



Children's views and preferences regarding their outdoor environment

Kristín Norðdahl & Jóhanna Einarsdóttir

To cite this article: Kristín Norðdahl & Jóhanna Einarsdóttir (2015) Children's views and preferences regarding their outdoor environment, Journal of Adventure Education & Outdoor Learning, 15:2, 152-167, DOI: [10.1080/14729679.2014.896746](https://doi.org/10.1080/14729679.2014.896746)

To link to this article: <https://doi.org/10.1080/14729679.2014.896746>



Published online: 31 Mar 2014.



Submit your article to this journal [↗](#)



Article views: 5337



View related articles [↗](#)



View Crossmark data [↗](#)



Citing articles: 23 View citing articles [↗](#)

Children's views and preferences regarding their outdoor environment

Kristín Norðdahl* and Jóhanna Einarsdóttir

School of Education, University of Iceland, Reykjavik, Iceland

This study aims to enhance awareness of what young children want to do outside and their preferences regarding their outdoor environment. Views of children as active participants, the affordance of the environment and the importance of place for children's learning constitute the theoretical background of the study. The study was part of a research and development project on education for sustainable development in which preschool children and compulsory school children participated in decision-making about how their common school ground should be constructed. Data were gathered through observations and interviews with children and teachers. The findings show that the children wanted to challenge themselves as well as to be secure, explore things, be in contact with others, find or create nests and enjoy beautiful things outdoors. The children highly valued the natural environment and liked diversity in playground equipment.

Keywords: school outdoor environment; young children's views and preferences; participation; children's perspectives

Introduction

In Iceland, most children aged two to five spend eight hours a day or more in preschool (Statistics Iceland, 2011). At the age of six, children begin compulsory school, and many of them attend after-school programmes (Pálsdóttir & Ágústóttir, 2011), usually located in the schools or in buildings within the school grounds (The City of Reykjavík, n.d.). In Icelandic preschools, children typically play outside for at least one hour daily in all types of weather. In the compulsory schools, on the other hand, children's outdoor playtime is usually limited to recess periods, the longest ones generally lasting about 20 minutes, and occasional outdoor lessons. However, children can play in the schoolyard as part of after-school programmes.

Schoolyards at Icelandic compulsory schools usually contain playground equipment, spaces for ball games and large flat areas with little vegetation. The yards are not usually fenced. Outdoor areas at preschools, however, are generally enclosed with a fence and have more vegetation; more thought is also given to opportunities for children's play and learning.

Keeping this in mind, one can say that nowadays schoolyards and playgrounds constitute the outdoor environments most familiar to young children; it is therefore important to consider carefully what kinds of experience these environments may offer. One way to address this is to find out what children, who are the most frequent users of these environments, have to say about them. This article focuses on children's interests

*Corresponding author. Email: knord@hi.is

regarding the activities they want to do in their school and preschool outdoor environment, and the kinds of environments they prefer for such purposes.

Background

The first author's background as a biology teacher and interest in whether young children want to use nature in their play and learning, as well as how they wish to do so, have influenced the choice of topic and how the data are interpreted. The study was part of a research and development project on education for sustainable development (ESD). According to UNESCO, the aim of ESD is:

... to help people to develop the attitudes, skills, perspectives and knowledge to make informed decisions and act upon them for the benefit of themselves and others, now and in the future. ESD helps the citizens of the world to learn their way to a more sustainable future. (UNESCO, [n.d.](#))

This study is thus influenced by the view that it is important to involve children in decision-making about their environment. The study was conducted as a part of a school project where teachers worked with children on what kind of opportunities they wanted their school ground to offer and how they wanted the environment there to be. In this way, their attention and interest were focused on their local environment and also that they themselves could affect how it would be designed. ESD holds children's participation in projects regarding their local environment to be important. Emphasis is placed on children's participation in decisions relating to the environment, encouraging them to act on their decisions about their experiences in ways that are connected to their own well-being and to that of others (Breiting, 2008). Ärlemalm-Hagsér (2012) points out that the most important element of ESD is children's participation, especially their opportunities to experience themselves as agents for change. This provides children with the potential to discover that they can affect their environment and thereby exercise their influence in the community.

According to the Icelandic Act on Preschool Education (No. 90/2008) and the Act on Compulsory School Education (No. 91/2008), the role of schools is to prepare children for participation in a democratic society. Thus, this study is also influenced by the view of children as capable, competent and active thinkers who have something special to offer and from whom grown-ups can learn (see, e.g., Clark & Moss, 2001; Dahlberg & Moss, 2005; Einarsdóttir, 2007; Harcourt & Einarsdóttir, 2011; Schiller & Einarsdóttir, 2009). The Convention on the Rights of the Child (United Nations, 1989, 2005) has changed the way people look at children, stressing their right to participate in decisions about their own lives and circumstances. Children are seen as citizens with their own rights, rather than as future citizens (Einarsdóttir, 2012). Although all grown-ups have experienced childhood, their experiences differ from those of today's children (Perry & Dockett, 2011). Children are therefore seen as the most knowledgeable about what it is like to be a child today and about the environment they live in (Clark & Moss, 2001). However, involving children in decision-making is not without difficulties. Sheridan and Pramling Samuelsson (2009) point out, for example, that children's opportunities to participate in decision-making depend on adults' views toward children, knowledge, learning, understanding and experiencing. Children differ, and what they find important also differs—they present a multiplicity of voices, rather than a singular viewpoint. Researchers working with children have to consider whether they are listening to some children more than

others (Einarsdóttir, 2012). Children's views can also change over time and in different contexts, as Warming (2005) has pointed out. Many other concerns and questions about children's participation in research and decision-making have been put forward. The empowerment rationale in which children are viewed as a minority group acting in their own interests has raised some questions. Listening to children involves more than just listening to what they have to say; it also includes taking them seriously and acting upon their voices (Brooker, 2011; Einarsdóttir, 2012). Percy-Smith and Thomas (2012) have pointed out that children's participation is often seen as an involvement in changes, but that the outcomes of those changes are stressed instead of the process of participation. Percy-Smith (2010) also suggests that we need to find ways for children to participate in and interact with their everyday environment to help them feel empowered. Kjørholt, Moss, and Clark (2005) have critiqued the manner in which listening to children is inscribed in rights discourse. They caution that two opposing images of the child may result: as vulnerable and dependent or as autonomous and competent. Further, Mannion (2007, 2010) points out that children are dependent on adults in their participation and decision-making; we should recognise this and look more closely at the relationship between children and adults.

