the German

Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety. The three schools were located in different regions of Germany, two of them in a rural area, the third in an industrial part of a city—and the three participating classes were all second grades (ages 7–8). Starting in summer 2014, out-of-school places were visited once a week in the course of everyday teaching and for the mission of teaching the curricula of all subjects with an interdisciplinary approach. The outdoor school days include teacher-directed activities as well as children's free play-based activities. During structured activities, where children often work in groups, a variety of teaching methods is used. Following the example of the Scandinavian *Udeskole* model (Bentsen, 2016; Nielsen et al., 2016), the outdoor school stands for regular opportunities of education outside the classroom, the use of indoor and outdoor locations in the local environment (forests, factories or the schoolyard). Previous studies within the *Draußenschule* project have focused on the children's views about the outdoor school from an action-theoretical perspective that identifies three dominant activities: (1) playing, (2) moving and (3) (social) cooperation (Witte, 2015). Since the German outdoor school takes up an entire school day per week—and thereby a significant proportion of school time—this article seeks to identify the learning potential inherent in these outdoor school activities.

We take 'learning' to mean a holistic process of explorative learning. Learning by discovery denotes a learning process in which the primary focus is on the learner and his or her own activities rather than on the teacher and the processes by which knowledge is imparted. The role of the teacher is to offer learning arrangements, which enable children to discover themselves and their environment (Huber, 2009). In the outdoor school, learning by discovery can occur in both formal and informal learning processes. Following Dohmen (2001, p. 19), *informal learning* is understood as denoting conscious and unconscious learning processes that are often unintentional and casually initiated. These processes also occur within the school context, (e.g. during peer interactions conducted parallel to the teaching activities) (Harring, Witte, & Burger, 2016, p. 18). *Formal learning* denotes learning processes that take place methodically and in specially designed educational settings. From the learner's perspective, formal learning is goal-driven and geared towards formal qualifications and certifications (Overwien, 2007).

After summarising the current state of research, we will describe the methodology of our study. Subsequently, we will present our central findings, including a discussion of learning opportunities in the outdoor school, before coming to our conclusions.

2. Current state of research

To date, international studies show a generally favourable perspective on learning at out-of-school places. This perspective is also evident in Rickinson et al. (2004), a meta-analysis of 150 studies on outdoor learning. Children benefit in various ways from outdoor learning, with positive effects on their ability to concentrate, their motivation for learning, their health and well-being, their personality development and their acquisition of social competences (Rickinson et al., 2004). In recent international studies, teachers state similar positive effects of school-based outdoor learning and furthermore acknowledge that it helps to promote cooperation and social relations in class (Mannion, Mattu, & Wilson, 2015; Norðdahl & Jóhannesson, 2016). Studies indicate that the collaboration and participation of children in school also improves to some extent (Fägerstam, 2012) and they become more sensitive to the natural environment (Norðdahl & Jóhannesson, 2016; Waite, Passy, et al., 2016). Outdoor learning has also been reported to result in small improvements in the mental health of (male) schoolchildren (Gustafsson, Szczepanski, Nelson, & Gustafsson, 2011). As limitations to this body of research, it is noticeable that, in these studies, information about the children is often gathered from teachers or parents. In addition, studies on learning outside the classroom do not always refer to concepts identical to the 'outdoor school'.¹ The amount of time spent outdoors can vary as well as the intervals between outdoor learning sessions, the curriculum emphasis, the nature of the locations and the person running the lessons (teachers or external

specialists). Publications that adopt the children's perspective and examine *regular* cross-curricular learning at out-of-school settings can be found in Scandinavian countries, the United Kingdom and recently in Germany as well.

