

Nature Preschools in Norway and the United States: Observed Similarities and Differences

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ABSTRACT

Growing interest in young children learning and interacting with others outside in a natural environment has contributed to a global increase in nature preschools, known as kindergartens in Norway. In these programs serving children aged 3-5, nature is the core feature. Identifying and understanding differences among nature preschools while simultaneously focusing on commonalities allows for learning from one another and sharing effective practices on an international scale. The purpose of this manuscript is to describe the organization, general characteristics, and time spent in natural settings at Norwegian and American nature preschools, as evidenced during observations. Data collected from a convenience sample of two nature preschools (one in each country) during four visits (two at each site) revealed more similarities than differences. Documenting common characteristics among international nature preschools is a necessary step toward establishing a universal definition that would improve communication and collaboration, supporting worldwide investigations into effective pedagogical practices in and the long-term effects of attending a nature preschool.

Keywords: preschool, nature, nature-based education, kindergarten, outdoor learning

Nature preschools have gained increasing popularity in the Nordic region, where they originated, as well as internationally. Two factors have likely contributed to the recent interest in nature preschools: a substantial and growing body of research that demonstrates contact with nature provides numerous benefits for physical and mental health (Sandifer et al., 2015), and children around the world are spending more time indoors compared to previous generations (Dealey & Stone, 2017; Gray, 2011). Recognizing that time outdoors is essential for children's overall health and well-being, there has been a global trend during the past twenty years to mitigate the negative impact of an indoor childhood by creating opportunities for children to connect with nature. The heightened appeal of nature preschool as an early childhood program is one result. In nature preschools, nature is the core feature. Children learn about, with, and through nature, with the natural world serving as the main setting for learning. Nature preschool fosters the development of the whole child while promoting respect and appreciation for nature through outdoor experiences across differing weather conditions and seasons.

A Brief History of Nature Preschool in Norway

In Norway, there are long-standing traditions of promoting outdoor activity, which is viewed as making people healthy and cheerful (Fasting, 2019). Nature preschools developed from Norwegians' high regard for spending time outdoors, known as *friluftsliv* or "open-air-life," beginning in the 1950s. Tom Murstad was a pioneer in this period, who used the tram to transport children from Oslo to small huts in the nearby hills of Holmenkollen because he wanted them to play in natural surroundings and experience nature. Until 1987, few Norwegian kindergartens

regularly used nature as the basis for teaching and learning. In the early 1990s, several kindergartens began using nature as a pedagogical foundation and adopted names such as nature kindergartens or open-air-life kindergartens to reflect this emphasis. Such kindergartens were first acknowledged by the government in 1999, at which time the number was stipulated at around 30. After the political kindergarten settlement in 2003, which agreed to the goal of full kindergarten coverage, the overall number of kindergartens in Norway increased significantly, and many nature kindergartens were established (Lysklett, 2013).

A Brief History of Nature Preschools in the United States

In the United States, the early beginnings of nature preschool were concentrated in the northern part of the country. The 1967 opening of a nature preschool at the New Canaan Nature Center in Connecticut, recognized as the first of its kind, was followed by the opening of the Massachusetts Audubon Arcadia Preschool in 1976 and Nature's Way Preschool at the Kalamazoo Nature Center in Michigan in 1982. As an educational trend, nature preschool in the United States experienced slow, gradual growth over its first fifty years, with approximately 20 nature preschools across the country in 2012 expanding to over 30 in 2014 (Bailie, 2012; Larimore, 2011). The idea of free play in nature as essential to children's healthy development gained significant momentum after the 2005 publication of Richard Louv's landmark book *Last Child in the Woods: Saving Our Children from Nature-Deficit Disorder*, criticizing the replacement of the unstructured, imaginative, and therapeutic outdoor explorations once common in the lives of American children with organized sports and restricted, sanitized, and limited play opportunities. By 2016, the number of nature preschools had swelled to over 150 (Merrick, 2016). As the number of nature preschools increased, interest among educators, parents, and the public also grew, making nature preschools a more accessible option for early childhood education to American families.

