

Lysklett, O.B. & Berger, H.W. (2016). What are the characteristics of nature preschools in Norway, and how do they organize their daily activities?

Abstract

This study provides basic information about how Norwegian nature preschools differ from other Norwegian preschools and how they organize their daily activities. Fifty-six nature preschools and 52 other preschools were included in the study. A total of 106 headmasters and 98 pedagogical leaders filled out questionnaires about the characteristics of their preschool and the characteristics of their preschool's outdoor activities. Two women and four men from nature preschools were interviewed about organizing a nature preschool.

Most nature preschools are private and have less children and staff than other preschools. Nature preschools have more reference areas in nature and visit these areas more frequently than other preschools. Nature preschools spend a large amount of time in nature and have routines and rules that allow the children a significant amount of trust.

Introduction

In Norway there is full coverage of day-care and the parents can choose which preschool they want for their children. Nature preschool is a type of preschool that has become popular in Scandinavian countries. The background of nature preschools is described (Borge, Nordhagen & Lie, 2003, Eijby-Ernst, 2012, i.e.) but the practice of nature preschools is not yet investigated. The purpose of this study is to provide basic, but needed information about how Norwegian nature preschools differ from other Norwegian preschools and about how they have organized their daily activities. By understanding the differences between nature preschools and other preschools, it may be possible to conduct research the effects of nature preschools on motor learning, physical fitness, and developing a caring attitude toward the environment. A comparison of nature preschools in Norway and other countries will also be possible when the characteristics of the Norwegian nature preschools are known.

The environment in which children spend their time is an important factor in their play, learning and development. Kampmann (2006) concludes that there is a lack of research

concerning the significance of space for educational processes and the pedagogical activities of preschool staff. A natural environment affords more intense and varied experiences than a standardized playground (Gibson, 1979). Nordin-Hultmann (2004) argues that attention must be directed toward children`s opportunities for action in the educational environment.

Preschools may need more action space where children can find meaning in activities or play of their own choice. We argue that a natural environment is suited to such objectives, and our research goal is to explore how nature preschools in Norway are organized to allow children to spend a large amount of time in natural settings.

Background

In Norway, there has been a major increase in the number of preschools during the last decade. In 2014, 90% of children aged 1-5 years attended preschool (Statistic Norway, 2015). Most Norwegian preschools have separate groups of children from 0-3 years (small children) and 3-6 years (big children). Some preschools have sibling departments including children from 0-6 years. Preschools are most often lead by a headmaster and are organized into different departments with one pedagogical leader for each department. In Norway, there are approximately equal numbers of private (53%) and public preschools (47%). The public preschools are, on average, larger than the private preschools, and the average numbers of children are 51 in public preschools and 42 in private preschools (Statistic Norway, 2015). When family preschools (very small preschools in private homes) are excluded from private preschools, the average number of children enrolled in private preschools increases to 51.

Outdoor play has a long tradition in Norwegian childcare, and the Lysethcommittee that made the first public report that dealt with childcare in 1961 stated that children should not play indoors more than two hours at time. This emphasis on outdoor play is a statement that symbolizes Norwegian childcare traditions, with a great focus on outdoor play during different seasons (Korsvold, 1997).

In a study of 117 Norwegian preschools, pedagogical leaders reported that 70% of the schedule was spent outdoors during the summer semester, whereas 31% of the schedule was spent outdoors during the winter semester (Moser & Martinsen, 2010). Overall, 89% of the pedagogical leaders fully agreed that “children are usually outdoors every day”. This shows that a large amount of time at these institutions is dedicated to outdoor play and activities.

Thus, outdoor arenas are seemingly an important pedagogical space in terms of children's activities and learning. Moser and Martinsen (2010) surmise that the majority of the children's time outdoors is spent engaged in free play and that most of the staff-controlled, purposeful educational activities may be conducted indoors. The fact that children spend more than two-thirds of their time outdoors during summer must be related to the quality of the environment, Moser and Martinsen state. The size of the outdoor arena is therefore an important quality indicator. Norwegian preschools offer relatively large outdoor spaces to their children of almost 50 m² per child. One out of four preschools has access to specific natural spaces outside of their fences that are used on regular basis. This fact underlines how much importance is afforded the outdoors in Norwegian preschools (Moser & Martinsen, 2010).

The first nature preschools presented in the literature were "Mrs. Flatau walking preschools", in Denmark, in the early 1950s. Mrs. Flatau made daily walks into the woods with her own children and neighborhood children (Ejbye-Ernst, 2012). At the same time, Tom Murstad brought children from the city center of Oslo, Norway, to small huts in the forest. His philosophy was that children should spend time outdoors in nature and play under supervision, with simple rules (Kirkvaag, 1984). During the early 70s, different preschools in Norway brought children to forests for shorter walks and trips. The White paper, nr. 40 (1986-87), about outdoor activity and leisure time in Norway (Friluftsliv) states that preschools are an important arena for developing children's outdoor skills and nature experiences, and this is the first governmental statement that links preschools and nature (Miljøverndepartementet, 1987). The first nature preschool in Norway was established in 1987 and some preschools began to use the name Nature-preschool or Forest- or outdoor preschool.

