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Educational Research Foundation

Helping Children Learn to Love the Earth Before We Ask Them to Save It:
Developmentally Appropriate Nature Education for Young Children

Helping Children Understand and Appreciate the Natural World

"Many children today find it easier to stay indoors and watch television. I worry that children do not know what they are missing. Children cannot love what they do not know. They cannot miss what they have not experienced."

Mary Pipher, The Shelter of Each Other

"It is quite possible for today's child to grow up without ever having taken a solitary walk beside a stream, or spent the hours we used to foraging for pine cones, leaves, feathers and rocks – treasures more precious than store-bought ones. Today it is difficult to tear children away from the virtual world of the mall to introduce them to the real one."

Gary Paul Nabhan and Stephen Trimble, The Geography of Childhood

Children are Becoming Increasingly Disconnected from Nature

For most of human existence, children spent a great deal of their childhoods outdoors, connecting with nature on a regular basis as they explored fields, farms or wild areas close to their homes. During the last part of the twentieth century, children's environments became increasingly urbanized at a rapid rate. (Chawla 1994) Gradually, children's access to the natural world has been shrinking, with alarming results. Researchers have found that a number of societal factors have resulted in a profound change in the way today's children experience the natural world. In his article, "Children's Interaction with Nature: Its Importance in Children's Development and the Earth's Future"**,** author Randy White sites some of these factors:

> A "culture of fear" has parents afraid for their children's safety. Due to "stranger danger", many children are no longer free to roam their neighborhoods or even their own yards unless accompanied by adults (Pyle 2002, Herrington and Studtmann 1998, Moore and Wong 1997). Many working families can't supervise their children after school, giving rise to latchkey children who stay indoors or attend supervised after-school activities. Furthermore, children's lives have become structured and scheduled by adults, who hold the mistaken belief that this sport or that lesson will make their children more successful adults (Moore and Wong 1997, White and Stoecklin 1998). The culture of childhood that

> played outside is gone and children's everyday life has shifted to the indoors (Hart 1999, Moore 2004). As a result, children's direct and spontaneous contact with nature is a vanishing experience of childhood (Rivkin 1990, Chawla 1994, Kellert 2002, Pyle 2002, Kuo 2003, Malone 2004). One researcher has gone so far as to refer to this sudden shift in children's lives and their loss of free play in the outdoors as a "childhood of imprisonment" (Francis 1991).

Research shows a dramatic decline in the amount of time children spend in the out-of-doors. Sandra Hoffert and John Sandberg (2000) site the following statistics: Between 1981 and 1997, the amount of time U.S. children aged 6-8 spent playing outdoors decreased by four hours per week while the amount of time they spent indoors in school increased by almost 5 hours per week.

Today's Children Need More Positive Interactions with Nature

One result of the reduction of children's direct experiences with the natural world is the rise of what researchers refer to as biophobia or ecophobia, a fear of the natural world and environmental issues. David Sobel, in his article "Beyond Ecophobia", explains that "what is emerging is a strange kind of schizophrenia. Children are disconnected from the world outside their doors and connected with endangered animals and ecosystems through electronic media." Sobel goes on to explain that children are being exposed to frightening environmental issues at an early age, but are not first being given the opportunity to develop close personal connections with nature. "If we want children to flourish," Sobel says, "to become truly empowered, then let us allow them to love the earth before we ask them to save it."

A cross-cultural research study by J.A. Palmer (1993) found that the single most important factor in developing personal concern for the environment was positive experiences in the outdoors during childhood. Further research by R.A. Wilson (1994) and D.A. Simmons (1994) (based on personal interviews with groups of children varying in age from preschool to age nine) found that the attitudes children expressed towards various aspects of the natural environment (rain, wildflowers, trees, birds) included more expressions of fear and dislike than appreciation, caring or enjoyment. S. Cohen and D. Horm-Wingerd (1993) contend that children's unfounded fears and misconceptions about the natural environment develop when they have very little actual contact with living things and obtain most of their attitudes through the electronic media.

