RESEARCH SUPPORTING EE

Children and Outdoor Experiences Today and Impacts

Nature-deficit disorder is not an official diagnosis but a way of viewing the problem, and describes the human costs of alienation from nature, among them: diminished use of the senses, attention difficulties, and higher rates of physical and emotional illnesses. The disorder can be detected in individuals, families, and communities (Louv, 2005).

In Richard Louv’s book, Last Child in the Woods (2005), he coins the phrase “nature deficit disorder.” What Louv is referring to is the increased lack of contact our children have with nature and the result consequences on the social, cognitive and physical development and health of our children. According the Kaiser Family Foundation (2005), our children are spending less than half the time out of doors that their parents did growing up. Another longitudinal study found that children under 13 living in the United States spend on average only about half an hour of unstructured time outdoors each week (Hofferth & Sadberg, 2001). Even more recently, a 2010 survey reveals that our children are spending as much a 7.5 hours a day in front of electronic media (Kaiser Family Foundation, 2010). It is clear that our children today spend much more time indoors than they do outdoors and some believe this is leading to some significant impacts. Louv (2005) sites research to suggest that this emerging “nature deficit disorder” among our children is linked to epidemic rises in childhood obesity, increasing social and cognitive delays as our children enter the school systems and rises in diagnoses of Attention Deficit/Hyper-Active Disorder (ADHD), to name a few.

This is supported in a recently published research article, Using Nature and Outdoor Activity to Improve Children’s Health, written by McCurdy, et. Al and published in the journal, Current Problems in Pediatric and Adolescent Health Care (May 2010). In the forward to the article, editor Ruth A. Etzel, MD PhD, stated, “Within just one generation, the definition of ‘play’ has changed dramatically among children in industrialized countries.” Gone for many of our children are afternoons and weekends spent playing outdoors. The authors note “Physical activity is shown to improve children’s health, and a growing body of evidence suggests that exposure to natural environments can improve attention and decrease stress in children. Advising outdoor play in nature is a practical method for pediatric health care providers to address chronic conditions such as childhood obesity, as well as mental health; and one that is cost-effective and easily sustainable.” McCurdy and colleagues raise concerns that today’s children may be the first generation to have shorter a lifespan than previous, noting children’s sedentary lifestyles are not only tied into childhood obesity and related diseases (diabetes and cardiovascular disease), but also linked to increased childhood asthma, sleep apnea, vitamin D deficiency, ADHD and depression.

As our children spend less and less time outdoors, they become less and less connected to the world around them and our awareness, knowledge and understanding of the environments in which we live is not at a sufficient level for use
to make informed and responsible decisions. In a compilation of ten years of survey
data, the National Environmental Education Foundation found that the average
American cannot pass a basic environmental knowledge test, scoring, on average only
about three out of ten questions correct (NEEF, 2005). This survey was replicated in
Kansas with the average Kansas adult scoring marginally better (3.3 out of 10
questions correct) than the national average. It is important to note that in this
same survey, 98% of Kansas parents indicate they support having environmental
education taught in schools (KACEE, 2001).

Benefits of Providing Children with Outdoor Experiential Activities and
Environmental Education

It’s intuitive—many of us know the benefits of spending time out of doors because
that was our experience growing up. We learned many valuable skills—
observation/inference, team work, interdependence, independence and self-
confidence, natural consequences and more. We learned science while digging in the
dirt, playing in the pond or climbing in trees. The following are just some of the key
benefits of providing children with outdoor experiences and learning that are
supported by research:

- **Studying EE Creates Enthusiastic Students, Innovative Teacher-Leaders** - EE
  offers opportunities for rich, hands-on, real world and relevant learning across
  the curriculum (Archie, 2003).
- **EE Helps Build Critical Thinking, and Relationship Skills** - Environment-based
  education emphasizes specific critical thinking skills central to “good
  science”—questioning, investigating, forming hypotheses, interpreting data,
  analyzing, developing conclusions, and solving problems (Archie, 2003).
- **EE Instructional Strategies Help Foster Leadership Qualities** - Environmental
  education emphasizes cooperative learning (i.e., working in teams or with
  partners), critical thinking and discussion, hands-on activities, and a focus on
  action strategies with real-world applications (NAAEE & NEETF, 2001). EE
  provides opportunities for students to develop and practice leadership skills
  such as:
    - Working in teams
    - Listening to and accepting diverse opinions
    - Solving real-world problems
    - Taking the long-term view
    - Promoting actions that serve the larger good
    - Connecting with the community
- **EE Schools Demonstrate Better Academic Performance across the Curriculum**
  Schools that adopt environmental education as the central focus of their
  academic programs frequently demonstrate the following results (Liberman &
  Hoody, 1998; NEETF, 2000; Archie, 2003):
    - Reading, science, social studies, and mathematics scores improve.
    - Students develop the ability to transfer their knowledge from familiar to
      unfamiliar contexts.
Students “learn to do science” rather than “just learn about science.”
Classroom discipline problems decline.
All students have the opportunity to learn at a higher level.