2.1. Scandinavia

A comparative case study at a Danish *Udeskole* (outdoor school) by Dietrich, Jacobsen, Mygind, and Stelter (2002) examines the interactions of schoolchildren with one another, their surroundings and teachers. Based on observations and photo analyses, the study concludes that the forest—a setting of the outdoor school—is a stimulating environment, encouraging children to engage exploratively and creatively with their surroundings. It challenges them to act with greater autonomy and to negotiate with teachers and other children (p. 286). Additionally, both the children and the teachers can try out new social roles. The outdoor setting therefore grants them opportunities to change their position within the group (p. 286). From 2000 to 2003, Mygind (2007, 2009) observed a Danish elementary school class with a weekly *Udeskole*. Using motion sensors, he shows increased activity levels of children on outdoor school days in the forest compared to regular schooldays (Mygind, 2007). The outdoor school can therefore have health benefits and—since physical activity is an integral part of various teaching and learning processes outdoors—even less active children who do not particularly enjoy physical education in school may benefit from the outdoor school, according to the report (p. 174). Quantitative interviews with schoolchildren by Mygind (2009) additionally indicate that the children (1) have a positive attitude towards the outdoor school and learning outdoors; (2) are aware of being more physically active during days spent in the forest; and (3) can forge new contacts among one another outdoors (p. 167). However, the new social constellations are generally limited to the time spent outdoors and rarely lead to changes in the children's interactions back in the schoolyard (p. 165). In a follow-up study, Hartmeyer and Mygind (2016) interviewed two teachers and five adolescents about their experiences in the *Udeskole* 7 years before and about their subsequent period at school without the *Udeskole*. It emerged that, in the outdoor school, it was most notably the possibilities for play, interaction and participation as well as the implementation of child-centred teaching methods that allowed children to engage with one another more intensely and in different constellations, improved the social relationships within the class and fostered social competence (ppp. 83 f.). Although new contacts forged outdoors rarely brought about changes in the friendship structures in everyday school life, they did, in the opinion of the interviewees, result in good cooperation and good social relationships within the class even in the years after the *Udeskole* (ppp. 85 f.).

Fiskum and Jacobson (2012) conducted comparative observations at an *Uteskole* (outdoor school) in Norway to determine how the schoolchildren's social behaviour differs between outdoors and in the schoolyard. They conclude that the different spatial conditions of the outdoor school have positive effects on physical activity, concentration, emotional equilibrium, participation, speech and motor activity (p. 49). The results of their case study also lead the authors to conclude that learning outdoors helps to reduce 'negative behaviour'.

2.2. United Kingdom

In the United Kingdom, a number of studies focus on outdoor learning opportunities that differ from the here described 'outdoor school' concept. Forest schools as well as some residential outdoor education programmes do not necessarily have to be a regular part of compulsory education for schoolchildren throughout the school year (Waite, Bølling, & Bentsen, 2016). In an English case study, Waite (2007) examines not only in schools, but also in other educational settings the factors that cause children (aged 2–11) to remember their outdoor learning experiences. She stresses that possibilities for autonomous action, interest-based learning and challenges arising spontaneously are crucial for memorable, positive outdoor school experiences that can have

a motivating effect (pp. 344 f.). Recent results from the English *LINE*-project, where *Learning outside the classroom In the Natural Environment* is an integral part of teaching, come from Waite, Passy, et al. (2016). The study includes quantitative interviews at 125 project schools as well as a number of case studies. The project report (Waite, Passy, et al., 2016) summarises the preliminary results of comparative interviews with teachers and children. According to the report, 'there was an implicit understanding in all case-study schools that children's health and wellbeing were improved through LINE' (p. 81). Here, specific aspects of health and well-being showing beneficial effects are not specified. Talking with the children, the report claims that lessons outside the classroom on school grounds or in the local environment are perceived as free of learning pressure and as opportunities for exploring, reflecting and engaging in physical activity (p. 10). The children also mention contact with nature, the vividness of outdoor teaching, learning with all their senses and opportunities for new experiences as being special compared to everyday school life (p. 79).

