

Cosmic Education in the School Garden

Sarah Kozicki

It's humid inside the greenhouse, and the rich, earthy fragrance of healthy soil permeates the air. The thick plastic covering lends the interior an extra four degrees of warmth, allowing delicate greens to grow during Michigan winters.

Ten elementary school students, two each from grades first through fifth, chatter with excitement as they move between the beds of lettuce and radishes. Their small fingers reach into the wet mass of greens, harvesting leaves one by one with safety scissors from their classrooms.

It's 2006 and I'm visiting Gunnisonville Elementary School in Lansing, Mich. Now closed, this was once a school of children primarily from urban, low-income families, 58 percent of whom were eligible for free or reduced price lunches. Originally a vehicle for introducing students to fresh food, the greenhouse and garden soon took on a larger role.

"I have become more and more aware that the children have a very fuzzy concept of how the land is connected to them," teacher Lisa Prebeck noted in Laurie Thorp's 2005 book, *The Pull of the Earth: Participatory Ethnography in the School Garden*. "Place is absent from their lives."

Life Without Nature

In his 2005 book, *Last Child in the Woods: Saving Our Children from Nature Deficit Disorder*, journalist Richard Louv highlights research showing how exposure to nature – or vitamin N – can help heal some common afflictions among today's overstimulated children, from depression to Attention Deficit Disorder (ADD). Back then, the book sparked a national discussion and started a movement to connect children with nature (see the Children & Nature Network). Thirteen years later, the research is just as, if not more, relevant to today's children.

According to a study in the journal *Environment and Behavior*, "Children with ADD can support their attentional functioning and minimize their symptoms simply by spending time in green settings."¹

Drawing on pioneering psychologist William James' ideas about attention, researchers Stephen and Rachel Kaplan posit that there are two types of attention. One, directed attention, which can lead to fatigue and irritability, and two, fascination, which is involuntary and can actually help an over-exerted brain recover.

"Directed attention fatigues people through overuse," Stephen Kaplan explains. "If you can find an environment where the attention is automatic, you allow directed attention to rest. And that means an environment that's strong on fascination."

Nature in particular seems to be quite restorative for people suffering from "directed attention fatigue" and can relieve stress and improve mood, according to studies conducted by the Kaplans. But for those who don't have the ability to take a walk in the woods during their lunch break, the Kaplans have found that even a view of nature from the window helps.²

This is good news for the many urban children who do not have easy access to green spaces. But beyond the restrictions of space and time, today's children are ever more connected to digital devices, both for instruction and entertainment. And the consequences of this disconnectedness from nature may be broader than we have yet to recognize.

"I've been a Montessori teacher for 19 years and I've felt a shift," says Sarah Fondriest, co-founder and head of school at Del Ray Montessori School in Alexandria, Va. "Kids are not outside as much, and because of that, because the alternative is screens and being inside and not doing what they used to do, kids can't attend in the way that they used to. There's a lot of pent up energy that can't release itself."

Sensory Sanctuary

For many children, a school garden may be the only access to explorable nature that they have. With the right guidance and supervision, school gardens can provide safe places for children to move their bodies, expand upon Practical Life activities and core subject areas, and tap into nature's restorative effects. Part of what makes

nature so restorative may have to do with the ample and diverse opportunities for sensory experiences that many of today's plugged-in children are missing.

According to a study in *Environment and Behavior*:
 "Contact with nature supports children's general well-being by providing children with privacy and mental and sensory stimulation."¹

Researcher Andrea Faber Taylor at the University of Illinois, Urbana-Champaign agrees that schools could provide that missing link.

"Schools could be a great source for contact with nature, nature activities, and learning about nature. I think it's important for kids to be out in nature, doing hands-on activities and getting the opportunity to do what they want and discover it on their own."

Dr. Faber Taylor's statement will resonate with many Montessori practitioners as it reflects some of the core tenets of Montessori education, another being environmental stewardship. While its benefits may be obvious to Montessorians, not all schools are fortunate enough to have a garden. But for those that find a way, the rewards are seemingly endless.