Borge, Nordhagen and Lie (2003) attempt to explain why Norwegians have established nature preschools. They note some ideas that have contributed to shaping Norwegian nature preschools. First, Norwegians are strongly attached to nature and prefer outdoor leisure activities. Therefore, some parents elect to provide their children with outdoor experiences as early as their preschool years. Second, the image of a happy childhood in Norway implies that children play outside for most of the day, irrespective of the season or weather. Thus, outdoor preschools may represent a child-care practice that is in harmony with images that parents have for their children (Borge et al., 2003). This was confirmed by Grette (2009) that found

that parents selected nature preschools for their children because they wanted the children to learn about nature and outdoor activities. The parents themselves also used the natural settings as a recreational arena and wanted to instill their children with the same interests and values.

Thirty-nine headmasters in nature preschools were asked to estimate how much time that they spend outdoors per day during the various seasons. All nature preschools spend large amounts of time outdoors throughout the year. During winter, 69% spent more than four hours a day outdoors. All preschools spend more than four hours a day outdoors during spring and summer, whereas 87% spent more than 6 hours a day outdoors during summer. Most nature preschools take trips or walks away from the day-care center. They visit areas that are outside of the center's boundaries, such as regular destinations (Lysklett, 2005). These areas are similar to what Moser and Martinsen (2010) describe as specific natural spaces outside of their fences. We have designated these areas as reference areas.

The features of the play environment influence how children play by affording certain types of play activities. Gibson's theory of affordances (Gibson, 1997) states that the physical environment that surrounds us affords different actions and behaviors. Gibson's theory was elaborated by (Heft, 1988), who argued that children's outdoor environments afford different types of play and that children perceive the functions of their environment as invitations for certain activities. Heft further distinguished between "climb-on-able feature", "run-on-able feature", "swing-on-able feature" and "jump-up-on/off/down-able feature". Kytä (2004) categorized the affordances in children's play into potential and actualized affordances. Potential affordances are specified relative to an individual, and, in principle, are able to be perceived. Actualized affordances are the subset of the former that the individual perceives, utilizes or shapes. Preschool children consider traditional playgrounds to be more boring than the natural environment, and children develop better motor skills when playing in nature instead of playing at a traditional playground (Fjørtoft, 2000). Kaarby (2004) found in a study of children's play at a nature preschool (playing in nature) that physical activity predominated. Both studies support Gibson's (1979) assumption that a natural environment affords more intense and varied physical activities than a standardized playground.

The opportunity for children to meet physical challenges and risks are particularly good in nature preschools. The children spend most of their time in challenging natural settings, and they played in a wide range of stimulating and challenging environments (Sandseter, 2009). Sandseter (2007) identified risk-taking in children’s play and found six categories of risky play; playing at great heights, play with high speed, play with dangerous tools, play near dangerous elements, rough-and-tumble play and play where children can disappear/get lost. All of the categories are often present for children in nature preschools (Sandseter, 2009). The staff in Norwegian preschools assess children’s opportunities to engage in risky play in preschools as abundant, and the staff have a positive attitude toward risky play. It is viewed as important for children’s development. Strategies for handling risky play are adapted instinctively in the play situations, considering each child individually; common boundaries and rules are rare (Sandseter, 2012).

“Gibsonian” theory is also prominent in the Norwegian preschool-teacher education and opportunities for exploration, i.e. in nature, is central in their pedagogy (Sandseter, Little & Wyver, 2012). A model that has been repeated for decades in preschool teacher education programs (Jørgensen, 2014) is the “model of hierarchy of learning in nature” (Figure 1).

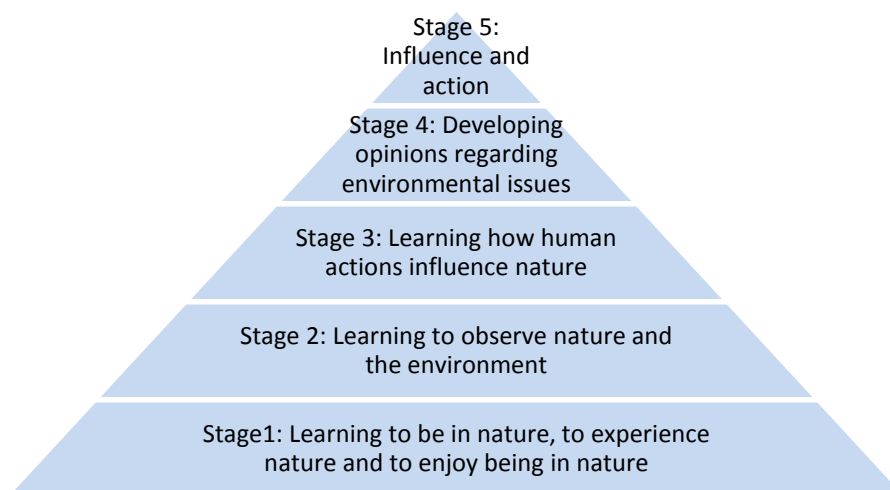


Figure 1: Hierarchy of learning in nature (Bang, Braute & Koen, 1989), translated by Jørgensen (2014)