Nature Preschools Today

Today, greater recognition that outdoor play is essential to children's healthy development and well-being (Scott et al., 2022) has contributed to growing interest in young children learning and interacting with others outside in a natural environment. Both Norway and the United States have experienced a recent drastic increase in the number of nature preschools, which are known as kindergartens in Norway. In Norway, 97 % of children (3-5 years) attend kindergarten, and the kindergartens are highly subsidized. There are approximately 5200 kindergartens in Norway. About half of the kindergartens are private, and about half are operated by the local municipality. The adult-child ratio is set by the government at one adult to six children aged 3-5. In addition, there is a pedagogical norm that requires at least one educational leader per seven children under the age of three and one educational leader per 14 children over the age of three. Eighty-four percent of the nature kindergartens are private and have fewer children and staff than public kindergartens (Lysklett 2013). In 2024, there were 372 nature kindergartens in Norway, comprising 7% of all kindergartens (Utdanningsdirektoratet, 2024).

In the United States, the estimated number of nature preschools increased from 585 in 2020 to 800 in 2022, representing a 35% growth (North American Association for Environmental Education [NAAEE], 2023). Approximately 25,600 American children, mostly 3 to 6 years old, attended nature preschools during the 2022-2023 school year. Additionally, American nature preschools are spending a larger percentage of their school day outdoors compared to five years ago. California, Washington, and Minnesota have the largest numbers of nature preschools, while Maine, New Hampshire, and Vermont have the most nature preschools per capita. Licensing requirements in some states present a challenge to nature preschools, often resulting in them operating unlicensed with restricted hours, limited to the number of children they can serve, and without eligibility for public funding. Further, early childhood education teacher certification in most states spans pre-kindergarten through third grade, with pre-kindergarten serving 4-year-old children, and emphasizes preparation for teaching in traditional, indoor educational programs (Bouchrika, 2025). The Natural Start Alliance, founded in 2013 as a project of the North American Association for Environmental Education to support efforts connecting young children around the world with nature, advocates for improved licensing procedures for nature preschools and increased professional training for nature-based early educators (NAAEE, 2023).

Purpose and Procedures

Nature preschools, regardless of their location, share a philosophical stance that values young children's outdoor explorations as beneficial to their development and learning. Identifying and understanding differences among nature preschools while simultaneously focusing on commonalities allows for learning from one another and sharing effective practices on an international scale. The purpose of this manuscript is to provide basic but needed information about the differences and similarities between Norwegian and American nature preschools. Specifically, we address the following questions:

1. How are these preschools organized?
2. What are the characteristics of these preschools, particularly regarding time spent in natural environments?

Using a focused ethnography approach (Rashid et al., 2019), data was collected from a convenience sample of two nature preschools (one in Norway and one in the United States) during four observations (two at each site). Sites were purposefully selected from nature preschools within the two countries according to their accessibility and willingness to participate. Sites were visited on two non-consecutive, typical school days over seven weeks. Each observation lasted 4 to 5 hours. This was sufficient time to experience the various events and practices that comprise a normal day (e.g., arrival, opening activities, gathering procedures, lunch, free play, guidance techniques, and teaching situations) and to observe the entire time spent in the natural environment.

During visits, ordinary occurrences were witnessed and recorded, with particular attention given to engagement with nature. On several occasions, teachers were asked about what was being observed to obtain clarification or additional information. Digital photographs substantiated and, in some cases, augmented information obtained during observations. After each visit, notes were transcribed, and impressions were added. In this article, we describe the similarities and differences between Norwegian and American nature preschools regarding their organization, general characteristics, and time spent in natural settings, as evidenced during observations.

