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Our Proud Heritage. Take It Outside: A History of Nature-Based Education

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Educating children in nature is an essential part of active, engaging, and comprehensive learning. While not a new concept or approach, direct and sustained interactions with nature may be increasingly important for children's development today. The COVID-19 pandemic has forced programs and families to navigate the complex world of remote learning, not only restricting children's access to classmates and educators but often limiting the opportunities for learning about nature and for playing outdoors. This unexpected move away from in-person education for a time has caused a surge in attention toward nature-based education by the press and the public, along with the acknowledgement of earlier pandemics when learning was shifted outside. An example is the *New York Times* article, "Schools Beat Earlier Plagues with Outdoor Classes. We Should, Too" (Bellafante 2020).

In this column, I put this renewed interest into context by reviewing the past 200 years of ideas and practices in nature-based education for young children. In doing so, I explain concepts that help us understand the approaches of nature-based early learning programs past and present, and how we might adapt these approaches for implementation moving forward.

Defining Nature-Based Education

Nature-based education is defined as children's active learning in the natural world (Meier & Sisk-Hilton 2013) in which children are afforded regular opportunities to interact with nature. As teacher Melissa Fine (2018) described, the best place to learn about nature is in nature, which can be as nearby as a neighborhood park or a tree in front of the school. In nature-based programs (especially forest kindergartens), most of the learning takes place outside. Studies show that this kind of education benefits children's development and the environment, with increases shown in prosocial development, physical activity, and language development along with greater respect for nature (Kuo & Jordan 2019). Nature-based early learning programs exist in many countries stemming from a variety of cultural influences and belief systems, and their approaches illustrate past and present thinking about childhood, nature, and education more broadly.

Nature-based education is a 21st-century reform effort that aims to improve learning outcomes and move away from more traditional approaches that rely on little to no direct interactions with the natural world. However, as mentioned earlier, the idea is not entirely new. Theories and methods of learning in nature have been proposed and tested for more than two centuries, often with young children in mind. Looking across that history reveals how wide-ranging nature-based education is and how long the notion of learning in and through nature has been around.

Two historically prominent nature-based education initiatives sparked by education and health reforms nearly a century apart include

- nature study, an initiative followed in the United States from the 1890s to the 1920s

- forest schools, which began in the early 20th century in Germany for their health benefits but were reintroduced and modernized in the mid-20th century (in Denmark and Germany) and in the 1990s (in England and the United States)

These two initiatives are based on similar ideologies and theories, informed by a small set of scientific and esoteric concepts (here, *esotericism* is the spiritual reality expressed in nature). However, the connections between the two are not well understood. The literature on the history of nature study continues to grow (Armitage 2009; Kohlstedt 2010; Kass 2017). On the other hand, the history of the forest school has been dismissed as "folklore" (Shields 2010). Moreover, the forest school approach lacks a firm theoretical footing (Leather 2016; Sharma-Brymer et al. 2018). The associated research literature "often fails to look beneath description of practices and outcomes to the underlying philosophical and pedagogical basis for their implementation" (Waite, Bølling, & Bentsen 2016, 869). However, there is emerging research about forest schools that does go deeper into the theory, and a burgeoning number of forums, conferences, and networks for teachers and researchers have emerged, creating excitement over the potential of nature-based education today.

Situating Nature and Education Within Beliefs About Child Development

Over time, viewpoints and beliefs about childhood have varied. Ideas about "the child" and what is "best" for their education are always interpretations rooted in culture and history. They are gendered, classed, and racialized, and they often reflect the priorities of adults. In turn, discourses and philosophies have interpreted childhood in different ways, leading to differing views on the role of nature and education in children's development. One prominent viewpoint related to nature education and childhood is *naturalism*, which refers to the belief that human development "is in accord with the laws of nature which hold the secret of their influence" (Selleck 1968, 180). Naturalism, or a naturalistic viewpoint, is underpinned by two related theories of child development: unfoldment theory and recapitulation theory.

Unfoldment Theory

Unfoldment theory formed the basis for kindergarten inventor Friedrich Froebel's system of early education, which he established in Germany in 1839. Froebel believed that children were complete beings from birth, capable of higher-order thinking when given guidance. This meant that children's development unfolded naturally and that development was predetermined, having been "ordered by God." As he wrote, "each following generation and each following individual man [*sic*] is to pass through the whole earlier development and cultivation of the human race" (1885, 11). Today, unfoldment theory can be seen in the theory behind teachers' support for children directing their own play and other activities according to their interests.

Recapitulation Theory and Culture-Epoch Theory

In the now-discredited *recapitulation theory*, each child's growth repeats the development of the entire species from so-called "savage" to "civilized," and it is based on unfounded ideas about racial hierarchies. Followers of the German educator Johann Friedrich Herbart, prominent in the early 1800s, applied this theory to educational contexts, calling it *culture-epoch theory*. The theory was used by educators to sequence curriculum to broadly reflect stages in human history, such as studying the portable homes of nomadic peoples before colonial houses, or introducing fables and folk tales before more "scientific" literature.