The child will always start at stage 1 and must first feel safe and comfortable in nature before he or she can begin to observe and learn about nature. The model might be perceived as the “story of the child saving the planet” (Jørgensen, 2014), and nature preschools may also

embrace this view. The impact of contact with nature at an early age is viewed as important to develop knowledge about and feelings for nature (Chawla, 2007). This is also reported by parents in nature preschools as reasons for choosing such preschools for their children (Borge et al., 2003; Grette, 2008).

Nature encourages children`s holistic development and enables progression in all developmental domains (Wilson, 2007). International and Nordic research literature suggest an increasing interest in topics such as physical environment, space and place with respect to children`s learning and development (Fjørtoft, 2001; Kyttä 2003; Nordin-Hultmann, 2004). These authors seems to agree that cultural and natural environments play an important role in children`s physical and psychosocial development, learning and growth. Outdoor time is identified as an important factor for quality in early childhood education (Grahm, P., Maartensson, F., Linblad, B., Nilsson, P. & Ekman, A., 1997). On the basis on their own study and other studies, Grahm et al. claim that a larger amount of time spent outdoors provides better opportunities for more undisturbed play, which supposedly leads to better conditions for children`s learning and development.

Outdoor time in preschools has not been the subject of many international studies. Kos and Jerman (2013) studied Slovenian preschools and stated that despite the fact that Slovenia has good conditions for outdoor play and learning that preschool teachers and parents wanted children to have more contact with natural environment, Slovenian preschools spend 23% of their day outdoors during warm seasons and 13% of their day outdoors during cold seasons. Most of this outdoor time is spent at the preschool playground. The average amount of time spent in nature during the week was three hours during warm weather and roughly one and a half hours a week during cold weather. The authors also report that the more accessible the natural settings were to the preschools, the more time was spent there, and vice versa. Another obstacle that prevented play and learning in natural environments was the requirement of an increased number of adults when outside of the preschool premises. Slovenian law states that the adult-child ratio must be one adult for every eight children when the preschool is outside of the preschool premises. The standard for indoor preschool activities is two adults per 19-24 children (Kos & Jerman, 2013).

The emphasis on outdoor activities in Norwegian preschools is prominent, and the time spent outdoors is seen as an important factor in children`s learning and development. Our study is of an exploratory type because there is not much research-based information available about Norwegian nature preschools. We seek to answer the following questions:

How do nature preschools in Norway differ in terms of size, outdoor time, and use of the natural environment compared with other preschools?

How do the Norwegian nature preschools organize their activities so that they are able to spend time in nature?

Methods

Selection of preschools

The criterion for the selection of nature preschools was the name of the preschool. Most preschools in Norway have no prefix in their names, e.g., Svingen preschool. The preschools that had nature, outdoor, forest, maritime, boat or another prefix that was associated with outdoor activity and nature, e.g., Lierskogen nature preschool, were grouped as nature preschools. It is their own pre-understanding that placed them in the nature preschool group. Preschools with no prefix or other prefixes, e.g., sport, culture, music, were placed into a comparison group. Family preschools that are organized as smaller preschool units in private homes were not included in the comparison group because these preschool are subject to special rules with respect to pedagogical staff, outdoor and indoor areas, etc. The total population of preschools therefore included 5624 preschools, of which 148 were nature preschools, and 5476 were preschools in the comparison group. Ninety-nine preschools, stratified by county, were then randomly drawn for and assigned to each of the groups.

Questionnaires

The questionnaires were based on a previously-used questionnaire administered to nature preschools in Norway (Hagen, Lysklett, & Emilsen, 2003) and consisted of four parts: the

respondents, the characteristics of the preschool, the characteristics of the outdoor activities at the preschool and the content related to areas of the preschool's curriculum. In total, the questionnaires consisted of 53 questions. The questions given to the headmasters and pedagogical leaders were different. Both headmasters and pedagogical leaders answered questions about themselves (respondents). Headmasters answered questions about the characteristics of the preschool, and pedagogical leaders answered question about characteristics of the outdoor activities at the preschool and the content provision related to areas in the curriculum. Only questions about the characteristics of the preschools and the characteristics of the outdoor activities at the preschools will be discussed in this article.

Data collection and analysis

The preschools were contacted by e-mail with a letter of information and a unique link to the questionnaire. After one week, a new e-mail was sent to those who had not responded. Two weeks later, the preschools that had not responded to the questionnaire received a phone call as a reminder. The inquiry was closed after 42 days. The respondents filled out the questionnaire electronically. After controlling for errors, the data analyses were conducted using the Statistical Package for Social Sciences (SPSS Statistics 19) software. If the assumption of a normal distribution of the data was not met, the data were on the level of an ordinal scale, or the number of respondents in each group was lower than 30, nonparametric analyses were conducted. A further description of the measuring scale of each question and the methods used to analyze the data are provided in the results chapter.