2.3. Germany

For Germany, Dettweiler and Becker are conducting a quantitative comparative study (2016) among fifth-grade grammar schoolchildren in the context of the Heidelberg outdoor school project *Ein Jahr im Wald* (A year in the forest). Questionnaires are being used to determine the effects of outdoor learning on the children's motivation and their understanding of and relationship with nature (p. 103). The authors conclude that the children receive more opportunities to assimilate science information autonomously, emotional involvement increases and transfer benefits improve when learning out-of-doors. They also experience heightened self-efficacy, social involvement, autonomy and increased motivation to study (p. 109).

In the context of the *Draußenschule* project presented here, qualitative studies from a German research group examine outdoor school from a children's perspective (Witte, 2015). Thereby, Witte (2015) concludes based on the analysis of 16 focus-group interviews that children perceive outdoor school days as less demanding in terms of learning and performance and as accommodating their desire for play and physical movement. He critically points out that although children interact in different constellations during group work or play, role ascriptions from everyday school life often remain in force outdoors. Back on the school ground, the outdoor school seems to have very little effect in terms of changing existing peer relationship structures (p. 25).

3. Design and method

The empirical basis of this article is provided by 13 focus-group interviews (each conducted with three to four children aged 8–9) in which all 50 children from the three classes of the German *Draußenschule* project participated. The interviews were held in June 2015, at the end of one school year with a weekly outdoor day of at least 4 h. Together with the teacher and sometimes accompanied by school-external experts (e.g. nature or museum guides), the classes first met in the classroom and then went to locations in the local environment, mostly natural places (e.g. forests, parks, riverside), sometimes cultural and urban places (e.g. museums, factories, libraries). On rare occasions, outdoor school was held on school grounds outside the school building. In the outdoor school, time was provided for teacher-directed curricular-based activities and for children's free play. Since the outdoor days were prepared and guided by the teachers who also supervised preparatory previous and follow-up activities in the classroom, indoor and outdoor teaching were closely connected to each other and to the current thematic learning processes within the subjects (e.g. in mathematics, language, biology, history or arts).

All focus-group interviews were conducted at the schools by researchers whom the children already knew from previous visits to the school as participating observers. The interviews followed predefined guidelines. However, they also offered scope for the children to address issues of their own choosing, to discuss issues among themselves and to mention aspects they considered

relevant. The focus groups discussed on perspectives on school, activities, topics and experiences concerning the outdoor school as well as children's relationships with their peers and their teachers. When children talked about teaching subjects, 'learning' or 'play', they were asked to describe activities or to give further explanations. In doing so, we aimed to gain an understanding of their perception and use of these terms (Fuhs, 2000). All 13 audio-recorded focus-group interviews were transcribed according to the rules of 'TiQ—Talk in Qualitative Social Research' (Przyborski & Wohlrab-Sahr, 2009) and then analysed using qualitative content analysis (Mayring, 2008). The review of the large amount of data was followed by the structuring of the content from the perspective of narrated activities (main category: activity). We reconstructed the three sub-categories out of the dominant outdoor school activities 'playing', 'moving' and '(social) cooperation'. In a next step, the learning potential inherent in these activities was reconstructed in interpretative steps of analysis where the discussion and consolidation of appropriate sequences happened in the research group.

4. Results

4.1. Playing

The interviewed children show a very positive attitude towards the outdoor school. They see the weekly outdoor days as particularly attractive because they represent an opening of the school and the teaching context to new spaces and an enlarged scope of activity. When the class visits the nearby forest (ES2, Gr.B, l. 278),² public library (ES3, Gr.D, l. 215) or a castle (ES3, Gr.D, l. 274), there are always opportunities for play. Like regular school days, the outdoor day is divided into various *units*. One of the boys reports: Upon arriving in the forest, the children first have breakfast, 'after that we play and then we also learn stuff' (ES2, Gr.B, l. 311). Playing and learning are construed here as two activities that are distinct from each other. When the children talk about 'learning', most of them refer to abstract intellectual activities: acquiring knowledge of facts and rules as well as learning cultural techniques like reading, writing and counting (e.g. ES1, Gr.D, l. 564 f.). Another boy distinguishes not between playing and learning, but rather between *children's free play time* and *teacher-directed phases*: 'First we have to have breakfast, then the teacher* tells us and then we're allowed to play and then we have to do a fitness course and then it starts' (ES3, Gr.A, l. 1400 ff.). The example indicates that the guided phases evoke a feeling of being subjected to heteronomous control: in the children's statements, *being allowed to play* is juxtaposed with *having to do* other activities.