"In all stages of life, nature is an important part of every day. Montessori educators can link children to the environment around them by showing them the details of the plants, the textures of the rocks, and sitting with them to listen to the sounds of nature around them. Just about everything we do with children inside our classrooms can be extended to the outside as well." - Paula Preschlack, Forest Bluff School)

"The ideal Montessori school has access to the garden and the playground right from their classroom," says Fondriest. "We don't have that, so the opportunity for us to take children outside and to just have them be in the garden, whether they're running through it, whether they're digging, is this great alternative that gets their body moving in a productive way."

Del Ray Montessori School had a garden installed on school grounds just a year ago and has already made ample use of it. All students, from the toddler community to the elementary classes, have participated in some way – from germinating seeds, to making signs, to learning about The Three Sisters (beans, corn, and squash) that native North Americans used both for sustenance and to replenish the soil.

The garden amplifies values that are built into the Montessori classroom, such as patience.

As Sarah Fondriest points out, "watching something grow takes months. I feel like in this day in age when everything is so immediate for children, this is a process that took months. In the classroom there's only one of everything, and if it's not available you can't use it, so it's that element of patience."

Perhaps the school garden's most important role, however, is the opportunity for sensory stimulation and gross motor skill development.

"What I've seen in my time is this greater need for sensory experiences because those needs are not being met like they used to," Fondriest says. "In our garden we have a bunch of tree stumps, so they can jump from tree stump to tree stump. We have so many kids now who, their core is not strong because they didn't crawl, and they can't even sit up straight. So, the garden becomes that magical place where you can figure out how to get those needs met."

The Joy of Gardening

"The kids are always focused in the garden, but today it's unusually good," notes Lynn Hyndman as she watches half of the fifth-grade class cut back the dead plants in the prairie. The small patch of native prairie, as well as a butterfly garden and five raised beds behind Dawes Elementary School in Evanston, Ill., are solely the work of this retired science teacher, whose tireless efforts have made the school garden a reality at this urban school.

"When they're out in the garden, the kids are always engaged," Hyndman said. There are a variety of tasks the children may undertake, from cleaning to harvesting their own vegetables. Though the original intent of the garden was to get the kids exposed to fresh food, teachers are beginning to realize what an invaluable learning tool the garden can be.

"You can do every subject in the garden," says Teresa Morris, a former fifth-grade teacher at Dawes. "Math,

science, reading, writing, art. We usually split the class in half. One half will do a math lesson where they might measure the dimensions of the beds, the other half will sit on the benches and sketch or write stories.”

Hyndman opens the door to a small shed where the tools are kept, brings out a bag, and calls the children over to deposit their clippers and gloves. Though it’s a cold, blustery day, some of the children seems reluctant to leave. One student in particular is stubbornly continuing to cut, though shivering because he’s only wearing a t-shirt. According to teachers, this smart boy is often overlooked because his talents and abilities do not show up on standardized tests. But the joy and freedom he experiences working in the garden is apparent on his face. As the kids deposit their tools one by one and run back toward the building, he asks, “can we keep going?”



A special thank you to Sarah Fondriest at Del Ray Montessori School in Alexandria, Va. for her time.



Sources

1. Faber Taylor, Andrea; Kuo, Frances E.; Sullivan, William C. (2001). *Coping with ADD: The Surprising Connection to Green Play Settings*. Retrieved from <http://journals.sagepub.com/doi/10.1177/00139160121972864>
2. Clay, Rebecca. (April 2001). *Green is good for you*. Retrieved from <https://www.apa.org/monitor/apr01/greengood.aspx>



Sarah Kozicki has a lifelong love of nature. She graduated from Michigan State University in 2008 with a degree in Environmental Studies and Applications. She was honored with the Edward J Meeman Award in Environmental Journalism in 2007. After working for the National Environmental Education Foundation for several years,

Sarah moved abroad to live with her husband's family in rural Paraguay and learn about sustainable agriculture in South America. Upon returning to the U.S., she was excited to take on a new role at AMI/USA, where she currently serves as Director of Communications and Digital Strategy.