To Froebel, who was influenced by Herbart, culture-epoch theory meant a cycle of cultural and spiritual development: children progressed from "primitive" to higher abilities over time. As Bloch described it, even "play was seen as a stage of primitive development in which young children, more primitive animal species, and more primitive people around the world were engaged" (28). Froebel's own theory, therefore, was also established on a notion of child development that was based on racial hierarchies (Fallace 2015). Remnants of culture-epoch theory—though discredited—can still be seen today in the common preschool activities of beading and weaving. Lee-Hammond and Colliver (2017) suggest that this practice had a potential benefit by giving "educators at the time a theoretical framing to appreciate the educational value of providing children with Indigenous practices, [and] paving the way for a more respectful way of engaging with different cultures that resists the hegemonic power of European influence" (498).

Culture-epoch theory continued into the 20th century, reflected in the ideas of American psychologist G. Stanley Hall and Russian psychologist Alexander Luria, Lev Vygotsky's colleague (Scribner 1985; Kozulin 1990; Fallace 2015). Culture-epoch theory was used in education to explain why particular content should be taught to children according to their age. Supporters of the theory also suggested what materials, such as specimens from nature, were needed for teaching and learning. For example, lessons on the beginnings of the agricultural period of human history would include germinating and planting seeds and tending to the growing plants.

Conceptualizing Nature and Education in Tandem

Whether of the past or present conceptualizations, two key components of nature-based education are environments and relationships. On both accounts, nature-based education is concerned with the natural and the human-centered: on the one hand, natural and human-centered *environments* (those created to meet human needs, such as cities) and on the other hand, the natural world and human *relationships* (those shaped by different spiritual, moral, or biological ideas). Further, the relationship between people and nature is shaped by the scientific rationalism of Enlightenment period thinking (measuring, classifying, and categorizing nature) and German idealism. German idealism held that nature could only be comprehended by linking observation and experimentation with the self through creativity and emotion. This included connecting with nature (i.e., being in nature, seeking to understand what is going on in nature, and respecting the life forms and processes that occur in nature) (Wulf 2015; Beiser 2017).

Today's nature-based education builds on notions of child development and perspectives about the environment and relationships. Indeed, some proponents with *humanist* arguments or values focus on developing children's knowledge of sustainability issues and their responsibility for the natural environment, while encouraging them to engage freely in unstructured, "risky" nature play (Finch 2016). They believe that humans have an affinity for nature from birth, so it does not have to be taught. They are also concerned with the impact of a "nature deficit" on the well-being of children and the planet (Louv 2010). This line of thinking ties back to naturalist theories of child development and the idea of humans' unity with nature.

Other nature-based education supporters, those with *posthumanist* arguments or values, agree that humans have a connection with nature from birth, but they focus on humans' special status or centrality in nature. They argue that "children *are* nature" (Cutter-

Mackenzie-Knowles, Malone, & Barratt Hacking 2020a, xiv). Because of this, they want to redefine childhood and transform education. From a "childhoodnature" perspective, it is more important to support children's attachment to nature than to support their encounters with it, where "children and nature are enmeshed as they *are*" (Cutter-Mackenzie-Knowles, Malone, & Baratt Hacking 2020b, xv).

The Evolution of Nature-Based Education

Although some have examined nature and child development from a theoretical or philosophical stance, others have aimed to put their ideas and values into practice. As noted earlier, two prominent nature-based education approaches have included nature study and forest schools.

In the late 19th century United States, many psychologists, biologists, and educators worried that children's development was being harmed by life in an industrial society, a "book-based" school curriculum, and teacher-centered methods. This led to the nature study movement (1890–1920), which sought to correct this harm by connecting children's learning to the everyday things in their environment through observation and experience. Nature study aimed to reveal a completely new spiritual reality, and it also strived to improve children's mental and moral faculties.

Materials for nature study encompassed all things classed as non-living—rocks, minerals, and other types of natural objects—and all things classed as living, apart from humans, with one now-debunked and roundly criticized exception. This reform movement was grounded in recapitulation theory. Rather than recognize and embrace their deep knowledge and assets, leading reformers of this time perpetuated this theory's inaccurate and damaging idea of racial hierarchies. They

portrayed Indigenous individuals and communities to be at an early stage of psychological and sociological development. Although the historical racial theories are not supported by modern science, they persist as part of racist ideology in the present (Sussman 2014).

As the nature study movement faded in the 1910s and 1920s, forest schools were emerging in the United Kingdom and in North America as a part of the movement that began in Germany in the early 20th century. Originally, these schools were set up for children recovering from illness, particularly tuberculosis. They were medically oriented, combining public health and educational goals with a supposedly scientific basis in racial theory and eugenics. Classes were held outside to expose the children to fresh air and sunshine. In medically oriented forest schools (also called "open-air schools"), nature study was treated as a school subject. This type of forest school declined in popularity after 1945 and with the development of antibiotic treatment for tuberculosis (Châtelet 2008).