The study is also influenced by theories that emphasise the importance of the learning environment; that is, the place for children's learning. The place is here seen as demarcated, large or small, part of the outdoor environment in the neighbourhood of the school. Children are always somewhere, in some kind of place, and that place affects them. They experience places on their own terms and learn from them, and the places may affect children's identity and relationships (Gruenewald, 2003). As such, the places themselves are considered a product of our culture, or as Greenwood (2013, p. 93) puts it: '... places can be thought of as primary artefacts of human culture—the material and ideological legacy of our collective inhabitation and place-making.' Thus, places are seen as having both physical and ecological qualities, as well as being regarded as social constructions (Gruenewald, 2003).

The study draws on Gibson's (1979) theory of affordance in collecting and analysing data about children's ideas of what they want to do in the environment. Gibson (1979) saw people's actions mainly as their interpretation of what the physical environment has to offer, or the affordance of the environment. The affordance also depends on the ability of the person involved, so the affordance of the environment does not need to be the same for an infant, a school child or an adult. Obviously a tree can afford a school child to climb in it, if the child finds it climbable. And a tree may also afford a toddler to creep under it, if the toddler determines that it can do so. Gibson's affordance theory is thus about the interaction between people and their environment.

Previous research

In recent years, the body of literature studying young children's views and preferences regarding the outdoor environment has grown. Research projects in which children have participated in schoolyard or playground designs have yielded important information (Clark, 2007; Clark & Moss, 2005; Dymont, 2004; Malone & Tranter, 2003; Titman, 1994). One such study (Titman, 1994) indicated that children see the school playground as part of the school; unlike teachers, who often restrict their definition to the school building itself. Studies have also shown that children like to be outside and want to spend more time outdoors (Clark & Moss, 2005; Malone, 2006; Stephenson, 2003), and that outdoor areas are the most popular places in schools (Burke, 2005; Einarsdóttir, 2005a, 2011).

Regarding what children want to do outside, some research findings show that they enjoy opportunities for physical movement (Clark, 2007; Fjørtoft, 2000; Kernan, 2007; Waite, 2007) as well as circumstances where they can challenge themselves (Little & Eager, 2010; Sandseter, 2009; Titman, 1994) or do scary things outside (Stephenson, 2003). Sandseter (2009) found that both ordinary playgrounds and natural surroundings used as playgrounds provided many opportunities for preschool children to engage in risky play, although natural surroundings involved a higher degree of risk-taking than ordinary playgrounds.

Research studies allowing children to choose between natural or constructed outdoor environments have revealed that children prefer natural environments to constructed ones (Lucas & Dymont, 2010; Malone & Tranter, 2003; Titman, 1994; Waller, 2006), since they like to be in contact with natural phenomena such as water, animals and plants (Burke, 2005; Clark, 2007; Kernan, 2007; Malone & Tranter, 2003; Mårtensson, 2004; Titman, 1994; Waller, 2006). Natural environments have also been found to offer more diverse play opportunities than traditional playgrounds (Fjørtoft, 2000; Moore & Wong, 1997; Tranter & Malone, 2004). Thus, it is not surprising that such environments appeal to both boys and girls. Lucas and Dymont (2010) found that a natural area in a school playground was the only place where equal numbers of boys and girls chose to play. Findings from a study of the views of children 6–11 years old on public playground design indicated that if children had access to a natural environment near the playground, the design of the playground was not as important (Jansson, 2008). Several scholars have asserted that good experiences with nature and emotional attachment to nature in childhood motivate people to respect the natural environment later on and take action to preserve it (Louv, 2005; Sobel, 1996; White, 2004; Wilson, 1995), and several studies have supported this (Bögeholz, 2006; Chawla, 1999; Wells & Lekies, 2006).

The outdoor environment also consists of the people who are there. Children desire and enjoy contact with other children (Clark & Moss, 2005; Einarsdottir, 2011; Perry & Dockett, 2011) and grown-ups, and it is well known that good places for communication in the outdoors are important (Clark, 2007).

Research results indicate that children like to make certain places 'their own' (Änggård, 2012; Fjørtoft, 2000; Kernan, 2007; Kylin, 2003; Waller, 2006), where they can relax without interruption (Clark, 2007; Einarsdottir, 2005b; Titman, 1994), spend time with friends (Kylin, 2003; Titman, 1994) or gain an overview of their surroundings (Kernan, 2007). Malone and Tranter (2003) found that elementary school children played outside mostly in small groups and less frequently in large groups, and big open spaces were not used as much as small spaces.

The present study adds to previous research in at least two ways. First, the research study was part of a project in which teachers worked with children to find out how they wanted to construct their outdoor environment. In other studies in this field (e.g., Burke, 2005; Clark, 2007; Kylin, 2003; Malone & Tranter, 2003; Waller, 2006), the emphasis has mainly been on listening to children about their views and preferences with regard to the outdoors. This study added the voices of teachers who were in daily contact with children, focusing on how children talked about what they wanted to do outside and observing how they used their outdoor space. Second, the study contributes to existing knowledge about children's views on the outdoor environment in Nordic countries, where outdoor play is highly valued (Halldén, 2009). The following research question guided the study:

What are children's preferences about outdoor activities and surroundings in the outdoor school environment?