Respondent groups

Responses were provided by 56 (56.6%) nature preschools and 52 (52.5%) preschools in the comparison group for a total of 108 preschools. Only a few of these persons were both a headmaster and a pedagogical leader and thus answered all of the questions. A total of 95 headmasters responded, including 52 headmasters representing nature preschools and 43 headmasters from the comparison group. Fifty-four pedagogical leaders representing 35 nature preschool and 44 pedagogical leaders representing 28 preschools from the comparison group completed the questionnaire for a total of 98 pedagogical leaders.

Interviews

The preschools were selected from a sample of 41 nature preschools that took part in a study of men in nature preschools. The criterion was geographical distribution, represented by preschools located in the central and southern parts of Norway. Two women and four men, aged 29-43 years, with in average six years of experience in this particular nature preschool were interviewed. Two of the nature preschools were public, and four were private. The interview guide consisted of four parts: personal background and interests, organizing a nature preschool and men in preschools. In this article, only the data from the “organizing a nature preschool” section are analyzed. The interviews were recorded in person at the preschools and later transcribed. The interviews were analyzed through a process inspired by thematic analysis process (Braun & Clarke, 2006). We familiarized ourselves with the data material by reading the transcribed interviews to get an overview of its content. The research questions in focus helped reduce the data material to a manageable quantity for analysis. Initial codes in the text were generated in the next phase to be the basis in the search for themes. The themes were reviewed and excerpts that described how the single preschool organized their activities were analyzed and named in themes like “group size”, “use of reference areas”, “time spent away from the preschool” and “organizing the activity away from the preschool”.

Ethical considerations

The project is in accordance with generally-accepted values of Norwegian laws and other research ethical regulations. No observations or other collection of data concerning children are conducted. The questionnaires were filled out anonymously and no individual or institutional source is identified in the data. In the interviews the interviewees gave their informed consent of participation. They were allowed to withdraw from the interview at any time. None of the participants did so.

Results

The data from the questionnaires are presented as numbers and tables. Statements and citations from the interviews are used to provide more insights into and better explanations of

the quantitative data from the questionnaires. At the end of the results, excerpts from the interviews that describe how the nature preschools organize their activities are presented.

Public or private preschool

The headmasters of the preschools were asked to account for ownership of the preschools. Sixteen percent of the nature preschools were public preschools, and 84 % were private. Forty-nine percent of the comparison preschools were public, and 51 % were private.

The sizes of the preschools

The sizes of preschools may be measured by the number of staff and number of children. The headmasters answered these questions. Independent sample t-tests showed that the nature preschools were significantly smaller than the comparison preschools; number of staff; $12.0 < 18.1$ ($t = -3,29$; $p = 0.001$), total number of children; $43.0 < 68.2$ ($t = -3,57$, $p = 0.001$), number of children 0-3 years; $13.8 < 23.3$ ($t = -3,42$, $p = 0.001$) and number of children 3-6 years; $28.8 < 43.7$ ($t = -2,81$, $p = 0.006$).

Department size and adult-child ratio

The preschools are organized into smaller departments that participate in daily activities, i.e., take trips outside of the preschools. The answers from the pedagogical leaders were used, and due to the low numbers of respondents' non-parametric statistics, the Mann-Whitney U-test was used. When smaller children (0-3 years) are involved, there was no significant difference in the number of children per department among the nature preschools (median 12) and the comparison preschools (median 14). The number of children in each group of older children (3-6 years) was smaller in the nature preschools than in the comparison preschools (median $14.5 < 19$, Mann-Whitney $U = 175.0$, $p = 0.007$). In the interviews, group size was highlighted:

“When we are out in nature the groups are very small: six (young) children and two adults”
Trude says.

Group size was judged to be an important factor when the nature preschools are away from their buildings. The possibility of being near the children, both physically and intellectually, and the possibility to supervise the children were mentioned as reasons for the small groups.

The number of children per adult (adult-child ratio) showed no difference between the groups.

Reference areas and time spent away from the preschools while visiting a reference area

The questions about reference areas and the time spent away from the preschools while visiting a reference area were answered by the pedagogical leaders within the different departments. These questions were measured with different scales and are therefore presented as text and in a separate table.

How many different areas or places outside of the preschools area does each department use? What are the distances to the nearest and farthest reference areas? The answers are given as numbers and distances in kilometers. Independent sample t-tests showed that the nature preschools had a significantly higher number of reference areas than the comparison preschools; $14.2 > 6.9$ ($t = 2.22, p = 0.03$). There were no differences in the distance to the nearest or the farthest reference areas. The distance to the nearest reference area was in average low across all preschools (0.225 km). The distance to the farthest reference area is a much longer distance (3.64 km). The staff spoke about the places that are used on a regular basis:

“We have a fixed reference area with a tipi, benches and table where we do many activities, e.g., climbing on rocks or with a rope. The place is 300 meters from the buildings”, John says.

