

Digging, Squishing, Wading: Nurturing a Love of Nature in Infancy and Toddlerhood

by Julia Luckenbill and Trudi Schwarz

In the toddlers' play-yard, a small group of children races from garden to garden pinching flowers off stems. "Look, it's yellow," exclaims one. "I want a pink one," articulates another. "A big pink flower," she adds. They gather up small bouquets together, sharing each new find with their student caregivers. As parents return at pick-up time, the toddlers eagerly extend the bouquets, "This one is for you, Mommy, and this one is for me.

In the Center for Child and Family Studies Lab School's infant and toddler classes, explorations like this one occur daily. Children are encouraged to engage the natural world inside the classroom through play using sensory activities (e.g., sand tables, birdseed, water) and indoor collections, including rocks, gourds, shells, and pets. Outside, this learning experience continues in our non-toxic gardens, which feature a rich supply of easily accessible pinecones, acorns, leaves, grass, water, mud, rocks and sand.

These experiences, though seemingly unstructured, and often overlooked, are deeply valuable for children. In "Last Child in the Woods: Saving our Children from Nature Deficit Disorder" (Louv, 2005), well-known journalist and child advocate Richard Louv discusses how children who are deprived of experiences such as the one described above can feel a disconnect from nature and may, therefore, be less inclined to protect natural resources in the future. He says that direct exposure to nature is essential for healthy childhood development. Louv also references Harvard psychologist Howard Gardner, who includes being "nature smart" in his theory of multiple intelligences. Gardner says that being "nature smart" is one major area of human learning potential. Environmental designers Randy White and Vicki Stoecklin (2006) remind us that the field of evolutionary psychology deems humans are genetically programmed to have an affinity for the outdoors (biophilia) but that prevented from exploring natural spaces, they may develop biophobia, discomfort in the natural world. Other researchers support the finding that natural experiences are necessary. Gill (2005) even goes so far as to suggest that, "Contact with nature may be as important to children as good nutrition and adequate sleep." White & Stoecklin, 2006 cite over 100 studies correlating access to natural outdoor environments with positive physiological and psychological responses in humans such as decreased stress and increased feelings of well-being. Education researcher Dana Miller (2007) adds that children gain academic skills through contact with nature.

Through engagement with the natural world, children develop in every domain of learning, gaining both academic and life skills. Cognitively, we see children explore volume, number, causality, an the use of tools (shovels, magnifiers). This is also where we see development of pre-mathematical concepts. Linguistically, children learn rich vocabulary such as the names of various insects and plants and descriptive adjectives to communicate what they see to peers and adults. Socio-emotionally, nature creates a common frame of reference for positive interactions such as co-digging a hole or working to create a garden. Children devel-

op skills in problem solving, critical thinking and decision-making. Finally, they develop motor and self help skills in the yard, as they assist with chores such as raking, weeding, and watering. In this article we will explore more about how the youngest children learn through their access to the natural world, and we will describe techniques we use to link this learning to the seasonal changes observed in the garden.

As we begin the school year at CCFS this fall, we see the introduction of seasonal produce such as gourds into our classrooms. In our play-yards the leaves are beginning to change color. Acorns and pinecones fall, and the gardens



have just begun to receive rain-fall. Activities in the infant and toddler programs have begun to center around these seasonal changes. Teachers, caregivers and children discuss the colors and textures, weights, sizes and quantities of the gourds. Soon we will see toddlers assisting us in collecting colored leaves for contact-paper collage, and infant families will be asked to bring in leaves to make seasonal mobiles. Last year's infants finished the school year watering the garden that they planted, and as toddlers they still enjoy this activity--seeing their plants now fully grown. Through these activities we explore cognitive and mathematical concepts. As we do so, we sur-

round the children with language about the things they are engaging with their senses. The children develop social skills as they work in pairs and small groups on projects such as digging in the sand and watering plants.

In the winter at CCFS the rain and fog will inevitably descend. The infant-toddlers will still go outside daily, albeit in more clothing, and they will find that the landscape has changed! Puddles, mud, wet leaves, worms and wet sand feel and behave differently than the landmarks of the autumn. Children must adjust what they have learned about the behavior of the sand as they grasp it, and the grass as they run or crawl over it, adapting their movements to the wetness. It takes more balance to walk in tippy rain-boots, and it is hard to crawl when the earth is wet. Grasping and pinching wet rocks and pinecones is a new challenge. As the weather becomes colder, moving around in spite of the bulky jackets and sweaters requires a new awareness of how big they are and how they fit in space! Getting unstuck from mud requires self-help skills, as does getting those boots on and off.

In the spring the children will have grown SO MUCH, as will have the plants in their gardens. We will see flowers, and the children will be big enough to know how to pick them! At CCFS we let them use this new skill, as learning to control their fingers enough to do this is a pre-writing skill. We also know that feeling free to



engage the flowers will lead children to love them enough to learn their names, colors and characteristics, and that they are likely to show pro-social skills by giving them away.

"I'm picking these flowers for my mommy," one child told us last year. This child had protested each day when her mother left, but after developing her flower picking routine, was able to cope and greet her mother upon return not with tears, but with flowers.

We often see waves of ladybugs in the yard, and children develop the skill to catch and count them in the spring. The "happening" of ladybugs is another way that nature invites children into engaging and learning. Finally, as the spring turns to summer, water play is central to keeping children cool outside. Co-splashing, plant watering, mud play, pouring and moving water are all ways that children can develop new skills while getting wet.

Throughout the year in the infant and toddler program, we provide safe experiences for exploring nature. We encourage children to look carefully and to think about what they see, as we know that infant-toddlers learn through hands-on engagement. Syracuse University Professor Emerita Alice Honig (2004) reminds us that, "*So much of a baby's life is spent indoors,*" and we want to counter this fact by providing daily access to the outside world. Although we know that very young children are often prevented from exploring nature for fear they will eat the sand or encounter forbidden toxic plants, we try to present an alternative: a garden oasis where children can learn to take safe risks and engage the natural world. Louv expresses a fear that children prevented from this kind of exploration will not understand its value. We, too, believe that this exploration is central to their physical, social and cognitive development. We know that, as Senegalese poet and naturalist Baba Dioum wrote, "*In the end, we will protect only what we love, we will love only what we understand, and we will understand only what we are taught.*" We hope to teach the infant-toddlers that the world is a safe and rich place to explore.



As the toddlers go in for circle time I scan the yard. There are flower petals on the sidewalk, branches planted in the sandbox, mud on the tri-cycles and leaves on the climber. More work for me? Perhaps, but also the satisfaction of work well done.

References

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