Methods

Participants and research setting

The study was conducted in one primary school and two preschools in Iceland that participated in a research and development project concerning children's participation in the design of the school grounds held in common by the three schools.

The three schools are all located close to each other in a small municipality near the capital city of Reykjavík. The preschools had their own playgrounds with play equipment, sandpits and plants. One of the preschools also had domestic animals (rabbits and hens). At the compulsory school, only part of the schoolyard had been completed and the majority of it was covered with rough gravel. In all three school grounds, hills of varying sizes had been constructed. Before the project began it was decided to transform a parking lot located between the compulsory school and one of the preschools into a playground for the children in those schools. The schools are located in an area containing several drainage ditches.

The project examined children's ideas about their outdoor environment and how they would like it to be organised. At both school levels, teachers presented examples of different kinds of environments to the children to increase their knowledge of various outdoor situations. The teachers did this in different ways, by showing the children pictures of other schoolyards and playgrounds, diverse constructions and outdoor sculptures, and by taking them on trips to investigate different environments. Children's ideas were discussed and they also expressed them through drawings, sculptures and models of school grounds. During the project, the teachers listened carefully to the children and wrote down their ideas. They also collected children's drawings and other artwork. At the end of the project, an exhibition was held to present the children's ideas to all of the children in the schools, their parents, representatives of the local authorities and the architect who had been hired to design the school grounds.

Participants in the development project, and therefore also in the study, were 100 four-year-old and five-year-old children from the two preschools (75 from one and 25 from the other) and 189 six-year-old to nine-year-old children from the compulsory school. Out of this group, 16 children were selected to participate in interviews about their views of the outdoor environment. Measures were taken to ensure age and gender balance in the group. The teachers selected the children and were asked to select children with various interests and from different neighbourhoods to ensure that students had experience with different outdoor environments. Eight preschool children aged four and five participated in the interviews, two boys and two girls from each year. Also participating were eight primary school children aged seven and nine, two boys and two girls from each year. In the preschools, five preschool teachers who worked with the children in the project, as well as the directors of both schools, were interviewed, for a total of seven interviewees. Ten primary school teachers who had worked on the project with children were interviewed, as well as their principal; in total, 11 interviewees.

Data gathering

Multiple methods were employed to elicit children's preferences about outdoor activities and the environment of the school grounds. The methods included interviews with the children and teachers, walking tours conversations with the children, meetings with teachers and classroom observations.

The eight interviews with the 16 children were conducted at the beginning of the project in order to gather data about what children liked in their environment. The children

were interviewed in pairs in order to counteract the power inequality between the researcher and the children and to make the children feel comfortable (Alderson & Morrow, 2004; Brooker, 2001; Einarsdóttir, 2007). The interviews were semi-structured (Greene & Hill, 2005; Lichtman, 2010) and took from 15 to 20 minutes. After the interviews, the children (in pairs) led a walk through the playground for 15–35 minutes. This provided opportunities for more conversation with the children in a different environment (Clark & Moss, 2001).

Participant observations (Lichtman, 2010) were carried out in the classrooms and with groups of preschool children while the children worked on the project of designing their school yard. Each class and preschool group was visited from one to four times for a total of nine hours of visits. The teachers were interviewed at the end of the project for the purpose of obtaining their views on children's preferences concerning the outdoor environment. Four individual interviews and four group interviews were held, ranging from 40 to 80 minutes each. During the project, 10 meetings were held with the teachers, and the researcher's notes from those meetings were also used as data sources. During the meetings, teachers often referred to the children's work in the project.

Data analysis

In analysing the data, the intention was to investigate the diversity of children's views and preferences about the outdoors or the affordance of the environment. We therefore tried to keep an open mind and see what would emerge from the data. A six-step thematic research analysis method described by Braun and Clarke (2006) was used in this process. First, all of the interviews with the children and teachers, the walking tour conversations, the meetings with the teachers and the observation notes were transcribed. Next, the transcripts were read many times and coded according to the research question: that is, how the children wanted to use the outdoor environment and how the children wanted the environment to be as a result. In this step, the data were coded by hand. The third step was to find potential themes from the codes—a concept map was helpful in this process. Having reviewed the relevant literature, we expected to find certain themes, but at the same time tried to keep an open mind in the event that something else might appear. The fourth step involved reviewing the themes to see whether they worked in relation to the coded text. The fifth step consisted of clearly defining the themes and giving them names, and the last step involved writing a report about the findings.

Ethical issues

The study was introduced to all of the children's parents and they were asked to let us know if they did not want their children to participate. The local authorities gave permission for the study. The compulsory school principal and the preschool directors, as well as the parents of the children who were selected for interviews, gave their informed consent. The study was also reported to the Icelandic Data Protection Authority.

The children who participated in the research were asked whether they wanted to participate. However, it can be difficult to obtain informed consent from young children, because they may not always understand what they are agreeing to participate in and what consequences it may have for them (Dockett, Einarsdóttir, & Perry, 2009; Harcourt & Conroy, 2005). At the beginning of the interviews with the children, they were asked whether they wanted to participate in the research and were told that their identities would be hidden in any presentation of the research. It was also made clear to the children that

they could quit the interview whenever they wanted. Prior to the school observations, the children were told what the research was about and asked whether they had any reservations about being observed and having their pictures taken. All the children wanted to participate and many were very surprised and quite disappointed to hear that their names would not be used in the presentation of the findings. They seemed happy and proud to participate in the research and wanted to be recognised.

When participants are quoted, we use pseudonyms and refrain from giving detailed descriptions.

Findings

The study revealed that most of the children who participated in the study seemed to like being outside and preferred it to being inside. The children liked to have diverse opportunities in their outdoor environment for different types of play. The following themes emerged from the data about the affordance of the environment in children's ideas: *physical challenge* was important to children, but they wanted to *be secure* as well; they liked to *explore* things; they wanted to *be in contact with others*; they liked to create or find a *nest* for themselves; and they *enjoyed beautiful things* in the outdoors.

