

Nature Preschools: Putting Nature at the Heart of Early Childhood Education

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Imagine a preschool where the children spend part of their class time intently watching a snapping turtle lay its eggs in the playground sandbox—and then get to witness the babies hatching out weeks later. Imagine a preschool where the children go on joyful outdoor adventures every day, in all safe weather conditions, to explore acres of woods and wetlands—always under the careful watch of their teachers but free to learn from what they themselves discover and enjoy.

And imagine a preschool where the children are superbly prepared for kindergarten through a daily commitment to exploration, experimentation, discovery, creativity, sharing, and play.

These preschools exist. They are an emerging type of high quality early childhood program known as nature preschools: licensed, professionally operated preschools located in multifaceted green spaces where the children explore, play, and learn daily. Stimulating outdoor habitats are the focus of the curriculum, providing a wider diversity of discoveries and experiences than most indoor classrooms. The children's frequent and attentive explorations of nature immerse them in the ecology of their own communities—an ideal foundation for place-based learning.



Preschoolers and their teacher exploring the prairie. Photo: Bob Bailie.

Like most early education centers, nature preschools operate on a tuition basis and have professional teaching staff and well-equipped classrooms and support facilities. But unlike other preschools, their teaching spaces commonly include ponds with croaking frogs and zooming dragon-

flies, foot paths leading to new mysteries and adventures every day, boulders and logs to scramble over and peek under, and shallow streams to splash in. Many nature preschools even have access to the extraordinary resources of nature centers or similar environmental education facilities, including natural science artifacts, captive animals, and programs led by professional naturalists.

The Opportunity

The activities of a nature preschool may sound familiar, since for generations this “nature play” was a routine part of growing up. But childhood has changed dramatically over the past 30 years, and kids’ experience of nature is part of that change. On the one hand, children now enjoy tremendous access to information and images of nature. If they have the interest, they can find exponentially more data, photos, sounds, and videos about the natural world than their grandparents could ever have imagined.

On the other hand, these are only second-hand adventures. The dramatically whispered words of a stalking television naturalist will never carry the same sensory and emotional impact as children’s own discoveries beneath streambed stones, or their excitement when they succeed in climbing their first tree, or the physical and spiritual peace they feel while lying amid tall grasses, just watching the clouds drift by.

Such early and memorable outdoor experiences are almost universally recalled by adult conservationists—and not just as pleasant diversions, but as the foundation of their enduring love of nature (Chawla, 1998). Can children ever gain the same passion for nature from an electronic screen, no matter how many times they view a spectacular clip of a cheetah taking down an antelope? It seems unlikely.

As Pyle (1993), Louv (2005), and others have powerfully described, nature is relinquishing its long-standing role as a common and beloved component of children’s lives. It’s not that children don’t still enjoy the outdoors. Rather, overscheduled days, the allure of electronic play, testing-obsessed schools, and media-fueled parental fears are causing the landscapes of natural play to be supplanted by off-white walls and digital displays.

One thing that hasn’t changed, though, is that all parents want what is best for their children. That should include the opportunity to fall in love with the outdoors and claim it as a lifelong source of recreation, adventure, learning, and renewal. According to Wilson’s (1984) well-regarded “biophilia hypothesis,” humans are born with an innate affinity for nature. But if this love affair isn’t activated during the childhood years, will it ever be? That is a challenge for the current generation of American children—and exactly what nature preschools can address.

What Are Nature Preschools?

Quality preschools have long included nature in their activities, whether through collecting leaves, keeping classroom pets, or growing flowers from seeds. All of these are good but often limit-

ed exposures to the natural world. By contrast, nature preschools replace the limitations with wide-ranging adventure and discovery, including

- child-centered outdoor investigations;
- unstructured play and exploration in rich outdoor settings;
- often, large natural areas to explore; and
- special programs that might include making maple syrup, meeting live animals, making apple cider, and discovering pond life.



Nature preschool classes usually venture outside daily, in all safe weather conditions.

We propose three defining characteristics for nature preschools. The first is that they use nature themes and daily nature explorations as the central organizing concept of their program. That is, nature is not just one topic or activity center among many, but rather is the integrating thread that intentionally ties together the preschool’s philosophy, methodologies, classroom design, outdoor spaces, and public identity. The second defining characteristic is that a nature preschool’s overall program must be equally committed to both high standards of developmentally appropriate early childhood education (ECE) and the best practices of environmental education (EE). This necessarily requires dual expertise among its teaching staff—i.e., skills and experience in both ECE and EE. And the third defining characteristic is that a nature preschool supports dual aims for children: meeting child development goals and acquiring conservation values.

There is no single “correct” incarnation of these defining characteristics. Instead, there is a broad, continuous spectrum of nature preschools based on their practices and resources. It includes an

infinite variety of representations, though all of these must share the commitment to nature as a central organizing concept along with the dual emphasis on both ECE and EE. Described below are examples of points along this spectrum. Each level includes the resources and activities of the levels below it. The most basic representation of the nature preschool is one with a small but diverse natural play area that is used daily for nature explorations and play, accompanied by an organizational commitment to bringing nature into the classroom(s) through approaches such as expansive outdoor views, natural materials for play and artistic expression, nature-themed books and activities, windows that open, and an extensive use of natural lighting.