Although temporal structures may have a limiting and circumscribing effect also in the outdoor school, the fact that there is no school bell and no changing of teachers from lesson to lesson allows for greater flexibility in the allocated time. Spatial and temporal boundaries dissolve since the children are in immediate contact with the objects around them and are thus continually challenged to appropriate the out-of-school space as an environment for teaching, play and discovery. As they playfully and curiously explore their surroundings while searching for animals, plants and other things, they independently access the forest and its habitat as a setting for explorative learning. Moments of informal learning occur within the context of 'spot the X' games and discoveries. Since the teaching space of the outdoor school coincides with the space for play and exploration, there is a constant succession of informal learning opportunities. These can be more readily integrated into the teaching process and formal learning processes than similar opportunities arising on 'regular' school days. The incorporation of topics and activities of the children's choosing can be seen as a child-centred teaching method which has been reported to have positive effects on children's motivation during lesson (Krapp, 2010, p. 19).

However, doing so 'on the fly' may present great challenges for the teachers and demand a high degree of flexibility; it may even involve surrendering some control: 'In the outdoor school ... she [the teacher] hardly ever really looks behind her. So we can always play secretly. Here [in the classroom] she catches everybody, every time' (ES1, Gr.B, l. 1684 ff.). Embedded in the institutional

order of the school, the children experiment with their roles as learners. It is noticeable that the outdoor school offers opportunities for the children to evade the teacher's instructions and to use the stimulus-rich natural environment for their own explorative activities. Playing behind the teacher's back is a particularly appealing prospect. Here, the boys can bring their Star Wars heroes to life and fence with sticks, even though doing so is forbidden (ES1, Gr.B, l. 1630). Apparently, the children perceive themselves as having agency; the game is a means to independent, self-determined activity. In taking on different roles, the children also create 'as-if realities' (Baer, 2008, p. 155) in which they can test themselves, for instance by climbing on the climbing net while pretending to be mountain climbers in a video game (ES1, Gr.E, l. 239). The object is to perform tasks and surmount challenges as chosen by the children. According to Baer (2008, p. 155), play is 'a great area of freedom to experiment, try out, act out and relax from the constraints of everyday reality'. It is characterised by voluntariness and purposelessness (p. 156). By testing themselves, imitating, simulating and imagining in the outdoor school, the children playfully explore their surroundings and gather experience while also being able to acquire knowledge. In addition to effecting an increase in knowledge about, for example, objects and relationships in nature, Baer (2008, pp. 156 f.) argues that 'because of their specific properties, play processes are particularly suitable for facilitating certain domains of learning'. These include social behaviour, perception, dexterity, articulacy, imagination and creativity (pp. 155 f.). These learning domains are also evident in the children's play activities: cooperation, consideration and communication are necessary prerequisites to engage with peers. Collecting animals, plants, stones and sticks requires great concentration; climbing requires dexterity; and creativity is needed for playing made-up role-playing games.

The children emphasise playing as one of the dominant, if not the most dominant, activity of the outdoor school. A closer look at the already mentioned different types of play show, they refer both to (educationally) purposeless, self-determined games with peers and to *educational* games initiated and guided by the teachers. Thus, games can become part of organised, structured and controlled learning arrangements. The children mention games of skill (ES2, Gr.A, l. 139 ff.), hide-and-seek and 'spot the X' (ES2, Gr.A, l. 870 ff.) as well as arithmetic (ES1, Gr.D, l. 505 f.) and sports games (ES2, Gr.B, l. 352 ff.), which challenge them physically, cognitively and socially. Unlike *free* play which the children engage in out of an intrinsic motivation (i.e. on account of the inherent appeal of the activity itself), *educational* play takes place in response to instructions given from the outside with the general purpose of achieving curricular goals. Nevertheless, the numerous possibilities offered by games (even guided games) allow the children to experience greater autonomy of action having a positive impact on their motivation (Hauser, 2011, p. 12). The wider space of the outdoor school seems to provide a greater domain than the classroom for conducting educational games. Also, disorder, noise and tight limitations of space—arguments commonly cited against using games for teaching (Baer, 2008, p. 159)—may be less problematic in the outdoor school.