Challenge versus security

Moving around and doing things that involved physical challenges seemed important to the children, but so was their wish to be safe in the outdoors. They talked about physical challenges like climbing trees and challenging themselves on the play equipment. Jakob, age five, said for instance that he liked to 'bicycle up the hill ... and then just *sbr* downhill' ('*sbr*' means to speed downhill). Magnus, age four, liked best 'to play on the roof' (of the playhouses).

Anna and Bjork, four years old, showed the researcher in their walking interview how much fun it was to bump into one another on the swings and turn very fast in the carousels.

In the project, the teachers' focus was drawn to children's preferences for the outdoors. In a meeting, the preschool teachers indicated that during the project the teachers had changed their attitudes about what children should be allowed to do outdoors. They had started to reconsider which rules were necessary and which were not. Teachers saw that allowing children to challenge themselves was valuable enough to outweigh the possible risk of minor accidents.

Helga, age nine, said: 'I enjoy the carousel best. Sometimes it makes you sick but it is such fun.' Harald and Johann, age seven, were enthusiastic about amusement park equipment they wanted to have in the playground, and favourably mentioned equipment like 'a ghost room', 'lazer tag', 'a climbing wall' and 'a water slide'. Many children mentioned that they liked the play equipment in the playground, and would like to have more of it and more diverse varieties. Play equipment was very prominent in the project at both school levels. The primary school children emphasised that they wanted a bigger hill in the school grounds to slide on when there was snow.

All of the primary school children said they liked to play by the drainage ditches—even though they mentioned being afraid of them. One teacher of six year olds said that two girls repeatedly came back wet after playing in the ditches outside the school grounds—they apparently liked it a lot, she said. Hence, the teachers seemed to understand children's longings to play in the ditches, but were also well aware of the dangers. They had allowed

the children to play in small pools in the hill area instead of in the ditches, because, as one of the teachers said, 'the children cannot drown there'.

Some of the primary school children mentioned things having to do with outdoor security. Harald, age seven, said that he wanted the rough gravel on the ground replaced with grass so the children would not hurt themselves. Helga, age nine, said 'then we also need more shelter' from the weather. Nine-year-old Maria said she wanted, 'a colourful strong fence around the ditches ... because there is always someone playing there ... and in the end someone falls in'. The teachers of the seven year olds also noted that the children had said they wanted a fence around the school grounds like in the preschool. Another example of children's longing for security was expressed by Helga and Maria (age nine) who wanted more adult supervision in the playground—to help in case of conflict and accidents, especially near the drainage ditches.

Exploring

Children's desire to explore the outdoor environment was another theme that evolved from the study. This involved children collecting, investigating, creating and finding out what to do with things. When asked what she liked to do outdoors, Inga (age five) said 'picking leaves', and in the walking interview the five-year-old children showed the researcher the bushes in the playground where they liked to pick berries. The preschool children were interested in investigating small creatures they found in the school grounds. In the walking interview, Baldur and Jakob (five year olds) showed the places where they could find bugs in the playground:

- Jakob: There are lots of spiders there, ... Under here—found you! [He said to the spider he found.]
Jakob: Some are small and some are big,
Baldur: And some are in the middle.
Jakob: Here little, little cute one.

The seven-year-old girls in primary school mentioned in the interview that they also liked small bugs:

- Freya: I like it when the weather is good and we go out walking—then I always pick snails in a box.
Researcher: What do you do with them?
Freya: We train them and things—play with them ... we are in a sort of snail club.
Researcher: Did you learn anything about the snails?
Gudrun: They die if they don't get anything.
Freya: Something like grass. Sometimes I take a bottle lid and put a little water in it and hold the snail and let it drink out of the lid.

The primary school teachers (of the six-year-old children) stated that there is always a certain group of children who like to investigate the environment and are interested in nature. One teacher said: 'It is quite apparent they are collecting insects and all kinds of flowers and different kinds of shells in the sand. We need a little area for more exploration of nature, especially for these children.'

The preschool children did not mention water in their interviews, but as part of the project they made drawings of waterslides, ponds and waterfalls, as well as areas with mud to play in. Many of their teachers talked about how the children enjoyed playing in

puddles that emerge on the playground after heavy rain and stressed that water play was very popular among the children, including playing with water in the solid forms of snow and ice.

All of the primary school children talked about how they liked to play around the ditches outside their schoolyard, as mentioned before, and many of their teachers described how the children liked to wade, paddle and play with the mud in the bottom of the ditches, making blockages and bridges and trying to catch the tiddlers that live there.

Creating things seemed important to the children, and materials such as sand, mud and branches from the trees in the yard were popular. Some of the seven year olds said they wanted to have opportunities to build things out of wood:

Harald: I like to, you know, sometimes to get some piece of wood. Maybe we will do that when we are going to build that hill or something.

Helga: [We] can maybe put one piece of wood on the hut and write 'Pizza Hut', and another stick on the other hut and write 'The Bakery' or something. Build a kind of town we can always play in.

Their teachers described how the children enjoyed playing with sticks and making things from them, or hiding a stick they had found and asking the teachers to look for it. As Marta, a teacher, said: 'One stick can be like gold to them'.

Being in contact with others

The findings indicate that interacting with other children, grown-ups and other living beings was important for the children. Although some of the children sometimes wanted to be alone, most often they wanted to be with two to four friends, or sometimes join larger groups. Helga, a nine year old, talked about equipment that would encourage interaction among the children, like big swings where many could play together. She said: 'There the children could also blend—you know, because it would be such fun to climb into the swing and then the kids would mingle'. Both nine-year-old boys, Sigurd and Olaf, stressed that they liked ball games best, such as football and basketball, where they were part of a group and interacting with other boys. Harald, age seven, stated this clearly:

I would like us to play more all together outside. Like in *skotbolti* (a special kind of ball game which involves children throwing a ball at each other) or something—and we would not just have one ball, we would have many balls. Yes, just all second year would join, just in *skotbolti*.

