

# Benefits of Connecting Children with Nature

## *Why Naturalize Outdoor Learning Environments*

Childcare center naturalized outdoor learning environments (OLEs) stimulate the diversity of children’s play experience and contribute to their healthy development. Best practice design of OLEs incorporates trees, shrubs, vines, flowers, grasses, edible fruits and vegetables—to connect children with nature and diversify their outdoor experience. This *InfoSheet* discusses the benefits of connecting children to nature and presents examples of simple ways to naturalize outdoor learning environments in childcare centers.

### Why Focus on Naturalizing Outdoor Learning Environments in Childcare?

Today’s children and families often have limited opportunities to connect with the natural environment. Richard Louv called this phenomenon, ‘nature-deficit disorder’ in his book, *The Last Child in the Woods*, and opened the nation’s eyes to the developmental effects that nature has on our children. Louv documented how modern family life has changed dramatically in the last two decades. Children spend more time viewing television and playing video games on computers than they do being physically active outside.

Families are eating more processed, high-calorie foods due to their busy schedules which makes a family sit-down meal a rare event. These changes have led to an epidemic of childhood obesity, which presents serious health threats for children including heart disease, diabetes, sleep apnea, and social and psychological problems. Today in North Carolina, more than one-third of young children are considered overweight and obese.

In the past decade, the benefits of connecting to nature have been well documented in numerous scientific research studies and publications. Collectively, this body of research shows that children’s social, psychological, academic and physical health is positively impacted when they have daily contact with nature. Postive impacts include the following:\*

- **Supports multiple development domains.** Nature is important to children’s development in every major way—intellectually, emotionally, socially, spiritually and physically (Kellert, 2005).

\* Selected excerpts from Children and Nature Network ([www.childrenandnature.org/research/](http://www.childrenandnature.org/research/)), *Annotated Bibliographies of Research and Studies*, Volumes 1 and 2 (2007).



Figure 1 - Children run along the pathway in a newly naturalized OLE.



Figure 2 - Children playing together on a log bench in a naturalized OLE.



Figure 3 - Primary pathways encourage vigorous physical activity.



Figure 4 - This secondary pathway encourages active exploration and discovery.



Figure 5 - This moderate-sized grassy lawn facilitates active group games.

- **Supports creativity and problem solving.** Studies of children in schoolyards found that children engage in more creative forms of play in the green areas. They also played more cooperatively (Bell and Dymont, 2006). Play in nature is especially important for developing capacities for creativity, problem-solving, and intellectual development (Kellert, 2005).
- **Enhances cognitive abilities.** Proximity to, views of, and daily exposure to natural settings increases children's ability to focus and enhances cognitive abilities (Wells, 2000).
- **Improves academic performance.** Studies in the US show that schools that use outdoor classrooms and other forms of nature-based experiential education support significant student gains in social studies, science, language arts, and math. Students in outdoor science programs improved their science testing scores by 27% (American Institutes for Research, 2005).
- **Reduces Attention Deficit Disorder (ADD) symptoms.** Contact with the natural world can significantly reduce symptoms of attention deficit disorder in children as young as five years old (Kuo and Taylor, 2004).
- **Increases physical activity.** Children who experience school grounds with diverse natural settings are more physically active, more aware of nutrition, more civil to one another and more creative (Bell and Dymont, 2006).
- **Improves nutrition.** Children who grow their own food are more likely to eat fruits and vegetables (Bell & Dymont, 2008) and to show higher levels of knowledge about nutrition (Waliczek, & Zajicek, 2006). They are also more likely to continue healthy eating habits throughout their lives (Morris & Zidenberg-Cherr, 2002).
- **Improves eyesight.** More time spent outdoors is related to reduced rates of nearsightedness, also known as myopia, in children and adolescents (American Academy of Ophthalmology, 2011).
- **Improves social relations.** Children will be smarter, better able to get along with others, healthier and happier when they have regular opportunities for free and unstructured play in the out-of-doors (Burdette and Whitaker, 2005).
- **Improves self-discipline.** Access to green spaces, and even a view of green settings, enhances peace, self-control and self-discipline within inner city youth, and particularly in girls (Taylor, Kuo and Sullivan, 2001).
- **Reduces stress.** Green plants and vistas reduce stress among highly stressed children. Locations with greater number of plants, greener views, and access to natural play areas show more significant results (Wells and Evans, 2003).



Figure 6 - Before the renovation, this OLE consisted mostly of patchy lawn and manufactured play equipment.



Figure 7 - After the outdoor learning environment was renovated and naturalized; it includes raised garden beds, a looped pathway, arbor, and many new trees.

### Children Need “Vitamin G”

“Green environments are an essential component of a healthy human habitat” according to Frances Ming Kuo, a researcher documenting the positive link between nature and human health, and social and psychological functioning. Kou summarizes various research studies that show that humans benefit from exposure to green environments (parks, forests, gardens, etc.) and conversely, people with less access to green places report more medical symptoms and poorer health overall. Kou uses the phrase “Vitamin G” (G for “green”) to capture nature’s role as a necessary ingredient for a healthy life. Evidence suggests that, like a vitamin, contact with nature and green environments is needed in frequent, regular doses.

### Naturalizing Outdoor Learning Environments in Childcare

The majority of children are in childcare for extended periods of time, often eight to ten hours per day, which makes greening their environment by adding natural elements vital to their overall health and functioning. Naturalizing outdoor learning environments means bringing back trees, shrubs, perennial plants, vines, and edible plants for children’s enjoyment and healthy development (Figures 9-14). Childcare centers with naturalized outdoor environments allow children to have safe, ready-made access to green places and engagement with nature. A diverse array of plant life encourages children to experience nature in more ways and more frequently.

Childcare centers across North Carolina are naturalizing their outdoor learning environments. For example, the childcare center above made significant improvements to their OLE (Figures 6 and 7). The center added a welcoming arbor (Figure 7) at the entrance to the outdoor learning environment with planters for flowers and vegetables (Figure 8), a defined lawn area, trees for shade, and a fine crushed stone pathway to increase physical activity and improve circulation.



Figure 8 - Teacher and child plant rainbow chard in a raised garden planter.



Figure 9 - Fence naturalized with edible vines.



Figure 10 - Children explore a small tree.



Figure 11 - Raised garden bed with vegetables, flowers, and herbs.



Figure 12 - Children playing with natural loose parts under the canopy of a small ornamental grass.



Figure 13 - Tree cookies are versatile loose parts.



Figure 14 - Smooth, moveable stones as loose parts.

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*Creating environments for healthy human development and a healthy biosphere for generations to come.*

The purpose of the *Natural Learning Initiative* is to promote the importance of the natural environment in the daily experience of all children, through environmental design, action research, education, and dissemination of information.

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