The boundary between learning and playing dissolves in educational games. The learning activity apparently takes precedence over the experience of play in the children's perception as can be seen in the following example. The rules of a Memory game were explained using real pieces of tree bark, and this in turn was construed as a method of knowledge acquisition: 'There's all kinds of different trees, we learned that today with this Memory game' (ES2, Gr.B, l. 257 ff.). The children's experiences with the pieces of tree bark can be used as a foundation for subsequent learning processes and for more abstract work, such as using pictures and text in the classroom.

Clearly, play activities in the outdoor school often involve movement and have an interactive character. Because play, movement and social cooperation are closely interlinked, they cannot always be isolated from one another analytically. This should be taken into account when we examine *movement* in the following section.

4.2. Movement

Leaving the school compound is inevitably linked to activities involving movement. Following Laging (2008, p. 255), movement is interpreted as being an end in itself. It is focused on realising and completing motion-related tasks. According to this, jumping over obstacles or playing ball can also be seen as movements performed for their own sake. Movement and the body are also relevant in learning processes. For one thing, processes of learning and education are unthinkable without the physical, corporeal aspect of the human being. The body is an instrument of cognition, and one of the ways in which people learn is through sensory experience (Bietz, Laging, & Roscher, 2005). The weekly outdoor days spent in different natural and cultural spaces appear to increase the significance of the children's sensory experiences (Witte, 2015). Additionally, physical movement in the school context is believed to have positive effects on the children's concentration, ability and academic performance (Carlson et al., 2008; Shephard, 1997). While heading towards various places of learning, most of which can be reached on foot, the children have opportunities for physical activity and for performing or trying out different types of movement—from climbing and crawling to jumping or running. This *freedom* of movement is generally welcomed by all children. They consider it as one of the crucial differences between regular teaching and outdoor school. One of the girls reports:

I always think it's good that you don't always have to sit indoors because then we also get to walk around outside and play ... when you're sitting indoors you don't get so wide awake, but outside you always do. (E52, Gr.B, l. 956 ff.)

Unlike activities during physical education lessons, this *walking around* in the outdoor school does not serve an externally imposed purpose. Nevertheless, walking around outside does have an effect which the girl describes as activating and invigorating. An *alert* mind is a good thing since there is much to investigate outdoors. As opposed to sitting in the classroom, walking through nature induces the children to engage with their surroundings physically as well as cognitively. One child remembers:

The teacher* said: Wait a moment, let's look at the stream. Because I ran ahead and I said, There's a little stream here! But then I immediately went and jumped right across it. (E52, Gr.C, l. 176 ff.)

The stream, the learning object selected by the teacher, invites the children to jump across it and test their physical prowess. Other children report having chosen other forms of access such as wading in bare feet through the stream in bare feet and feeling how cold the water was (E52, Gr.C, l. 114 ff.). These physical experiences should be seen as *learning* experiences; children experience both their surroundings and themselves through movement. Thus, the outdoor school enables the initiation of learning processes through the children's bodies, and these processes (can) accompany or supplement formal learning processes. All focus-group interviews show that children form associations between physical experiences—feelings, sounds, or opportunities to test their physical prowess—and the subjects and contents of the school curriculum (e.g. E51, Gr.A, l. 600 f.). For example, the majority of the children spoke about an auditory experience when they 'examined trees with a stethoscope, I mean I kind of heard ... I heard the sound of water' (E51, Gr.D, l. 659 ff.). This was 'because the sap flows up to the ... leaves ... from the roots' (E51, Gr.D, l. 709 ff.). Unlike the abstract imparting of information, the out-of-school setting involves both mind and body in the process of understanding. When children can engage actively with their surroundings, curricular subjects can be more directly *grasped* and acquire an immediate relevance. Special physical experiences form a contrast with everyday classroom teaching during which physical experience usually plays a subordinate role. They are also crucially important components of holistic learning processes, since they can form the basis for knowledge to be expanded at a later date.