Trude states: *“We have 25-30 places in the woods that we visit”*

The number and use of fixed places was a topic in the interviews. Not all of the preschools have included major customizations in these spaces, such as a fireplace or benches. Some report having made minor changes to the reference area, such as the removal of rocks under climbing trees and the removal of sharp branches from these trees.

How frequently does your department use the reference areas? The answers were provided on a scale ranging from 1, daily, to 7, never (Table 1). The Mann-Whitney U-test was used to find differences among the groups (Table 2).

Use of areas outside the preschool	Nature preschool		Comparison group	
	Frequency	%	Frequency	%
1 – Daily	21	42.9	2	4.9
2 - Every second day	16	32.7	4	9.8
3 - Once or twice a week	11	22.4	23	56.1
4 - Once or more a month	1	2.0	10	24.4
5 - Once or more a year	-	-	2	4.9
6 or 7- Seldom or never	-	-	-	-
N	49		41	

Table 1: The table shows the frequency of the preschools’ use of outside areas.

	Nature preschool			Comparison group			P-value ^a	Mann-Whitney U
	N	Mean	Median	N	Mean	Median		
How frequently does your department use reference areas?	49	1.84	2.00	41	3.15	3.00	.000	311.5

^a Asymptotic significance

Table 2: The table shows how frequently each department uses the reference areas among the nature preschools and the comparison group. 1 - Daily, 2 - Every second day, 3 - Once or twice a week, 4 - Once or more a month, 5 - Once or more a year, 6 or 7 - Seldom or never.

Tables 1 and 2 show that nature preschools use reference areas more frequently than other preschools. Overall, 43% of the nature preschools use the areas outside the preschool on a daily basis, whereas 76 % of the nature preschools spend at least every second day away from the preschool, and 15 % of the comparison preschools do the same. The majority of the comparison preschools visit a reference area once or twice a week. This shows that the nature preschools use the reference areas more than the other preschools.

Two of the staff reported that their preschools have four days a week during which they visit a reference area and one “home day”. When they are “at home”, meetings and planning are undertaken. Other nature preschools are “outside their fences” every day.

The department leaders were asked to report how long they spent outside of the preschool when they visited a reference area. The time included the transport to and from the area and was reported by a number ranging between zero and ten. An independent sample's t-test was used to find differences between the preschool groups and showed that nature preschools spent significantly more time (hours) away from the preschool when visiting a reference area than the comparison preschools; $4.18 > 2.88$ ($t = 3.98, p \leq 0.000$).

A "core-time" of four to five hours away from the pre-school was reported by the staff in the interviews. Charles states:

"from this time to that time, we are in the forest", "this time in the forest is ours, with no interruptions"

"from 10 to 3 o'clock, we are outside the preschool" Olav says.

How do the nature preschools organize their daily activities?

The staff members of the nature preschools highlight the flexibility that they have when they are away from the buildings for the majority of the day. Meals and daily routines must be customized according to the weather, season and the children's needs. To be outdoors for such a period time is unpredictable, and the staff reports that they must improvise and be in close contact with the children. The freedom that the staff has is highlighted in the interviews. Eli states: *"It is much freer to be outside, both for the children and the staff. When you are working indoors, it is much more organized"*. Charles says: *"We have very great freedom"*.

The nature preschools have also taken some organizational steps. Two of them have "meeting days" in which all the meetings are arranged into one day. The rest of the week is then without meetings and allows staff to travel away from the preschool. Trude says that her preschool does not have liquidation of breaks: *"We are together with the children all the time"*.

When the nature preschools spend so much of their time away from the buildings they must have routines and rules that the children are compliant with. The staff spoke about invisible fences, borders and waiting areas that the children must respect.

Charles says: *"the children get a lot of freedom and responsibility. When we are in the woods, we expect that the children respect the invisible borders. If the children want to cross those borders, first, they need to ask us."*

Bill states: *"We have no written rules, but we have built-in rules that the children respect.. when we are close to the buildings, they should be in sight!"*

Invisible borders or invisible fences restrict the movement spaces of the children and help the staff to control them. Waiting areas along the path to a specific reference area where the children must stop and wait for the rest of the group are also frequently used. In these cases, the children are free to run or walk away from the rest of the group as long as they stop at the waiting area. When the rest of the group arrives at the waiting area, the children are allowed to go to the next waiting area.

These rules are based on the trust between the children and the employees, and if the children do not respect the rules, the adults impose mild sanctions. These sanctions restrict the freedom of the children, and the adults explain this to the children as: *"If I cannot trust you, I have to restrict your freedom. You have to stay with me until you show me that I can trust you"*.

Examples of such mild sanctions include the following:

- The children must stay close to the building or the gathering place
- The children must walk with the adults
- The children must stay in sight of, or close to, the adults

One example of another rule that restricts the children is mentioned by Charles: *"Rule number one is that the children are not allowed to touch the mushrooms; they have to ask us, and then we can decide if it is an edible mushroom or not."*

The trust and responsibility that the children have is a main characteristic of the nature preschool and is fundamental to the organization of daily activities. John states:

“Here, we trust the children” and “We have fences to climb over”.