The next level can be typified by a nature preschool that has a small naturalized play area on-site and has brought nature into its classrooms but also takes children outdoors to explore and play in a larger natural area at least once a month throughout the school year. This wilder destination might be a nearby nature center, a wildlife refuge across town, or a city park down the block.

A further step along the spectrum would be a nature preschool that has an ongoing partnership with a local nature center or a similar EE provider. This partnership will use the nature center's wild lands and other educational resources (e.g., staff naturalists, live animals, and special programs) at least every other week. The partnership can be both "coming" and "going"—that is, the preschool classes can visit the nature center, or the nature center's resources can be brought to the preschool.

The apogee of the nature preschool model is a center that is operated by, and situated at, a nature center (or similar facility) that provides the preschoolers daily access to the host organization's complete range of resources—including land, programs, staff expertise, artifacts, and live specimens—while also offering a wide variety of complementary options for the nature preschool families. These additional offerings typically include family nature programs, nature day camps in the summer, volunteer opportunities, walking trails, and a variety of habitats open for self-guided exploration and enjoyment.



*Nature preschool playgrounds are far from typical—like this one at Dodge Nature Preschool in Minnesota.
Photo: Ken Finch*

Regardless of where a nature preschool fits into the spectrum, the key to its success is the children's frequent, unstructured time exploring nature. Most nature preschools use two complementary daily strategies for nature play—group hikes in natural habitats and individual free play in a natural play space—that encourage the development and practice of different skill sets and diverse abilities in social/emotional development.

Whole-class or small-group hikes explore the trails and nearby habitats, with the teachers serving as guides, mentors, and lifeguards. A class hike might ramble a half mile to the pond to collect polliwogs for the classroom aquarium. Or it might go barely 50 yards before the children decide to spend the whole session playing in leaves or snow. Both are equally valued by knowledgeable teachers.

Individual free play occurs in a confined natural play space, allowing the children to pursue their own interests and choose their own play partners, always with teacher supervision. These “natural play spaces” may include some commercial play equipment, but they are usually dominated by natural features that spark play: logs, gardens, grassy slopes, digging pits, shrub hideaways, piles of leaves, tree cookies (slices of tree logs), rain barrels or other water sources, and a wide variety of “loose parts” for building (such as sticks, rocks, and stalks).

NoneNature preschool playgrounds are far from typical—like this one at Dodge Nature Preschool in Minnesota. Photo: Ken Finch

Familiar classroom activities are also a part of a nature preschool's agenda, including free play in activity centers, storytime, music and movement, art, and daily snacks. However, even these indoor activities commonly use nature themes and often are crafted around the children's outdoor discoveries.

There are currently 30 to 40 nature preschools in the United States that operate under the auspices of (and on the grounds of) community nature centers. These are all half-day school-year programs. Parents register for the full school year, and can choose from two to five days of school per week, either in morning or afternoon sessions. Tuition rates are usually comparable to other quality preschools in the local area. Some of the most prominent nature preschools are found at:

- Schlitz Audubon Nature Center, Milwaukee, WI (www.sanc.org)
- New Canaan Nature Center, New Canaan, CT (www.newcanaannature.org)
- Dodge Nature Center, West Saint Paul, MN (www.dodgenaturecenter.org)
- Chippewa Nature Center, Midlands, MI (www.chippewanaturecenter.org)
- Teton Science School, Jackson Hole, WY (www.tetonscience.org)
- Drumlin Farm Wildlife Sanctuary (Massachusetts Audubon Society), Lincoln, MA (www.massaudubon.org/get-outdoors/wildlife-sanctuaries/drumlin-farm)

There are scores of other preschools that similarly use natural areas in their daily curricula, but they are less visible than those run by nature centers.



Gardening is a popular preschool class activity. Photo: Bob Bailie

There is no theoretical reason why nature preschools cannot morph into full-day, year-round programs. Although more expensive to operate and subject to additional licensing regulations, such programs would better serve two-earner and single-parent families whose logistical needs require full-day care. It seems likely that the nature preschool approach will soon spread to this full-time model.

Nature Preschools and Child Development

Nature preschools benefit young children through the priority they place on time spent in the natural world. They provide the time, tools, and materials that children need to explore natural spaces, allowing the curriculum to emerge through the constantly changing natural world and the varied interests it fosters in children.

These multidimensional outdoor experiences provide children with a very strong foundation for future schooling—i.e., with “kindergarten readiness.” Children’s hands-on experiences in nature contribute to early brain development at a very crucial time in their growth, since 85% of a child’s

brain develops during the preschool years (Bruner, Goldberg, & Kot, 1999). Research has found that rich environments, multisensory activities, novel experiences, and physical movement all contribute to the formation of neural connections in the brain (Medina, 2008). The diverse natural environments at nature preschools fit this model perfectly and thus help to develop the brain because they are busy, interesting, and challenging settings that require thoughtful decision making to navigate and explore (Jensen, 2008).