The outdoor school setting provides *different* impulses for physical activation and engagement than the schoolyard. Quite casually, the children can experience their bodies in motion in various, and sometimes unfamiliar, ways. These physical experiences chosen autonomously can open up numerous opportunities for informal learning. For example, climbing and jumping allows the children to challenge themselves and practice sequences of movement of their own choosing. Since the (preferably natural) spaces of the outdoor school are less functional than the schoolyard,

the playground or the gym, the children are challenged to be creative. One girl gives a graphic account of a shared experience:

We yelled, there's a pigsty here ... we raised our arms and totally went sliding down [the hill]. And our backsides were full of mud and our pants, everything. And it ... felt slimy ... ((laughs)). (ES1, Gr.D. l. 485 ff.)

Here, the activities are less dictated by preexisting playground equipment; rather, the children interpret the downward slope of a hill as a slide. In this context, movement also functions as 'the expression of a socio-physical relationship of motion' (Laging, 2008, p. 256). The shared physical activities cause the children also to bond with one another. At the same time, they can simultaneously exclude others: a few children were unable to participate 'because we had street clothes on, not mud pants' (ES3, Gr.B, l. 86 ff.). Similar to physical education lessons where sneakers and sportswear are needed, the outdoor school cannot be seen as an *unconditional* space for movement, since specific clothing or equipment may also be required sometimes.

Movement is not only implicitly linked to other activities, but occasionally is the main objective of teaching activity in the outdoor school. Some children are also critical of some physical tasks not of their own choosing, which test the limits of their physical capacity, especially the requirement of walking long distances. One child reports about such a situation where after 'almost two hours ... my feet had had it. I just couldn't walk any more' (ES1, Gr.A, l. 92 ff.). In another school, a girl says, looking for her classmate for corroboration: 'Sometimes even when we're tired, the teacher* still pushes us to keep going ... "Come on, only a little bit further!"' (ES2, Gr.C, l. 1592 ff.). In movement, as in free and guided play (see Chapter 4.1), self-determined physical activity often proves to be a different matter than the performance of specific activities that were not autonomously chosen. Nevertheless, such moments of struggling with a certain task or physical challenge provide important body experiences that hold the potential to change the children's perception of themselves and the world, possibly initiating additional learning processes.

4.3. Social cooperation

In the following, we will focus on learning opportunities that present themselves in the course of social interactions in the outdoor school—i.e. in situations where children learn from and engage with one another. Peer relationships and friendships in general are extremely important to children in their everyday school lives; they are also known to be partly responsible for determining whether or not a child likes going to school (Maschke & Stecher, 2010, p. 31). It seems that peer relationships are even more important on outdoor days. While in general 'School ... is a place where lesson time is devoted to study and free times [e.g. recess] are for spending with friends' (Aghamiri, 2016, p. 34), the boundaries seem to be more fluid in the outdoor school. Because the children are in constant motion rather than being separated by a fixed seating order, both children and teacher(s) can interact in a variety of ways and form social relationships.

Although school classes are communities of *purpose*—(pre)defined groups of peers brought together primarily for the sake of learning as part of compulsory education—children form communities of *choice* within these classes. Accordingly, the children often talk about certain others—a 'buddy' (e.g. ES1, Gr.E, l. 238) or 'friend' (ES1, Gr.E, l. 255)—with whom they shared experiences in the outdoor school. Existing relationships prove to be relatively stable, i.e. many children often tend to spend their outdoor days in the company of the same classmate(s). Two girls describe the importance of their reference persons as follows:

(Eva*) I like it when we get to play in the forest and ... on the playground and especially when Arianna's* there.