Olav states *“when we are in the woods, we represent the security, and the children want to be around us”*. Bill says *“the more you trust the children, the more trustful they are”*.

Discussion

The characteristics of nature preschools in Norway are described and discussed below.

Public or private Norwegian nature preschools

The percentage of public nature preschools is low, and most of the nature preschools are private. The comparison group was equally divided, which is similar to the distribution reported by Statistics Norway (2015). The reason that most Norwegian nature preschools are private is uncertain, but we speculate that the Norwegian municipalities that run the public preschools want to have a traditional focus in their preschools. The private preschools may have more freedom to choose their own profile or focus and may easily choose a nature perspective. Personal initiatives from preschool staff that are intended for the use of nature in the education and care of children may be easier to accommodate in a private preschool than in a public preschool. Private organizers of preschools may also be more creative in the establishment of new preschools than the municipalities, which must cope with a higher level of bureaucracy.

The size of the preschools

The nature preschools are smaller than the other preschools, and the numbers of staff and children are fewer. This applies to both younger children (0-3 years) and older children. We argue that it is easier to start a small preschool than a large preschool. Smaller preschools may also be easier to organize, and the staff can choose the focus of the preschool more easily. This may explain why nature preschools have fewer children than other preschools.

Department size and adult-child ratio

The Norwegian preschools are usually organized into smaller departments for daily activities e.g., different types of indoor or outdoor activities or trips outside of the preschools. When younger children (0-3 years) are involved, there is no difference in the number of children per department between the nature preschools and the other preschools. The number of children in each group of older children (3-6 years) is smaller. The number of children per adult showed no difference between the groups due to the existence of common standards for all preschools. These standards are not influenced by the environment in which the activity takes place, which is in contrast with Slovenian law, which states that the adult-child ratio must be higher when students and staff of the preschool are going to be outside of the preschool premises (Kos & Jermann, 2013). Our experience is that many nature preschools organize themselves in relatively small groups, and group size was also highlighted in the interviews. The possibility to supervise the children and to be near them are arguments for having small groups of children when outside of the preschool area. In nature preschools, groups often consist of two adults and 12 children (3-6 years), and this organization is different from that of groups at other preschools, which often have three adults and approximately 18 -20 children (3-6 years). An argument for such organization in the nature preschools is that it is easier to organize a small group of children while they are in the nature and to supervise and control all of the children compared with a larger group. Communication between two adults is more accurate than involving a third or fourth person. This is an important issue when the department is away from the preschool.

Use of reference areas and time spent away from the preschools while visiting a reference area

Reference areas are places that are outside of the centers' boundaries, such as regular destinations (Lysklett, 2005) or specific natural spaces outside the fences of the preschools (Moser & Martinsen, 2010). Nature preschools report having twice as many reference areas than comparison preschools. This allows the nature preschools a wide range of possibilities regarding where they take the children. The weather, the theme of the day, and the seasons are factors that are taken into account during such discussions. The more alternative reference areas the preschool has allows the staff to choose the most suitable area to visit. The area of the day may therefore afford the children many challenges, both physical and pedagogical.

Slovenian preschools report that the distance to a natural setting is crucial regarding whether the preschool spends time in natural settings or not (Kos & Jerman, 2013). The distance to the closest reference area is in average 225 meters among all preschools; therefore, the distance to reference area is not considered to be a limitation for Norwegian preschools' use of nature. Furthermore one in four Norwegian preschools has access to nature outside of their fences (Moser & Martinsen, 2010). To the farthest reference area, the distance is longer (in average 3.64 km), and under normal circumstances, the preschool will require transportation to visit the area. To the best of our knowledge, the preschools do this occasionally. Our experience shows that the different reference areas often have specific names that the preschools use on a daily basis. For example, the "eagle nest" is located at the top of a small cliff that is used for climbing.

Nature preschools use the area outside of the preschools more frequently than other preschools. Overall, 75.6 % of the nature preschools spend at least every second day away from the preschool, whereas 14.7 % of the comparison preschools do the same. Statements from the interviews also show that the nature preschools visit reference areas frequently. When the preschools visit a reference area, the nature preschools spend more time away from the preschool than the comparison preschools. The nature preschools spend more than four hours away, and the comparison preschools spend a little less than three hours when visiting a reference area away from the preschool. "Core times" away from the preschool of four to five hours were reported in the interviews. Despite the fact that all Norwegian preschools place great importance on being outdoors (Moser & Martinsen, 2010), nature preschools are more frequently in nature and spend more time in nature each day that they are away from the preschool area than other Norwegian preschools; thus, nature preschools spend significantly more hours in nature than other preschools. This is a child-care practice that several parents want for their children (Borge, et al., 2003; Grette, 2009).

