

Classroom Insights From Educational Psychology

A Developmental Approach to Educating Young Children



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Please enjoy this complimentary excerpt from *A Developmental Approach to Educating Young Children*.

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discussion of the value of another type of learning experience: the outdoors.

OUTDOOR EDUCATION

Few have not heard about “nature-deficit disorder,” a term coined by Richard Louv (2008), author of the popular book, *Last Child in the Woods: Saving Our Children From Nature-Deficit Disorder*. Of course, nature-deficit disorder is not an official diagnosis but a way of viewing a problem with what is perceived as our increasing disconnection from nature. Apparently this deficit is a global concern. A recent study showed that most of the mothers from 16 nations reported that their children enjoyed playing outside, but they were concerned that they did not spend enough time doing so (Singer, Singer, D’Agostino, & DeLong, 2009). According to Louv and others, lack of outdoor experiences limits children’s development in all domains: physical, cognitive, and social. Although abundant research supports the value of outdoor play for promoting children’s physical activity, health, and well-being, less has been devoted to examining influences on other aspects of development in young children. This neglect might be partly due to the belief that it is especially critical for older children to connect to nature (e.g., Montessori, 1966; Sobel, 2008). Nonetheless, we report some of the potential cognitive and social benefits of **outdoor education** for preschoolers and primary-grade children and how early childhood educators can take advantage of these opportunities to promote academic learning. Outdoor education is simply defined as organized learning that takes place outside.

Stephen Kellert (2005) proposed how nature can help foster children’s cognitive and emotional development on the basis of



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the scanty research available. He noted that children’s experience with nature may incorporate three types of contact: direct, indirect, and vicarious. *Direct contact* often involves spontaneous interaction with processes of the natural environment that function

mostly independent of human control, such as observing, exploring, climbing on, and collecting things in meadows, creeks, forests, or even backyards. *Indirect contact* involves activities in highly managed environments, such as zoos, nature centers, and parks, as well as interactions with pets, house plants, and vegetable gardens. *Vicarious contact* with nature involves experiences with symbolic images, such as representations of animals in media and toys. Psychologists suggest that although vicarious experiences are helpful, they need to be coupled with direct experiences for optimal learning and well-being in childhood and beyond. Kellert asserted that direct experience in the natural world greatly aids young children's emerging capacities to form basic understandings of facts and terms, create simple classifications, and begin to discern causal relationships in the early stages of cognitive development.

He proposed that the natural world affords numerous highly engaging opportunities for children to identify and label objects and discriminate their features and properties, as well as sort and assign them to categories. It also provides multiple opportunities for children to develop abilities to analyze and comprehend facts and ideas as they mature in the next cognitive stage. For example, children may begin to systematically examine empirical evidence encountered in everyday life, such as where plants grow (and not grow), how certain animals behave, when the moon changes, and so on. Kellert (2005) claimed that ". . . no other aspect of a child's life offers this degree of consistent but varied chances for critical thinking and problem solving—a steady diet for the mind as well as the body" (p. 69). Further, he argued that experiences with nature promote children's abilities to receive and respond affectively to information and ideas in their early stages of emotional development; in turn, they are motivated to pursue knowledge. Howard Gardner (1991) also suggested that outdoor education fosters *connected knowing* where education is part of, rather than separate from, life.

Kellert is not alone in his view that nature provides powerful motivational and learning experiences for children. Other psychologists are investigating the notion that exposure to nature in childhood is critical for our learning and



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well-being (e.g., Rathunde, 2009; Wells & Lekies, 2006). Although experts may disagree about whether there is a “critical period” for taking advantage of these natural learning opportunities in childhood, many agree about some of the following ben-

efits of direct and indirect experiences with nature (e.g., see Charles, Louv, Bodner, Guns, & Stahl, 2009; Crain, 2003):

- *Stimulates curiosity, powers of observation, and scientific learning.* Children learn the scientific method by patiently observing and pursuing their own questions about wildlife. (See Kellert’s explanation, described earlier.)
- *Inspires creativity.* Children are often motivated to draw and write about nature, as well as create opportunities for dramatic play outdoors (e.g., build clubhouses). Research has shown that children are more likely to engage in more creative forms of play in school grounds with natural, green areas (e.g., Bell & Dymont, 2006).
- *Enhances abilities to focus.* Children’s attentiveness has been related to greater proximity and daily exposure to natural settings (e.g., Wells, 2000). Children diagnosed with attention deficit/hyperactivity disorder in particular are better able to concentrate and manage their symptoms in and after exposure to greener environments (e.g., Faber Taylor & Kuo, 2008; Kuo & Faber Taylor, 2004).
- *Fosters social skills.* Research documents the social and cognitive benefits of unstructured outdoor play at recess for primary-grade children (see, e.g., Pellegrini & Bohn, 2005). Children tend to play more cooperatively on green than manufactured schoolyards (e.g., Bell & Dymont, 2006).
- *Promotes physical activity.* Several studies indicate that providing outside play at recess for children (at minimum every 60 minutes) encourages physical activity, and it may even have long-term health benefits. For example,

one study showed that children who were more active at age 5 were healthier when they were older, even if their physical activity declined (Janz et al., 2009).