Bjork (age four) and Baldur (age five) said that they wanted the grown-ups to participate in their play. The preschool teachers mentioned in a meeting that in the school project the children came up with the idea that the school grounds should be a centre of the community, for handicapped people and for people of all ages; there should be benches for older people and areas for animals.

The children whose preschool playground contained animals (rabbits and hens) said they liked to pet the rabbits and feed the animals, although some of the children were a little afraid of the hens. The teachers said that children's involvement with the animals differed. Some children were drawn to the animals, while others just liked to watch them.

Many of the children at primary school were also interested in animals. Helga, a nine year old, said she wanted to have animals 'like the ones in the preschool' but 'mainly I would like to have sheep and horses'. The seven-year-old girls said they wanted to build an environment for animals. Gudrun said:

I would like to have a ditch with fish. Then we would always in the summer go with a pocket net and catch some fish, and maybe someone would bring an aquarium we can keep the fish in.

She continued that she wanted to have a pond with ducks and then 'we can have a box filled with bread that we can give them'.

Children at both school levels wanted to be in contact with plants, especially trees, grass and other flowering plants, and these were often part of the drawings, paintings and models they made in the project.

Creating or finding nests

The children liked to find or create places that somehow separated them and their play from their surroundings. Often these kinds of places were intended for just one child or a few children. The primary school teachers mentioned that the children had found themselves a kind of nest, where they played in the high grass. This metaphor of the 'nest' is suitable, because these places were sometimes like the woven nests that thrushes make, sometimes like the holes puffins make and sometimes like a falcon's nest, offering a wide view of the surroundings. The preschool children liked their 'wood' for many reasons, one of them being that it created a place for them to play. According to the teachers, some children called it their 'secret place'. In the walking tour conversation, Jakob (age five) said he liked the area because 'you can stand in here . . . there are tracks here' and it's 'all so nice'.

The seven-year-old girls showed the researcher their 'secret place' under a house beside their school. Examples of nests that were open with a view were those on top of the hill. Simon, age seven, said that he liked to be alone on the hill and 'lie there and look up in the sky or sleep'.

Enjoying beautiful things

Children's desire to have beautiful things in their outdoor environment was another theme evident in the data. In the preschool, the five-year-old boys noted in the walking tour conversation that they did not like litter in the playground. Magnus, age four, talked about the 'need to enjoy nature'. Baldur, age five, said he liked the wood 'because there are so many leaves' and he liked the leaves because they were 'green and yellow, so nice'.

The primary school children mentioned that they wanted to have statues in the playground in various forms (e.g., spacecraft, parrots, a talking squirrel, a skeleton and a unicorn). Laura, age nine, said: 'I think the schoolyard should be more colourful. . . . Yes, with brighter colours.' In the walking tour conversation she added that it would be nice to paint flowers on the school building so it would not be so grey. One of the teachers of the six year olds said that, in her class, the children had emphasised that the schoolyard should contain many colourful flowers.

Discussion

This study was conducted in a small community in Iceland where preschool and primary school children participated in the design of a common school ground as part of a project in sustainability education. The data were gathered from interviews with the children and their teachers, as well as participant observations and meetings with teachers. The findings indicate that the children who participated enjoyed being outside, which is consistent with previous research (Burke, 2005; Clark & Moss, 2005; Einarsdóttir, 2005a; Malone, 2006), indicating that young children in different countries share this wish. This is an important message in a world where in recent decades many are concerned about children's reduced opportunities to play outside and explore their surroundings (e.g., Bögeholz, 2006; Louv, 2005; Malone & Tranter, 2003).

The children who participated in the study wanted to use their outdoor environment at school in various ways: they wanted to challenge themselves as well as to feel secure, explore things, be in contact with others, find or create nests and enjoy beautiful things.

The children's desire to physically challenge themselves is well documented in other research findings, which indicate that risk-taking is important for learning about and managing the world (Little & Eager, 2010; Sandseter, 2009; Stephenson, 2003; Titman, 1994). However, the findings of this study differ from other studies addressing children's risk-taking, where their feelings of security are seldom mentioned. Icelandic primary school children's wish for grown-ups to secure their safety in risky circumstances can be interpreted as a desire to take risks, but under the guidance of adults. This indicates the importance of finding a balance between allowing and encouraging children to try out new things and take risks, and at the same time ensuring their safety. This accords with contemporary views of children as strong and capable but at the same time also vulnerable and in need of protection (Kjørholt et al., 2005).

Children's interest in exploring various aspects of the outdoors, such as living beings, water, sand, mud and sticks, and finding out what they can do with them, is congruent with other studies (Clark, 2007; Kernan, 2007; Malone & Tranter, 2003; Titman, 1994; Waller, 2006). This can be seen as a contrast with reality, since the compulsory school outdoor environment is often covered with concrete and offers little if any experience of natural phenomena (Lucas & Dymont, 2010).

Children's preference for being with other children and grown-ups raises the question of how the outdoors can support social interaction between children, as well as between children and grown-ups. This has also been found in other research (Clark, 2007; Clark & Moss, 2005; Titman, 1994). Additionally, the children in this study were inventive and came up with different ideas of play equipment that they thought could encourage and give opportunities for interaction. It was also interesting to see that the children presented ideas which can be interpreted as a critique on the very idea of the school ground as a place for only children and teachers. Hence, the school ground as a place for all people in the community to use for being together and also for being in contact with other living beings.