A larger amount of time spent outdoors provides better opportunities for more undisturbed play and supposedly leads to better conditions for child learning and development (Grahm et al., 1997). Time spent in nature is also fundamental for the first stage in the model "Hierarchy of learning in nature" (Bang et al., 1989). "*Learning to be in nature, to experience nature and enjoy being in nature*" is dependent on a certain amount of time spent in nature. The first stage in the model is also highlighted by the parents in their arguments for selecting nature preschools for their children (Grette, 2009). Time spent in nature is also a crucial factor in stage two "*Learning to observe nature and the environment*". Children need to be in nature to

be able to observe nature. Contact with nature at an early age is also viewed as important to develop knowledge and feelings for nature (Cawla, 2007).

To the best of our knowledge, there are no differences in the hours of operation between the nature preschools and other preschools or in the education of the staff. The preschool-teacher education in Norway is focusing on opportunities for children's explorations in nature and this is central to their pedagogy (Sandseter, et al. 2012) so the reasons for the difference in the time spent away from the preschool when visiting a reference area must be due to other reasons. These explanations may include differences in motivation for nature trips, different trips or different daily routines. Special administrative routines such as a "home day" with meetings and planning sessions were reported in the interviews and allow the nature preschools the opportunity to visit reference areas more frequently than other preschools.

How do nature preschools organize their daily activities?

To be in nature most of the day requires certain routines, and nature preschools have developed both their pedagogy and their organizational structure. The fact that nature preschools are private and smaller than other Norwegian preschools may be crucial for the organization of their daily activities. Less bureaucracy and smaller units make choosing different organizational models easier and may result in less resistance to new ideas. The staff highlighted the flexibility that they have, and such flexibility may be dependent on the close contact and trust between the headmaster of the preschool and the staff. When units are small, the distance between the headmaster and the rest of the staff is minimized.

The activities in preschools are influenced by daily routines, and the flexibility the staff in nature preschools highlight contrasts with many such routines as many daily routines allow less flexibility. The freedom that the staff speaks of gives them the opportunity to improvise, both for routine activities such as eating and, more important, for the actual activities in which the children participate. When the staff improvises, they exploit the different affordances that the environment offers. Undisturbed time also allows better conditions for child learning and development (Grahm, et al., 1997).

Invisible borders and waiting areas that restrict the movement radius of the children are unique characteristics of nature preschools. To the best of our knowledge, there were few incidents where children became lost or wandered away from the rest of the group, which is a

kind of play that is categorized as risky play (Sandseter, 2007). The staff also did not mention this as a problem. The staff in Norwegian preschools are liberal to risky play and think such play is important (Sandseter, 2012). This is seen through the use of invisible borders and waiting places as sign of trust that the staff provides the children. How does the level of trust that the adults place in the children influence both the children and the staff? The staff are dependent on the children, and it is easy to imagine that this could be a major challenge. The uncertainty that they feel when trusting the children at such a level must be tremendous. The staff spoke about this in the interviews, and it seems that the routines using invisible borders and waiting areas function well. The trust that the children receive from the adults is fundamental to the organization of the nature preschools, and together with the flexibility that was discussed previously, the children have an open framework for their preschool day. This must be investigated more thoroughly, both in exploratory studies and developmental studies.

Conclusion

Norwegian nature preschools are different from other preschools. Most of the nature preschools are private and smaller than other preschools. This combination allows the preschools the opportunity to choose nature as a specific subject for pedagogical work. Nature preschools have several reference areas and spend more time away from the preschools while visiting these reference areas. Although great importance is placed on the outdoors in Norwegian preschools (Moser & Martinsen, 2010), the differences between nature preschools and other preschools point to the same conclusion – nature preschools are organized so that children spend more time in natural settings. Nature preschools have made certain adaptations such as rules for the children and organizational schemes. This enables them to use nature as a pedagogical playground and to spend large amounts of undisturbed time in nature. Questions remain regarding the role that this focus on nature plays in children's physical and psychosocial development, learning and growth.

References

- Bang, C., Braute, J. N. & Koen, B. (1989). *Naturleikeklassen: ein stad for leik og læring*. Oslo: Universitetsforlaget.
- Borge, A. I. H., Nordhagen, R. & Lie, K. K. (2003). Children in the environment: Forrest day care centres – Modern day-care with historical antecedent. *History of the Family*, 8(4), 605-618.