Findings and Discussion

Organization

Mission

Both preschools are ideally located for outdoor activities and engage children in learning about, with, and through nature, embracing the natural environment as their classroom. A shared philosophy of educating the whole child while cultivating a sense of wonder, love of learning, and environmental stewardship through play and child-led discovery is apparent in their mission statements, shown below:

Norway. Outdoor activities and active use of nature are the framework for educational activities. Nature is our most important arena for development, play, and learning.

United States. We believe nature is good for the body, mind, and spirit. Our students learn about the natural world through hands-on learning, creative play, and outdoor exploration.

Calendar

The nature preschools in this study followed the same general school year calendar used by public schools in their respective countries, operating from Monday to Friday from August to May. The Norwegian nature preschool had a school day schedule (7:00 a.m. - 4:30 p.m.), which was similar to that of traditional public schools in the area. The American nature preschool had a shorter school day (8:45 am - 12:45 pm) than traditional, public schools in the area, but offered before- and after-care options, which extended their hours to resemble the 7-hour schedule of nearby elementary schools. Both preschools scheduled days throughout the year for teacher planning.

At both preschools, children learn together in small, mixed-age groups, consisting of 12-14 children and two adults. This grouping is intended to mimic a familial situation, encourage community, promote collaborative learning, and create shared experiences. At the Norwegian nature preschool, children aged 3 to 6 were grouped, which made the age differences more apparent than at the American nature preschool, where 4- and 5-year-olds were grouped.

Staff

At both preschools, there was a lead teacher and an assistant teacher for each group. The Norwegian lead teacher was a pedagogical leader with a bachelor's degree in early childhood education. The American lead teacher had a bachelor's degree in early childhood, but not a state-issued teaching certificate. At both sites, assistant teachers were not required to have the same degree of formal training as lead teachers.

Historically, early childhood education has been a female-dominated profession. At the Norwegian preschool, both the lead and assistant for the group observed were males, with males comprising 50% (two out of four) of the teachers at the preschool visited. This percentage was higher than the national average in Norway, which is 11% for males in preschools (Utdanningsdirektoratet 2024) and 20% for males in nature preschools (Lysklett, 2013). All teachers (8) at the American nature preschool were female, which is not unusual given that men hold fewer than 3% of the preschool and kindergarten teaching positions in the United States (Reeves, 2024), with women accounting for an estimated 90.1% of the nature preschool workforce (NAAEE, 2023).

Characteristics

Broadly defined, nature preschools are early childhood programs that use nature as the heart of learning, with children spending time outdoors in natural environments every day. Lysklett (2005; 2014) and Berger (2013) identified six common characteristics of contemporary nature preschools in Norway: most are small; most are private; children spend a significant amount of time outdoors; various natural places are visited regularly; developing motor skills, social skills, and knowledge about nature is emphasized; and experiences in the natural environment are managed with a system of trust between the children and teachers. Nature preschools in the United States evidence these same characteristics to some extent.

Size and Funding

A recent study of nature preschools in the United States (Giles & Lysklett, under review) indicated that the majority (68.6%) served fewer than 50 children, and many (44.3%) served fewer than 20 children. These findings are consistent with those reported in a 2022 national survey of nature preschools, which found a median of 32 children per program (NAAEE, 2023). Both nature preschools observed in this study were small. The Norwegian preschool served 24 children, and the American preschool served 54 children. Both nature preschools observed also maintained a group size and teacher-child ratio below the allowable maximum in the United States, which is a group size of 20 with a teacher-child ratio of 1:10 (National Association for the Education of Young Children, 2018).

Although the Norwegian preschool in this study was public, most nature preschools in Norway are private. Almost all nature preschools in the United States operate with tuition, as opposed to being funded by any government entity (NAAEE, 2023). The American nature preschool in this study was fully tuition-funded with a scholarship assistance program to help local families in need meet the financial obligation.