Children at both school levels favoured natural phenomena in the outdoor environment such as plants and animals, as well as variation in the landscape, as has been identified in previous research (Clark, 2007; Clark & Moss, 2005; Kernan, 2007; Mårtensson, 2004; Titman, 1994). The natural environment increases opportunities to learn about nature and natural phenomena. Research findings have indicated that good experiences in the natural environment form an important ground for respecting nature and wanting to take action to protect it (Bögeholz, 2006; Chawla, 1999; Wells & Lekies,

2006), which is an important part of education for sustainability. However, many of the Icelandic children who participated in this study also wanted to have diverse types of play equipment and other man-made environmental elements on their playgrounds. The findings of this study indicate that diversity in the environment was important to the children, and thus emphasis should be placed on the natural environment in the design of children's outdoor surroundings at school, as well as on built elements. The findings from the study also indicate that the children liked to make or find 'their own places' or 'nests', which is in harmony with other research findings showing that having a place of their own or a place that encloses them and their friends is very important for children (Clark, 2007; Einarsdottir, 2005b; Fjörtoft, 2000; Kernan, 2007; Kylin, 2003; Malone & Tranter, 2003; Titman, 1994; Waller, 2006).

Fun and aesthetic pleasure are among the factors that the outdoor environment can provide. The study revealed that the children liked fun things, colours and beautiful objects in their outdoor environment. This is not often addressed in other studies, although Titman (1994) found in her study that children preferred places that were interesting, colourful and beautiful, thus offering emotional stimulation.

In this study, the children came up with many ideas of places that can be seen as a product of their culture (Greenwood, 2013). Examples of this are their wish to catch small fish in ponds in the ground and to feed the ducks, which is something children in Iceland often do. This study contributes to the growing field of research with children on their ideas about the outdoors in various socio-cultural contexts. Few studies have been done on how children want to use the outdoors and what kind of environment they want for that purpose. This study supports many of the previous research findings, showing that children in diverse environments and cultures like similar things outdoors. There are relatively few studies from the Nordic countries in this area. The study contributes to knowledge about Nordic children where children's outdoor play is highly valued and an important part of their daily lives.

The novelty of the study is also the research design. The study was conducted as part of a developmental project in which the teachers worked with children to design their outdoor environment, and focused on how children use and talk about their environment. The teachers contributed by offering additional information about things that the children had mentioned in the interviews or that were seen in observations, increasing the trustworthiness of the findings through triangulation. Sometimes the teachers also offered new insights about what the children wanted to do and what kind of environments they liked, and in that way advanced to a more comprehensive understanding of this. In addition, it was interesting to see how the project in this study affected some of the teachers, leading them to change their attitudes about what children were and were not allowed to do.

Listening to children involves more than merely attending to what they have to say; it is the adults' responsibility, when consulting children about something in their environment, to act upon their responses (Brooker, 2011; Einarsdottir, 2012; Perry & Dockett, 2011). But can we simply listen to children and then make changes that give them what they want? In decision-making, many interests and viewpoints have to be taken into account, including children's views. It is important to note that children's contributions can be diverse. In this project, the voices of the children were taken into account in the planning of the play areas. The parking lot was changed into a green play area, and the architect's design was influenced by both the children's and the teachers' ideas. However, in a project that aims to help children to understand that they can take part in society and be actors for change, as ESD emphasises (Ärlemalm-Hagsér, 2012; Breiting, 2008), the children also learn that decision-making often involves conflicts and compromises among

different stakeholders. However, importantly, they are included as stakeholders themselves.

Funding

The authors wish to acknowledge the financial support of The Nature Conservation Fund of Pálmi Jónsson (I. Náttúruverndarsjóður Pálma Jónssonar) and the Environmental and Energy Research Fund (I. Umhverfis- og orkurannsóknasjóðurinn) owned by Reykjavík Energy (I. Orkuveita Reykjavíkur), the municipal energy company of Reykjavík.

Author biographies

Kristín Norðdahl is an assistant professor at the School of Education, University of Iceland. Her main areas of research are young children's learning in science, the role of the outdoor environment in children's learning, environmental education and education for sustainable development. Jóhanna Einarsdóttir is a professor at the School of Education, University of Iceland. Her main area of research is in early childhood education; children's transition between preschool and primary school, children's participation, children's perspectives and ethical issues in research with young children.

References

- Act on Compulsory School Education. no. 91/2008.
- Act on Preschool Education. no. 90/2008.
- Alderson, P., & Morrow, V. (2004). *Ethics, social research and consulting with children and young people*. Ilford: Barnardos.
- Änggård, E. (2012). Att skapa platser i naturmiljöer: Om hur vardagliga praktiker i en I Ur och Skur-förskola bidrar till att ge platser identitet [To make places in nature: How daily practices in an outdoor preschool help to determine the identities of places]. *Nordisk barnehageforskning*, 5(10), 1–16. Retrieved November 10, 2012, from <http://journals.hioa.no/index.php/nbf/article/view/414>
- Ärlemalm-Hagsér, E. (2012). Lärande för hållbar utveckling i förskolan: Kunskapsinnehåll, delaktighet och aktörskap kommunicerat i text [Education for sustainable development in preschool: Knowledge content, participation and agency]. *Nordisk barnehageforskning*, 5(14), 1–17. Retrieved December 10, 2012, from <http://journals.hioa.no/index.php/nbf/article/view/417>
- Bögeholz, S. (2006). Nature experience and its importance for environmental knowledge, values and action: Recent German empirical contributions. *Environmental Education Research*, 12(1), 65–84.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101.
- Breiting, S. (2008). Mental ownership and participation for innovation in environmental education and education for sustainable development. In A. Reid, B. B. Jensen, J. Nikel, & V. Simovska (Eds.), *Participation and learning: Perspectives on education and the environment, health and sustainability* (pp. 159–180). London: Springer.
- Brooker, L. (2001). Interviewing children. In M. G. Naughton, S. Rolfe, & I. Siraj Blatchford (Eds.), *Doing early childhood research: International perspectives on theory and practice* (pp. 162–177). Buckingham: Open University Press.
- Brooker, L. (2011). Taking children seriously: An alternative agenda for research? *Journal of Early Childhood Research*, 9(2), 137–149.
- Burke, C. (2005). "Play in focus": Children researching their own spaces and places for play. *Children, Youth and Environments*, 15(1), 27–53.
- Chawla, L. (1999). Life paths into effective environmental action. *The Journal of Environmental Education*, 31(1), 15–26. doi:10.1080/00958969909598628
- Clark, A. (2007). *Early childhood spaces: Involving young children and practitioners in the design process*. The Hague: Bernard van Leer Foundation.
- Clark, A., & Moss, P. (2001). *Listening to young children: The Mosaic approach*. London: National Children's Bureau for the Joseph Rowntree Foundation.