- *Reduces anxiety.* Exposure to green views and access to natural play areas has been linked to reduced stress in children (Wells & Evans, 2003).

It is notable that teachers and other adult school personnel also receive many of these benefits from green school environments, making their jobs more pleasurable and productive.

Recognizing these benefits, there has been a recent and growing movement by educators and others to promote outdoor education, by taking advantage of natural settings near school and recreating natural environments on playgrounds and school grounds (e.g., the *Children and Nature Network*, headed by Richard Louv, and the *Natural Learning Initiative*, headed by Robin Moore). It is important that children have opportunities for unstructured play in these environments, as well as some occasional structured activities tied to the curriculum. Table 5.2 provides some practical ideas for improving playgrounds and utilizing natural outdoor environments for educating young children at school (e.g., Rosenow, 2008; White, 2004).

Of course, teachers cannot transform a dull playground into a more natural, greener, and stimulating setting on their own. But they can encourage community members and school administrators to begin making improvements by discussing the advantages of outdoor education and providing initial referrals to organizations for help. Fortunately, the current movement for outdoor education (i.e., one often hears, "leave no child inside") has inspired a number of dedicated groups to provide resources and support for these efforts. Even without making major renovations, teachers can begin to balance indoor with some outdoor educational activities suggested in Table 5.2. We learned how one teacher in the introductory *Window* incorporated a field trip to an apple farm as part of a curriculum unit that also helped children

Table 5.2 Enhancing Outdoor Educational Environments and Activities

<i>Basic Elements of Natural Play and School Grounds</i>	<ul style="list-style-type: none"> • Abundant indigenous plant life, including trees, bushes, flowers, and long grasses, with which children can explore and interact • Water • Sand (and water nearby) • Diversity of texture, color, and materials (e.g., rocks) • Animals, bugs, butterflies, creatures in ponds, worm bins • Natural places to sit on or under, climb, provide shelter • Places that offer (limited) privacy, views, and opportunities for socialization • Places to run and play active games • Structures, equipment, and materials that can be changed or adapted for imaginary play • Ways to experience different weather conditions (e.g., cover-ups for rain, warm clothes for snow) • In less ideal concrete areas—wooden planter boxes for growing vegetables and flowers
<i>Developmental Considerations</i>	<ul style="list-style-type: none"> • It might be most important for children ages 4 to 7 to develop a fondness for the natural world. Model a sense of wonder, curiosity, and sensitivity. • Teach children to love rather than fear nature. Avoid developmentally inappropriate topics such as global warming that are difficult to understand and frightening. • Foster children's curiosity about creatures that they might fear, such as spiders and bees. • Assist children with caring for plants and animals.

<i>Sample Activities</i>	<ul style="list-style-type: none"> • Allow children to play freely (without adult direction) in natural playground settings for periods of time. • Go on "I spy" walks in natural areas nearby. • Encourage questions, observations, systematic data collection, and other aspects of the scientific method prompted by everyday experiences (e.g., changes in the weather, shade spots, bug activities). • Plant a garden with parent help. • Plan field trips to visit natural environments related to curriculum goals. • Get involved with other educators with interests in nature and outdoor education to gather further ideas, resources, and support (see Resources).
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("Basic Elements" section adapted from White, 2004.)

become technologically literate. We return to his class to focus on one child's experience in *The Child's Window*.

The Child's Window

Eva had been a student at Sierra Elementary School since kindergarten. Now she was in the third grade and Mr. Flores was to be her teacher. Eva had known Mr. Flores from the afterschool tutoring program, and she was looking forward to having him as her teacher because his former students talked about how much fun they had in his class. Eva had struggled in school and found it hard to keep up with her work. She didn't have many enriching experiences at home because her mother was working two jobs and her older sister was rarely at home. Eva spent many evenings alone at home trying to make sense of her homework and remembering what the teacher had said that day. Eva had never turned in a book report or any assignment that required going to the library or visiting someplace. The afternoon tutoring hour helped Eva to stay on top of her math and English homework, but Eva didn't understand how to continue the homework once she got home. Eva