Children develop observation skills at Schlitz Audubon nature preschool in Wisconsin. Photo: Bob Bailie

Young children instinctively find the natural world novel, interesting, and meaningful. At nature preschools they can actively experience this stimulating environment with all of their senses on a daily basis. Practicing visual and auditory discrimination skills, such as watching animals move and distinguishing between different bird calls, helps to wire the brain for math and reading. These skills are superbly facilitated through frequent hiking and nature-based play. In fact, parents report that their children's observation skills notably increase within just a couple of months of attending a nature preschool. Further, nature preschoolers' daily adventures can include handling a unique variety of tangible objects, interacting with wild animals, caring for a garden, and helping turn the compost pile. Connections are formed between brain cells when children participate in meaningful activities like these, and hence learning takes place.

The exercise that children get from scrambling over logs, climbing trees, and hiking on trails is obviously valuable for fighting the obesity epidemic and for fostering physical abilities like large motor development and balance. But these movements also spur production of key chemicals that help build the brain's structure for learning and memory. Cross lateral movements, in particular—like sweeping a butterfly net in the prairie or digging a hole with a shovel—cause children

to repeatedly cross the midline of their bodies. This seemingly simple pattern of movement strengthens the connections between the two sides of the brain—a process that is needed to establish a good foundation for reading and writing. And even children’s tiniest actions at a nature preschool—like pulling seeds out of a sunflower head or picking up a worm—help to develop the fine motor skills needed to be able to hold a pencil, and thus to begin to form numbers and letters.

Our society is increasingly recognizing that success in life requires humans’ cognitive abilities to be balanced with social and emotional skills. The extensive free play opportunities at nature preschools help children practice and learn social interactions. They may use loose parts to collaboratively build structures, work together to dig up a root, or excitedly share their natural discoveries with their classmates. In the process, they are building friendships, learning how to get along with others, and working out how to solve problems together—all enhancing the skills necessary for critical thinking and leadership. Nature play also allows for appropriate risk taking and adventurous play that builds self-confidence and personal judgment. In addition, a child’s empathy and sense of responsibility are boosted by caring for plants and classroom pets, while the need to remain on the trail, not pick the wildflowers, and stay quiet enough to see wild animals all contribute to the development of self-control—a vital prerequisite for future school achievement.

Play in the rich outdoor environment also stimulates language, because there are just so many things to discover and talk about! Children are inherently curious and wired to learn, and thus they constantly ask questions about what they find outside. Their vocabulary increases as they use different words to describe what they discover and make up stories about animal tracks in the snow or who might be living in a hollow tree. Concurrently, scientific thinking emerges as they carefully observe the natural world, sort objects they find and collect, try simple experiments like floating sticks and acorns in a puddle, and clearly see the results of their actions.



A natural playground at Schlitz Audubon Nature Center Preschool in Wisconsin. Photo: Ken Finch

Finally, most humans find nature to be calming and stress reducing; preschoolers are no exception. The beauty of the natural world contributes to their spiritual development, helping them to develop a sense of place and an understanding that they are part of a much larger world. Throughout it all, the discoveries that nature preschoolers make—day after day, month after month—build a deep awareness and appreciation of nature and animals and foster the enduring gift of a sense of wonder.

What Lies Ahead for Nature Preschools?

There is a cultural movement underway and gathering steam: a movement to bring the joys and benefits of nature back to our children. There are hundreds of initiatives around the country (and throughout the world) that address this goal, with much success. Yet even among the best of these, nature preschools stand out. They provide children with direct, safe, playful (yet meaningful) contact with nature day after day, week after week, and often for two school years—probably more time in nature than they will get in all the remaining years of their K–12 education combined.

A few of the nature preschools in the United States date back over 40 years; several others have emerged just recently. Without exception, they have been successful. Yet most families still do not have access to them. Thus far, there are only a few score nature preschools in the United States, making them a rare option for nearly all American families. Most of the existing programs are located in suburban areas, so urban and rural children are currently the least likely to have access to them.

Several organizations have efforts underway to start new nature preschools, but this work is still young. More common are the many efforts to create natural play spaces within the current boundaries of existing, traditional preschools and child care centers, which is sometimes the only viable way to bring real nature into smaller centers. Although it may fall short of providing the rich experiences in true nature preschools, this is excellent and important work. It is beyond the scope of this article to make recommendations for how to support schools wanting to move toward becoming nature preschools, but there are several organizations that provide good resources. Two worth mentioning are the Natural Start Alliance (www.naturalstart.org) and Antioch University New England's new nature-based early childhood certificate program (<http://www.antiochne.edu/teacher-education/nature-based-early-childhood-education-program/>).

Although there are still only a few nature preschools, their approach and philosophy is proving to be compelling to educators, conservationists, and parents alike. Thus, their numbers are increasing, and they are poised to become a more significant part of the future of early childhood education in the United States.

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