- Clark, A., & Moss, P. (2005). *Spaces to play. More listening to young children using the Mosaic approach*. London: National Children's Bureau for the Joseph Rowntree Foundation.
- Dahlberg, G., & Moss, P. (2005). *Ethics and politics in early childhood education*. London and New York: RoutledgeFalmer.
- Dockett, S., Einarsdottir, J., & Perry, B. (2009). Researching with children: Ethical tensions. *Journal of Early Childhood Research*, 7(3), 283–298.
- Dyment, J. E. (2004). "At that age, you just accept what you have. . .you never question things": Student participation in school ground greening. *Children, Youth and Environments*, 14(1), 130–152.
- Einarsdottir, J. (2005a). Playschool in pictures: Children's photographs as a research method. *Early Child Development and Care*, 175(6), 523–541. doi:10.1080/03004430500131320
- Einarsdottir, J. (2005b). "Mér finnst það bara svo skemmtilegt". *Þróunarverkefni í leikskólanum Hofi um þátttöku barna í mati á leikskólasterfi* ["I just enjoy it". Development project in the preschool Hof on children's participation in the evaluation of education]. Reykjavík: Rannsóknarstofnun Kennaraháskóla Íslands [Research centre of Iceland University of Education].
- Einarsdóttir, J. (2007). Research with children: Methodological and ethical challenges. *European Early Childhood Education Research Journal*, 15(2), 197–211. doi:10.1080/13502930701321477
- Einarsdottir, J. (2011). Reconstructing playschool experiences. *European Early Childhood Education Research Journal*, 19(3), 387–402. doi:10.1080/1350293X.2011.597970
- Einarsdottir, J. (2012). Raddir barna í rannsóknum [Children's voices in research]. In J. Einarsdottir & B. Garðarsdottir (Eds.), *Raddir barna* [Children's voices] (pp. 13–27). Reykjavík: Háskólaútgáfan, RannUng.
- Fjørtoft, I. (2000). *Landscape as playscape: Learning effects from playing in a natural environment on motor development in children*. Oslo: Norwegian University of Sport and Physical Education.
- Gibson, J. J. (1979). *The ecological approach to visual perception*. Boston, MA: Houghton Mifflin.
- Greene, S. M., & Hill, M. (2005). Researching children's experiences: Methods and methodological issues. In S. M. Greene & D. M. Hogan (Eds.), *Researching children's experiences: Approaches and methods* (pp. 1–21). London: Sage.
- Greenwood, D. A. (2013). A critical theory of place-conscious education. In R. B. Stevenson, M. Brody, J. Dillon, & A. E. J. Walls (Eds.), *International handbook of research on environmental education* (pp. 93–100). New York, NY: AERA and Routledge.
- Gruenewald, D. A. (2003). Foundations of place: A multidisciplinary framework for place-conscious education. *American Educational Research Journal*, 40(3), 619–654. doi:10.3102/00028312040003619
- Halldén, G. (2009). Inledning. In G. Halldén (Ed.), *Naturen som symbol för den goda barndomen* [Nature as a symbol for the good childhood] (pp. 8–24). Stockholm: Carlson Bokförlag.
- Harcourt, D., & Conroy, H. (2005). Informed assent: Ethics and processes when researching with young children. *Early Child Development and Care*, 175(6), 567–577. doi:10.1080/03004430500131353
- Harcourt, D., & Einarsdottir, J. (2011). Introducing children's perspectives and participation in research. *European Early Childhood Education Research Journal*, 19(3), 301–307. doi:10.1080/1350293X.2011.597962
- Jansson, M. (2008). Children's perspectives on public playgrounds in two Swedish communities. *Children, Youth and Environments*, 18(2), 88–109.
- Kernan, M. (2007). *Play as a context for early learning and development: A research paper*. Dublin: Commissioned by the National Council for Curriculum and Assessment. Retrieved February 13, 2012, from http://www.ncca.ie/en/Curriculum_and_Assessment/Early_Childhood_and_Primary_Education/Early_Childhood_Education/How_Aistear_was_developed/Research_Papers/Play_paper.pdf
- Kjørholt, A. T., Peter, M., & Alison, C. (2005). Beyond listening: Future prospects. In A. Clark, A. T. Kjørholt, & P. Moss (Eds.), *Beyond listening: Children's perspectives on early childhood services* (pp. 175–188). Bristol: Policy Press.
- Kylin, M. (2003). Children's dens. *Children, Youth and Environments*, 13(1). Retrieved February 24, 2006, from http://www.colorado.edu/journals/cye/13_1/Vol13_1Articles/CYE_CurrentIssue_Article_Dens_Kylin.htm