- Braun, V. & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3 (2), 77-101.
- Chawla, L. (2007). Childhood experiences associated with care for the natural world: A theoretical framework for empirical results. *Children, Youth and Environments*, 17(4), 144-170.
- Ejbye-Ernst, N. (2012). *Pædagogers formidling af naturen i naturbørnehaver* [Nature Interpretation by Pedagogues in Nature Kindergartens] (Ph.D.-thesis), Aarhus Universitet, København.
- Fjørtoft, I. (2000). *Landscape as playscape - learning effects from playing in a natural environment on motor development in children*. (Doctoral thesis), Norwegian University of Sport and Physical Education, Oslo.
- Fjørtoft, I. (2001). The natural environment as a playground for children: The impact of outdoor play activities in pre-primary school children. *Early Childhood Education Journal*, 29(2), 111-117.
- Gibson, J. (1979). *The ecological approach to visual perception*. Boston: Houghton Mifflin Company.
- Grahn, P., Maartensson, F., Linblad, B., Nilsson, P. & Ekman, A. (1997). *Ute på dagis : hur använder barn daghemsgården? : utformningen av daghemsgården och dess betydelse för lek, motorik och koncentrationsförmåga* [Outdoors at day nurseries. Layout of playgrounds and its effect on play, motor function and power of concentration]. (Vol. nr 145). Alnarp: Movium, sekretariatet för den yttre miljön, Sveriges lantbruksuniversitet.
- Grette, M. S. (2009). *Foreldrene i natur- og friluftsbarnehager i Buskerud – Hvem og hvorfor?* Masteroppgave, Høgskolen i Telemark, Bø.
- Hagen, T. L., Lysklett, O. B. & Emilsen, K. (2003). Hva kjennetegner natur- og friluftsbarnehager [What characterizes nature and outdoor preschools]. *Barnehagefolk*, 4, 78-85.
- Heft, H. (1988). Affordances of children`s environments: A functional approach to environmental description. *Children`s Environments Quarterly*, 5(3), 29-37.
- Jørgensen, K.-A. (2014). *What is going on out there? What does it mean for children`s experiences when the kindergarten is moving their everyday activities into the nature?* (Doctoral thesis), University of Gothenburg. Faculty of Education. Gothenburg.
- Kampmann, J. (2006). Børn, rum og rummelighed [Children, room and spaciousness]. In K. Rasmussen (Ed.), *Børns steder. Om børns egne steder og voksnes steder til børn*. (pp. 106-120). København: Billesø and Baltzer.
- Kaarby, K. M. E. (2004). *Children playing in nature*. Paper presented at the CECDE conference: Questions of quality, Dublin.
- Kirkvaag, R. (1984). *Tomm Murstad : en entusiastisk skihistorie* [Tomm Murstad: an enthusiastic ski history]. Oslo: Aschehoug.
- Korsvold, T. (1997). *Profesjonalisert barndom : statlige intensjoner og kvinnelig praksis på barnehagens arena 1945-1990* [Professionalized childhood: government intentions and female practices in kindergarten arena 1945-1990]. Historisk institutt, Det historisk-filosofiske fakultet, NTNU, Trondheim.
- Kos, M. & Jerman, J. (2013). Provisions for outdoor play and learning in Slovene preschools. *Journal of Adventure Education and Outdoor Learning*, 13(3), 189-205.
- Kyttä, M. (2004). The extent of children`s independent mobility and the number of actualized affordances as criteria for child-friendly environments. *Journal of Environmental Psychology*, 24(2), 109-123.
- Lysklett, O. B. (2005). Uteleik året rundt i kjente omgivelser. In O. B. Lysklett (Ed.), *Ute hele dagen* [Outdoor all day]. (pp. 15-22). Trondheim: DMMH.

- Miljøverndepartementet (1987). *Om friluftsliv : tilråding frå Miljøverndepartementet av 3. april 1987, godkjend i statsråd same dag* [About Outdoors: a recommendation from the Ministry of the Environment of 3 April 1987, the government approved the same day]. Oslo: Miljøverndepartementet.
- Moser, T. & Martinsen, M. T. (2010). The outdoor environment in Norwegian kindergartens as pedagogical space for toddlers` play, learning and development. *European Early Childhood Education Research Journal*, 18(4), 457-471.
- Nordin-Hultman, E. (2004). *Pedagogiske miljøer og barns subjektskaping* [Educational environment and children`s subject formation]. Oslo: Pedagogisk forum.
- Statistic Norway (2015). Barnehager – årlige endelig tall [Preschools - yearly final numbers]. Retrieved 07.08.2015 from <http://www.ssb.no/sok?sok=barnehage>
- Sandseter, E. B. H. (2007). Categorising risky play-how can we identify risk-taking in children`s play? *European Early Childhood Education Research Journal*, 15(2), 237-252.
- Sandseter, E. B. H. (2009). Affordances for Risky Play in Preschool: The Importance of Features in the Play Environment. *Early Childhood Education Journal* (36), 439-446.
- Sandseter, E. B. H., Little, H & Wyver, S. (2012). Do theory and pedagogy have an impact on provision for outdoor learning? A comparison of approaches in Australia and Norway. *Journal of Adventure Education and Outdoor Learning*, 12(3) 167-182.
- Sandseter, E. B. H. (2012). Restrictive Safety or Unsafe Freedom? Norwegian ECEC Practitioners` Perceptions and Practices Concerning Children`s Risky Play. *Child Care in Practise*, 18(1), 88-101.
- Wilson, R. (2007). *Nature and Young Children : Encouraging Creative Play and Learning in Natural Environments*. Hoboken: Taylor and Francis.