(Arianna*) Yes, so do I, because I, when Eva* isn't there, I can't play. Because then I don't really have another friend. (ES3, Gr.D, l. 522 ff.)

The example indicates that for the girl Arianna, when her best friend is not there, the time outdoors is a lot less fun and her absence may even create feelings of loneliness. Along with the great importance of friends, two of three classes interviewed exhibit a preference for associating with peers of the same sex (e.g. ES1, Gr.B, l. 1630 ff.; ES3, Gr.B, l. 60 f.). This is not unusual given the young age of the children (Gifford-Smith & Brownell, 2003, p. 266). Interactions across gender lines frequently give rise to negotiation processes. This is particularly evident in one of the three outdoor school classes where girls and boys describe what almost constitutes a 'battle of the sexes'. It is waged not only verbally—referencing a rap song from a current children's movie in the war cry *Boys against girls, girls against boys* (ES3, Gr.D, l. 306)—but also physically: 'Sometimes they push us!' (ES3, Gr.D, l. 746) or 'they pull ... our hair! And steal our hats' (ES3, Gr.D, l. 748). When the children take a stand as girls or boys against the opposite sex, they engage with their own gender identity and test themselves within their gender roles (Maihofer, 2015). Physical altercations can be a medium for them to test their own limits and negotiate peer relations. But these quarrels may also be about immediate contact and encounters with others. The rap song indicates that there is also a playful dimension to these physical altercations. In the outdoor school, the peer relationships constitute a specific experiential space in which processes of exchange and negotiation can initiate learning processes about social relationships and their dynamics. The interactions may also help to draw the teacher's attention to social relationships, social behaviour and problems with social cooperation within the class. Subsequently, social learning can be incorporated thematically and methodologically into lessons and can be integrated into opportunities for formal learning (e.g. in mixed-gender group projects and socio-pedagogical activities to foster the team spirit of the class). In general, the teaching of social skills alongside the imparting of academic knowledge ranks as one of the core tasks of the school (Bittlingmayer & Bauer, 2008, pp. 164 f.).

Opportunities for social learning may also be offered by unexpected events in the outdoor school and by difficult situations, which the class experiences and deals with as a group. Many children in one class remember the time when a classmate tried to run away on an outdoor day and they together handled the crisis:

That was really awful when she ran away ... we said, we've got to get to Ricarda* before she runs into the road ... and then we grabbed her, really, we sat her down on the bench, Emanuel* totally held onto her. (ES3, Gr. C, l. 658 ff.)

In the children's view, the responsibility for dealing with the situation rests not only with the teacher, but with themselves as well as they are emotionally involved in the crisis. Mack (2008, p. 151) notes that 'crises and difficulties ... represent special tasks which the subjects must master'. When children are obliged to cope with stressful situations which 'diverge from a supposed normality and demand actions and behaviours that ... are connected with considerable effort or exertion' (p. 146), important learning opportunities may arise and children are given the opportunity to test new or unfamiliar modes of action. In the given example, they deal with the situation by assuming a role they are not usually called upon to play in the everyday school context: that of supervision and control. They assume responsibility of action themselves instead of leaving supervision entirely up to their teachers. Their choice of *we* as the personal pronoun indicates that the class feels involved as a community and acts collectively. Dealing with the situation as a group may also help to strengthen social cohesion within the class. The example leads to the assumption that in such an authentic situation also interpersonal values like mindfulness and concern for others gain added significance. Consequently, events unfolding in this environment may trigger learning processes aiding the acquisition or development of social competence. The example discussed here required the children to assess and evaluate a situation, which arose in the course of group interaction and challenged their empathy and ability to cooperate. The teacher can follow up by reflecting and discussing social questions during lessons.