Time Outdoors

The average percentage of the day spent outdoors during warm weather for Norwegian and American nature preschools is about 70% (Moser & Martinsen, 2015; NAAEE, 2023). The average amount of total time most American nature preschools spend outdoors per day is 4 hours for full-day programs and 3 hours for half-day programs (NAAEE, 2023). Observations at both locations exceeded these measures. Norwegian preschoolers were observed outside for approximately 5 hours per day (71%), and American preschoolers were observed outside for approximately 3.25 hours per day (81%). All observations, however, occurred during pleasant weather conditions. We acknowledge that

daily schedules must be adjusted to accommodate inclement weather, such as freezing temperatures, extreme heat, or thunderstorms, resulting in less time spent outdoors on some days.

While outside, children were observed in various activities. The Norwegian preschoolers played outside the classroom before and after traveling to the day's natural area. During this time, children rode bicycles, dug in the dirt pit, played chase, and engaged in dramatic play using a wooden car and fort located on the grounds. The American preschoolers engaged in teacher-led activities outdoors, like group discussion and counting activities, before traveling to the day's natural area, and they ended the day with individual, self-directed Montessori-style tasks indoors. At both preschools, children ate snacks and lunches outside.

At the Norwegian and American preschools in this study, children spent a significant part of each day interacting with nature. This included time spent hiking to/from natural areas and time engaged in free play at the natural area. Norwegian preschoolers spent 3 hours (43%) of their 7-hour school day engaged with nature. Approximately 1 hour of these 3 hours was devoted to travel and lunch. American preschoolers spent 1 hour (25%) of their 4-hour school day playing in a natural area, located 1-4 minutes away, before returning to the outdoor classroom area for lunch.

Visiting Natural Places

Norway. Taking daily trips or walks from the preschool to various natural places is a standard practice in Norway (Lysklett, 2014; Lysklett & Berger, 2017). These places, known as reference areas, are located from 225 meters to 3.64 kilometers from the preschool (Lysklett & Berger, 2017) and are used to increase physical and pedagogical possibilities (Lysklett, 2005; 2013). Some nature preschools make major modifications to the reference area to customize the space for children's use. This might involve creating a seating area, adding tables, erecting a tent-like shelter, or building a fire circle. In other instances, minimal or no changes are made. Minor changes to the reference area usually focus on improving safety and may include removing large rocks under climbing trees or pruning sharp branches from trees.

The Norwegian nature preschool in this study had 15 reference areas labeled with descriptive names to make them easily identifiable by the children. All 15 areas were within walking distance of the preschool. Observations occurred at two separate areas known as Viewpoint and Western Woods. On the second day of observation, the children were consulted when determining which area to visit. Improvements to the first area included the addition of a log swing suspended between two trees and a small lean-to shelter constructed of large limbs covered with leafy branches. The second area had a fire circle surrounded by large logs used for seating. These areas were reached by traversing a variety of different terrains. On the first day, travel to the Viewpoint was mostly uphill along narrow, uneven paths through underbrush. The path was dirt or mud in some places and wet and spongy moss-covered ground in other places. At one point, children walked across two wooden planks placed side-by-side to serve as a bridge over a small stream. To reach the Western Woods, children walked along a wide gravel trail for most of the distance before turning onto a smaller, well-defined wooded trail over mostly even ground. At the Norwegian preschool, travel from the preschool to the reference area lasted 20-30 minutes each way, and each child wore a backpack containing their lunch.

United States. Children attending American nature preschools spend their time outdoors exploring and playing in various natural settings located on the grounds of the preschool (Giles & Lusklett, under review). The various natural areas on a preschool's property are referred to as designated spaces to distinguish them from reference areas, which are typically located beyond the preschool's boundaries. The American nature preschool observed was situated on an 11-acre, mostly wooded property. A shallow creek flowing through the property was the main natural area for free play and exploration. The Creek, which remained completely unaltered, was entered at different points on different days for variation. In addition to the Creek, there were three other designated spaces. Observations occurred at the Creek and in a small clearing within the woods known as Mushroom Meadow. The proximity of these areas eliminated the need for children to carry their backpacks or lunches, which remained at the preschool's outdoor classroom. The well-worn path to the Creek was steep, narrow, and, in some places, muddy, requiring children to maneuver over exposed tree roots. Mushroom Meadow was reached by walking along a short, wooded trail over even ground.