The modern forest schools established later in the 20th century "reclaimed and reimagined" the earlier forest school idea to make child-nature the central focus (Op de Beeck 2018, 74). In the present century, "forest school" is the name for both an educational model and a philosophy. Today's forest schools uphold principles developed by advocacy organizations such as Naturschule Deutschland e.V. in Germany, the Forest School Association in the United Kingdom, and the American Forest Kindergarten Association in the United States; they are learner-centered, play-based, generally located in a wooded area, and offered over the long term, usually year-round (McCree & Cree 2017).

Borrowing approaches from nature-based schools in Germany and Scandinavia, programs in the United Kingdom and the United States follow one or more of these models:

- schools in urban settings that provide regular opportunities to visit outdoor areas (For more on this, see "From Puddles to Pigeons: Learning about Nature in Cities" by Marion Goldstein and colleagues, published in *Young Children*, November 2018.)
- early learning programs that feature nature as a main component of their outdoor play area (For more on this, see "Using Principles of Nature-Based Preschools to Transform Your Classroom" by Rachel A. Larimore, published in *Young Children*, November 2018.)

- *Waldkindergärten* (German forest kindergarten) that are located in natural settings with no fixed buildings (For more on forest kindergartens, see "Walking in the Woods: Understanding German Waldkindergärtens" by Cecilia Maron-Puntarelli, published in *Young Children*, March 2020.)

In general, nature-based education models prioritize child-nature experiences. Such experiences have been grouped into three distinct types (Kellert 2002):

1. **direct** experiences in natural settings (play in a forest)
2. **indirect** experiences in structured contexts (a visit to an arboretum)
3. **symbolic** experiences with representations of nature (reading a children's book about trees)

How these experiences were enacted differed over time. For example, in Froebel's esoterically based nature study, children went on guided walks in the woods (direct), tended to gardens to observe and engage with nature (indirect), and used specially designed blocks that had a spiritual meaning (symbolic). In a late-19th century scientific nature study, children learned from the physical objects gathered on nature field trips (direct), from studying collections of specimens (indirect), and from examining pictures of objects (symbolic). Because taking children to visit nature sites was often thought to be impractical, many experiences of the past were indirect or symbolic, usually involving object-based teaching in classrooms with collections of specimens. This is the opposite of the active, engaged learning advocated in a modern forest school approach.

In current forest schools, the central focus is on children's direct and ongoing engagement in natural settings. For instance, the Cedarsong Nature School on Vachon Island in Washington state, which opened in 2008, was regarded as the first school of its kind in the United States (The Cedarsong Way 2021). Based on humanist arguments, its founder, Erin Kenny, was inspired to start the school after reading Richard Louv's book, *Last Child in the Woods* (Valdes 2010). The preschool children at Cedarsong were engaged in firsthand experiences with nature, spending the entire day out-of-doors regardless of the weather. They investigated, explored, and observed whatever provoked and sustained their interest: a stream, mud, trees, birds, insects, and more. The school closed in 2019, following Kenny's death, but Cedarsong is still involved in nature-immersion pedagogy and provides training and program accreditation.

Even though forest schools were introduced into the United States fairly recently, by 2017 there were approximately 250 nature preschools and forest kindergartens in the country (NAAEE 2017). On top of that, many more programs are offering nature-based education

as part of the curriculum.

Conclusion

Nature-based education is a 21st-century education reform aimed at changing learning outcomes by enhancing children's connections with nature. But as described here, the idea is not entirely new. Theories and methods of learning in nature have been proposed for more than two centuries. There are inspiring examples of practice in recent forest school history, such as the Cedarsong program, and there are a growing number of networks available for teachers to exchange ideas and experiences, including the Natural Start Alliance, organized by the North American Association for Environmental Education (see "Learn More About Nature-Based Education" below for further details).

(For more information about how to incorporate nature-based education in your setting, check out the Fall 2021 issue of *Teaching Young Children*, available in October.)

Learn More About Nature-Based Education

Check out the following resources to learn more about nature-based education, the history of the movement, and prominent nature-based programs.

- The Freedom of Forest Kindergarten – Erin Kenny. *Uncivilize* podcast by Jennifer Grayson, episode from March 12, 2018.

In this podcast episode, Jennifer Grayson interviews Cedarsong Nature School founder Erin Kenny, touching on the history of forest kindergartens and the origins of the program, addressing curriculum, and sharing practical matters of teaching young children out-of-doors.

- Out of the Classroom and Into the Woods, by Emily Hanford for nprEd, May 26, 2015.

Emily Hanford profiles a teacher's experiment with outdoor learning one day each week in her kindergarten in Vermont, which involves a modified version of forest school in a public-school context. More information on her kindergarten and the experience of other teachers and programs is included on the Natural Start Alliance website.

- When Fears of Tuberculosis Drove an Open-Air School Movement, by Sara Pruitt for *History*, July 30, 2020.

Sara Pruitt charts the history of medically oriented forest schools, with a focus on the United States and with photographs of open-air schools in action. Additional photographs can be viewed at the Library of Congress website by searching "open-air-schools" in Photos, Prints, Drawings.

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Topics: *Other Topics*, *Educational Settings*, *Play*, *Outdoor*, *Subject Areas*, *Science*, *Nature*, *YC*, *Our Proud Heritage*

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