It can be noticed that the outdoor school allows for experimentation in social interactions. Nevertheless, ascriptions from day-to-day school life sometimes may be reproduced outdoors. For example, in one class all interviewed children agree: 'The worst one in our ... class is Peter* ... he's always causing trouble' (ES1, Gr.D, l. 170 ff.). Even in the outdoor school, the outsider seems unable

to escape his ascribed role. One girl declares: 'I'd never let Peter* out because it wouldn't be good for the animals ... because he's always so noisy' (ES1, Gr.D, l. 438 ff.). Here, Peter is identified as the Other by his classmates. At the same time, teachers too should take care not to reproduce ascribed social roles. When the children discovered a reptile, Peter remembers: 'They all got to hold the reptile in their hands and then I wasn't allowed to hold it' (ES1, Gr.B, l. 312 f.). Although the scene takes place in a *different* educational setting, in this case the child is not permitted to show himself, or to be perceived, *differently*. The episode indicates that social roles cannot always be overturned simply by leaving the classroom and that team spirit in a class does not automatically improve by engaging in shared activities. Teachers should be aware to reflect also on their own actions and the social cooperation of the class in order to foster social learning.

5. Conclusion

The outdoor school stands for an additional educational and experiential space outside the school premises in which children receive holistic stimulation on a physical, cognitive, sensory and social level. Looking at the children's narratives, we argue that play, movement and social cooperation—the outdoor school activities that predominate from their perspective—offer learning opportunities that may supplement planned learning processes or open up additional learning processes. The typically natural locations of the outdoor school provide formal and informal settings in which children are stimulated to engage with each other and their social and material surroundings. The outdoor school is characterised by multiple opportunities for play and movement enabling the children to learn with and through their bodies even while teaching is in progress. Also, when academic subjects and curricular contents are being taught outdoors, they can be directly experienced in real-life contexts that allow their relevance to become immediately obvious. Moreover, group activities are dominant in the outdoor school both during teacher-directed periods and during free times in which children are able to pursue activities according to their own interest. Therefore, there is an added emphasis on the importance of social cooperation. Learning processes initiated through play, activity and social cooperation are often not perceived by the children as 'learning' in the formal sense. Consequently, they tend to perceive the outdoor school as a space for self-expression rather than purely as a teaching space. The potential of the outdoor school lies in the combination of planned, formal learning processes and informal ones that arise on an ad-hoc basis. To exploit this potential, however, it is necessary to transfer informal learning impulses into conscious learning processes. This invariably places added demands on the teachers, who must take care in their preparatory and follow-up activities to avoid limiting their attention to the curricular contents taught in the outdoor setting. Learning processes that arise spontaneously and relate the curricular contents to events occurring outdoors must also be taken into consideration. The extent to which learning takes place within and by means of the outdoor school depends not only on the repeated practicing of skills, but also on the ways in which experiences and knowledge are carried over into other contexts including that of classroom teaching. Thus, teachers are advised to also pick up on informal learning opportunities and transfer them into formal ones.

Our findings show that the outdoor school is, on the one hand, an area of potential offering opportunities for a variety of learning processes and, on the other hand, an area of boundaries. Outdoor school days and everyday indoor learning are settings that are mutually determined by each other: the children experience structural transfers between the classroom and the outdoor space in the form of social roles, norms, activities and themes. To transcend the boundaries of everyday school life—assuming this is a desired end—it is not enough simply to move to a different location.

Notes

1. The practice of teaching at out-of-school locations goes by a number of different terms in academia and in practice (e.g. *Draußenschule* in Germany) (Witte, 2015); *Udeskole* in Denmark (Bentsen, 2016) and *Outdoor Education/Learning/Schooling, Education/Learning Outside The Classroom* in the English-speaking world (Mannion et al., 2015; Rickinson et al., 2004). Some terms are not clearly defined and the concepts can vary from country to country, but also within one country from school to school (Rickinson et al., 2004; von Au, 2016).
2. References denote the elementary school (ES1–3), the focus group within the school (Gr.A–E), and the line numbers in the transcript. Anonymised names are marked with an asterisk. All statements were translated from German into English.

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