Both. Paths traveled within and beyond the boundaries of the nature preschools were narrow, uneven, steep, rocky, and muddy in places. No children with mobility issues or other needs requiring accommodation were observed participating in the programs. Both preschools, however, seemed open to working with children of all abilities, expressing an “aim to serve a diverse community” (United States) using a “holistic model for inclusive practice” (Norway).

Curricular Emphasis

Norway. The Norwegian nature preschool observed emphasized the development of children’s physical and social skills along with knowledge about nature learned through direct, self-initiated contact. Children’s gross motor development was promoted through such observed activities as riding bikes, climbing trees, balancing on logs, running, navigating various topographies, and swinging. Fine motor skills were refined as children wrapped yarn around sticks, picked berries, and dug in the dirt. Children communicated, shared, and negotiated as part of their natural interactions with peers of various ages. Although some short-lived gender segregation was noted, boys and girls, young and old, routinely played together, talked to one another while walking, and held hands while in the group circle.

Children’s familiarity with nature was apparent in their interactions with their natural surroundings. Children knew about the environment, its animals, and its plants because it was where they lived and played, rather than something learned about through instruction. Their comfort with nature was observed as they confidently picked and ate wild blueberries and lingonberries from shrubs they passed without any adult direction or permission. Similarly, one boy picked and ate Ground Elder leaves, which he used as a topping on his mud pizza without any acknowledgment (either praise for his correct identification of an edible plant or redirection from picking and/or ingesting vegetation) by the teachers. When some children’s excited exclamations of “æsj” (or “ash”) alerted the teacher to their discovery of animal feces, the teacher joined their visual examination and accepted their recognition of it as “yucky.” This discovery, however, was not used as a teaching opportunity that involved hypothesizing about the type, size, or diets of animals in the area. Time spent outdoors emphasized children’s wonder, enjoyment, and appreciation of nature as opposed to their acquisition of factual knowledge or specific skills. No whole-group structured learning activities were observed.

United States. The American nature preschool observed emphasized the development of children’s physical, social, and cognitive skills, including academic and knowledge about nature. Children’s gross motor development was promoted through such observed activities as climbing low tree branches, crawling over or under exposed tree roots, and running. Children were observed using fine motor skills to dig clay from the creek bottom, wield sticks like swords, and collect leaves. Children shared ideas, space, and materials during dramatic play and communicated their wants and needs to both teachers and peers. A child’s discovery of a cicada shell prompted a reminder from the teacher of their recent insect study. Children engaged in teacher-directed activities aimed at increasing their knowledge of nature (leaf scavenger hunt), reading (letter matching), mathematics (counting sticks), and general knowledge (days of the week). Teachers made accommodations (placing a blanket for a child not wanting to sit directly on the ground) or offering alternate activities (color a picture) for children’s discomfort in natural settings. The traditional early childhood practice of a daily whole-group gathering (circle time) to foster listening skills and taking turns was observed. Teachers and children sat together to greet one another, sing songs, preview activities, and review expectations. Various teaching aids (i.e., calendar, alphabet chart) and consumable instructional materials (paper, pencils, and crayons) were incorporated in outdoor learning activities.

Both. At both preschools, conservation was taught through modeling. Norwegian children were given a reusable cup for water, while American children used a personal, refillable water bottle. At both sites, eliminating paper packaging and encouraging healthy eating habits were observed as children ate low-sugar, nutritious foods from reusable containers. At the American nature preschool, the need for paper towels at an outdoor sink was eliminated by encouraging children to shake their hands dry.