- Lichtman, M. (2010). *Qualitative research in education: A user's guide* (2nd ed.). Los Angeles, CA: Sage.
- Little, H., & Eager, D. (2010). Risk, challenge and safety: Implications for play quality and playground design. *European Early Childhood Education Research Journal*, 18(4), 497–513. doi:10.1080/1350293X.2010.525949
- Louv, R. (2005). *Last child in the woods: Saving our children from nature-deficit disorder*. New York, NY: Algonquin Books of Chapel Hill.
- Lucas, A. J., & Dymont, J. E. (2010). Where do children choose to play on the school ground? The influence of green design. *Education 3–13*, 38(2), 177–189.
- Malone, K. (2006). *Building a child friendly community, Children's Research Workshops Pilot Study report*. Bendigo: City of Bendigo. Retrieved January 25, 2012, from http://www.earlyyears.org.au/_data/assets/pdf_file/0008/49715/bendigoCFCpilot07.pdf
- Malone, K., & Tranter, P. J. (2003). Children's environmental learning and the use, design and management of school grounds. *Children, Youth and Environments*, 13(2). Retrieved February 20, 2006, from http://www.colorado.edu/journals/cye/13_2/Malone_Tranter/ChildrensEnvLearning.htm
- Mannion, G. (2007). Going spatial, going relational: Why 'listening to children' and children's participation needs reframing. *Discourse*, 28(3), 405–420.
- Mannion, G. (2010). After participation: The socio-spatial performance of intergenerational becoming. In B. Percy-Smith & N. Thomas (Eds.), *A handbook of children and young people's participation: Perspectives from theory and practice* (pp. 330–342). London: Routledge.
- Mårtensson, F. (2004). *Landskapet i leken. En studie av utomhusleken på förskolegården* [The landscape in the play. A research of outdoor play in the preschool playground] (Doctoral dissertation). Swedish University of Agricultural Sciences, Alnarp, Sweden. Retrieved April 20, 2006, from <http://diss-epsilon.slu.se/archive/00000803/01/Fredrika20050405.pdf>
- Moore, R., & Wong, H. (1997). *Natural learning: Creating environments to rediscover nature's way of teaching*. Berkley, CA: MIG Communications.
- Pálsdóttir, K., & Ágústadóttir, V. F. (2011). *Gæði eða geymsla?* [Quality or storage?]. Netla – Vef tímarit um uppeldi og menntun. Retrieved December 3, 2012, from <http://netla.hi.is/greinar/2011/alm/003.pdf>
- Percy-Smith, B. (2010). Councils, consultations and community: Rethinking the spaces for children and young people's participation. *Children's Geographies*, 8(2), 107–122. doi:10.1080/14733281003691368
- Percy-Smith, B., & Thomas, N. (2012). Conclusion: Emerging themes and new directions. In B. Percy-Smith & N. Thomas (Eds.), *A handbook of children and young people's participation: Perspectives from theory and practice* (pp. 356–366). London: Routledge.
- Perry, B., & Dockett, S. (2011). 'How 'bout we have a celebration!' Advice from children on starting school. *European Early Childhood Education Research Journal*, 19(3), 373–386. doi:10.1080/1350293X.2011.597969
- Sandseter, E. B. H. (2009). Affordances for risky play in preschool: The importance of features in the play environment. *Early Childhood Education Journal*, 36(5), 439–446. doi:10.1007/s10643-009-0307-2
- Schiller, W., & Einarsdóttir, J. (2009). Listening to young children's voices in research – changing perspectives/changing relationships. *Early Child Development and Care*, 179(2), 125–130. doi:10.1080/03004430802666932
- Sheridan, S., & Pramling Samuelsson, I. (2009). *Barns lärande – fokus i kvalitetsarbetet* [Children's learning—the focus of quality work]. Stockholm: Liber.
- Sobel, D. (1996). *Beyond ecophobia: Reclaiming the heart in nature education*. Great Barrington, MA: The Orion Society.
- Statistics Iceland. (2011). *Statistics. Education. Pre primary institutions*. Retrieved February 13, 2012, from <http://www.statice.is/Statistics/Education/Pre-primary-institutions>
- Stephenson, A. (2003). Physical risk-taking: Dangerous or endangered? *Early Years*, 23(1), 35–43. doi:10.1080/0957514032000045573
- The City of Reykjavík. (n.d.). *Fristundaheimili* [After school centres]. Retrieved February 24, 2010, from http://reykjavik.is/desktoptdefault.aspx/tabid-3697/6079_view-1517/
- Titman, W. (1994). *Special places, special people: The hidden curriculum of school grounds*. Godalming, UK: WWF (World Wide Fund For Nature).

- Tranter, P. J., & Malone, K. (2004). Geographies of environmental learning: An exploration of children's use of school grounds. *Children's Geographies*, 2(1), 131–155. doi:10.1080/1473328032000168813
- United Nations. (1989). *Convention on the Rights of the Child*. Retrieved March 12, 2010, from <http://www2.ohchr.org/english/law/crc.htm>
- United Nations. (2005). *General Comment No. 7. 2005. Implementing child rights in early childhood*. Retrieved February 15, 2012, from http://www.ecdgroun.com/docs/lib_004410633.pdf
- United Nations Educational, Scientific and Cultural Organization (UNESCO). (n.d.). *Education for sustainable development: Three terms and one goal*. Retrieved December 9, 2012, from <http://www.unesco.org/new/en/education/themes/leading-the-international-agenda/education-for-sustainable-development/three-terms-one-goal/>
- Waite, S. (2007). 'Memories are made of this': Some reflections on outdoor learning and recall. *Education 3–13*, 35(4), 333–347.
- Waller, T. (2006). "Don't come too close to my octopus tree": Recording and evaluating young children's perspectives on outdoor learning. *Children, Youth and Environments*, 16(2), 75–104.
- Warming, H. (2005). Participant observation: A way to learn about children's perspectives. In A. Clark, A. T. Kjørholt, & P. Moss (Eds.), *Beyond listening: Children's perspectives on early childhood services* (pp. 51–70). Bristol: The Policy Press.
- Wells, N. M., & Lekies, K. S. (2006). Nature and the life course: Pathways from childhood nature experiences to adult environmentalism. *Children, Youth and Environments*, 16(1), 1–24.
- White, R. (2004). *Interaction with nature during the middle years: Its importance in children's development and nature's future*. Retrieved November 29, 2004, from <http://www.whitehutchinson.com/children/articles/nature.shtml>
- Wilson, R. (1995). Teacher as guide – The Rachel Carson way. *Early Childhood Education Journal*, 23(1), 49–51. doi:10.1007/BF02353381