Since in many parts of today's world children no longer spend long, unstructured hours playing outdoors, creating positive bonds with nature, parents, grandparents and teachers must now provide intentional experiences that give children the opportunity to learn to better understand and appreciate the natural world. However, misguided (though well-intentioned) environmental education programs provided for young children often do more harm than good. In his article "Moving from Biophobia to Biophilia", Randy

White expresses the issue in the following way:

> The problem with most children's environmental education programs is that they approach education from an adult's, rather than a child's perspective. One of the main problems is premature abstraction, teaching children too abstractly. Children do not even begin to develop the ability for abstract reasoning until starting at age nine. One result of trying to teach children at too early an age about abstract concepts like rainforest destruction, acid rain, ozone holes and whale hunting can be dissociation. When we ask children to deal with problems beyond their cognitive abilities, understanding and control, they can become anxious, tune out and develop a phobia to the issues. In the case of environmental issues, biophobia – a fear of the natural world and ecological problems – a fear of being outside – can develop.
>
> Studying about the loss of rainforests and endangered species may be perfectly appropriate starting in middle school, but is developmentally inappropriate for younger children. John Burroughs cautioned that 'knowledge without love will not stick. But if love comes first, knowledge is sure to follow.' The problem with most environmental education programs is that they try to impart knowledge and responsibility before children have been allowed to develop a loving relationship with the earth. We need to allow children to develop their biophilia, their love for the earth, before we ask them to save it.

Helping Children Develop a Love for the Earth

"Early experiences with the natural world have also been positively linked with the sense of wonder. This way of knowing, if recognized and honored, can serve as a life-long source of joy and enrichment, as well as an impetus, or motivation, for further learning. Sadly, the ability to experience the world…as a source of wonder tends to diminish over time. This seems to be especially true in Western cultures, where for the sake of objective understandings, children are encouraged to focus their learning on cognitive models, rather than on first-hand investigations of the natural environment."

Ruth Wilson, PhD. "The Wonders of Nature: Honoring Children's Way of Knowing"

"Without continuous hands-on experience, it is impossible for children to acquire a deep intuitive understanding of the natural world that is the foundation of sustainable development. A critical aspect of the present-day crisis in education is that children are becoming separated from daily experience of the natural world."

Robin C. Moore and Herb H. Wong, Natural Learning, Creating Environments for Rediscovering Nature's Way of Teaching

How then, can parents and teachers help children develop a love for the natural world in a more intentional and appropriate way? One answer comes from the work being done by the Dimensions Educational Research Foundation in Lincoln, NE, in collaboration with the National Arbor Day Foundation, Nebraska City, NE. The Dimensions Foundation, a non-profit organization, is studying ways to help children better understand, appreciate and personally connect with the world around them. Since 1997, a multi-disciplinary group of Dimensions Foundation researchers from around the nation have analyzed data collected from direct observations of preschool and elementary-aged children over time to study how activities that strengthen visual-spatial skills (especially observation skills) can help children develop a deeper affinity for the natural environment. The Dimensions Foundation and the National Arbor Day Foundation have designed a research-based hands-on activity series for children and families or children and educators to enjoy together in the out-of-doors.

The research work of the Dimensions Foundation is substantiating previous findings providing convincing evidence that positive, appropriate experiences with nature bring significant benefits to children. A few of these benefits are outlined below:

*Children with Attention Deficit Disorder (ADHD), when provided appropriate contact with nature, show an improvement in their ability to concentrate (Taylor 2001)

*Children who regularly have positive personal experiences with the natural world show more advanced motor fitness, including coordination, balance and agility (Grahn, 1997, Fjortoft 2001)

*Appropriate interactions with nature help children develop powers of observation and creativity (Crain 2001)

*The development of imagination and a sense of wonder have been positively linked to children's early, appropriate experiences with the natural world (Cobb 1997). A sense of wonder is an important motivator for life-long learning (Wilson 1997)

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