Management and Guidance Techniques

Norway. At the Norwegian preschool observed, experiences in the natural environment were managed with a system of trust between the children and teachers. This trust was based on a mutual understanding that the teacher would largely supervise without controlling behaviors and that a teacher's direction, when given, was to be immediately and fully followed. The expectation that children could act autonomously replaced the need for any rule other than to obey the teacher. This expectation was clearly communicated through actions rather than words. If a child stumbled and fell without injury, the teacher neither assisted the child in returning to their feet nor instructed the child to stand up and keep going. Unlike rules, which serve as restrictions on children's behaviors, set limits, and establish control, guidance techniques observed in Norway fostered independence and increased self-regulation. Children were observed dressing to go outdoors, playing outside, eating, and engaging with nature without adult intervention or assistance. Similarly, children were afforded a high degree of responsibility when traveling to the reference area, as they moved freely to designated waiting points. At the reference area, teachers did not formally indicate boundaries, and children were permitted freedom to wander beyond the immediate vicinity to explore or for privacy to relieve themselves in the woods without notifying a teacher. Children were granted a similarly high level of freedom in their play. They were observed using berry juice for face paint and engaging in weapon play without adult interference. Teachers accepted that children's free play in nature should be exciting and challenging, and they were comfortable with the possible perils inherent in this type of risky play.

United States. While the level of independence afforded at the American nature preschool exceeded that present in traditional American preschools, it did not meet the level observed in Norway. The overall rules, called "safety agreements," were explicitly taught and included the following: do your best; keep your hands to yourself; listen and respond to group calls; play nice, and stick together. Additionally, guidelines for specific natural areas were communicated upon arrival at the designated space. For example, the children were instructed not to splash in the creek unless they were in the 'splash zone' and reminded not to play with sticks taller than themselves while in the woods. Colorful bandanas were tied to tree branches to designate the play space. Children were verbally reminded to stay within the identified boundaries and never put nature in their mouths. After the same rough patch of ground resulted in one child stumbling and another falling, the teacher moved the bandana marking the perimeter, making the play space smaller to remove the rough patch of ground. When children were observed using stick guns to shoot one another as they played pirates, the teacher asked a series of questions that led the children to deduce that pirates were more likely to have swords than guns, replacing short, bent sticks with long, slender ones. The teacher then asked a few more questions that guided the children from pretending to sword fight to constructing a pirate ship with a plank.

Both. The Norwegian and American nature preschools encouraged the children's use of natural resources in their play. Toys and manufactured items (such as buckets, shovels, blocks, or balls) were not present in natural areas. Children used their hands to dig and their extended shirt bottoms to carry pinecones. Two children in Norway were observed picking large fern fronds and using them as wings when pretending to be crows. Norwegian and American preschoolers were observed using sticks as guns and swords during dramatic play.

Conclusion

The organization and general characteristics, including time spent in natural settings, of nature preschools in Norway and the United States have been briefly described, based on observations from a single example in each country. The similarities between these two examples outweigh the differences among them. The organization of daily activities and the percentage of time spent outdoors are largely the same, despite the difference in the length of their day. The unifying attribute seems to be their shared belief that experiences in and with nature are beneficial for young children. Nonetheless, there is a noticeably greater emphasis on academics, specifically literacy and mathematics, and a greater degree of teacher control in the American nature preschool as compared to the Norwegian nature preschool. The increased monitoring and protective type of adult interaction is a typical style of parenting and childcare in the United States, attributed to a culture filled with societal pressures to ensure children's school readiness, fear for mental (bullying) and physical (gun violence) safety at school, and a litigious tendency. A stronger description of the common characteristics among international nature preschools would be beneficial for

establishing a universal definition. Such a definition would improve communication and collaboration, supporting worldwide investigations into effective pedagogical practices in and the long-term effects of attending a nature preschool.

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