- **Self Control/Self Discipline Benefits for Children with ADD/Inner City Youth** - Taylor and her colleagues found that children with attention-deficit disorder (ADD) benefited from more exposure to nature—the greener a child’s everyday environment, the more manageable are the symptoms of ADD (Taylor, 2001). Taylor also observed that access to green spaces for play, and even having views of green settings, enhances peace, self-control, and self-discipline among inner-city youth, especially among girls.

- **Increased Focus/Improved Cognition** - Wells observed that proximity to nature, access to views of nature, and daily exposure to natural settings increases the ability of children to focus and improves cognitive abilities. (Wells, 2000).

- **Health Benefits** - At the school environment level Bell and Dyment observed that children who experience school grounds or play areas with diverse natural settings are more physically active, more aware of good nutrition, more creative, and more civil to one another. (Bell, 2006)

- **Development of Positive Social Skills** - Play in diverse natural environments reduces or eliminates anti-social behavior such as violence, bullying, vandalism, and littering and reduces school absenteeism. (Coffey, 2001; Malone, 2003; Moore, 2000).

- **Conservation Benefits** - Higher levels of environmental knowledge correlate significantly with a higher degree of pro-environment/conservation behavior. The more people know, the more likely they are to recycle, be energy efficient, conserve water, etc. (NEETF, 2005).

**EE Related State Legislation and Executive Activities:**

Because of the many benefits of outdoor experiential activities and environmental education, many states have proactively supported these opportunities for their youth, families and communities. The following provide a summary of these efforts at the state level:

**Kansas Governor Issues Executive Order Creating Kansans for Children in Nature!**

Executive Order may be viewed at: [http://www.kacee.org/kansas-coalition-children-nature](http://www.kacee.org/kansas-coalition-children-nature)

**California SB 207 - Outdoor Environmental Education and Recreation Program,** 2007. This bill would establish the Outdoor Environmental Education and Recreation Program, to be administered by the Director of Parks and Recreation (director), for the purpose of increasing the ability of underserved and at-risk populations to participate in outdoor recreation and educational experiences by awarding grants to
education programs that are available to the public and are operated by public entities or nonprofit organizations.

**New Jersey EE Fund**, 1994. Creates an EE fund for the state that supports EE efforts as well as a mandate for the integration of EE into core curricular standards for schools that are tested on a regular basis.

**New Mexico HB 369 - Outdoor Classrooms**, 2007. A $500,000 fund established for the creation and support of outdoor classrooms in on New Mexico public lands.

**North Carolina Office of EE Legislation**, 1993. Established an Office of EE in North Carolina to serve as a clearinghouse for information and resources for EE implementation and to administer grant funding in support of these efforts in schools.

**Ohio EE Fund**, 1990. Created an advisory group that oversees the $1M competitive grant program (awarded annually) supporting EE efforts in Ohio.

**Washington House Bill 2910 - EE Study PL**, 2006. Created and funded a directive for the Superintendent of Schools in the state of Washington to conduct a year long study of the benefits of EE and recommendations for EE initiatives in the state.

**Wisconsin EE Board 1989 Act 299**, 1989. Established a board for EE in Wisconsin charged with overseeing the creation of an EE grants program and the establishment of an office for EE at the University of Wisconsin, Stevens Point.

The governor of Kansas issued a proclamation establishing Environmental Education Week in Kansas in 2007 and 2008.

The governor of California issued a proclamation establishing a Children’s Bill of Rights [http://www.calroundtable.org/cobor.htm](http://www.calroundtable.org/cobor.htm)

The governor of Michigan issued a No Child Left Inside Day proclamation [http://www.michigan.gov/gov/0,1607,7-168-23442_25488-162823--,00.html](http://www.michigan.gov/gov/0,1607,7-168-23442_25488-162823--,00.html)

The governor of Pennsylvania hosted a conference followed by community hearings on the issue, which resulted in this report with policy recommendations: [http://www.connectoutdoors.state.pa.us/](http://www.connectoutdoors.state.pa.us/)

The governor of Maine hosted a conference on the issue.

The governor of Washington signed legislation establishing a $1.5 million grant programs for school children to visit parks and other natural areas. [http://www.parks.wa.gov/NoChildLeftInside/](http://www.parks.wa.gov/NoChildLeftInside/)

The governor of Maryland issued an executive order in 2008 creating a Partnership on Children and Nature to develop policy responses to the issue.
References:


