Caring For and About the Environment

Research tells us that students will "care for" what they "care about." The Japanese conservationist Tanako Shozo said it this way, "The care of rivers isn't a question of rivers, but of the human heart." In order to cultivate a caring attitude toward the environment, students need to spend time outside. David T. Sobel, professor at Antioch University New England and Director of Place-Based Education, advocates involving students and teachers in on-going tasks that care for the school environment. Many of the tasks listed below give elementary students an opportunity to enjoy being outside in nature while they practice environmentally-friendly behaviors.

Seasonal School Beautification	Teachers and students create indoor displays of natural objects such as flowers, vegetables, and rock gardens. The displays coincide with the natural cycles of the seasons.
Flower Garden Maintenance	Teachers and students weed the gardens, put them to bed for the winter, start seedlings, run a plant sale, bring the garden to life, and install new plantings.
Schoolyard Vegetable Gardens	Teachers and students install raised beds, test and amend the soil, order the seeds, plant the garden, harvest vegetables, arrange for a harvest festival, put the garden to bed, preserve foods by drying, and organize the volunteers for summer maintenance.
Maintaining the Schoolyard	Teachers and students keep the nature area or schoolyard clean, devise graffiti and vandalism prevention programs, help to teach schoolyard games, work with school maintenance staff, create homes for wildlife, keep the bird feeders full, and keep running record of birds that visit the feeders.
Running the Recycling Program	Teachers and students design and run the paper-recycling program. They collect the paper and bring it to the collection site. They develop systems for other materials such as glass, aluminum cans, and inkjet printer cartridges and pick up recyclables on the school grounds.
Tending the Composting Program	Teachers and students work with school lunch staff to first design a composting program and staff the post-lunch separation process. Experienced students educate new students about what's compostable and what isn't.
Climate Change Team	Teachers and students work to minimize the carbon dioxide output of the school through yearly projects that monitor and reduce electricity, building heating fuels, and water consumption. Students suggest changes in student/teacher/staff behavior to reduce consumption. Students and teachers work with building maintenance staff to use the healthiest cleaning products.

Global Climate Change Meets Ecophobia

Prof. David Sobel emphasizes the importance of giving students experiences in nature and focusing on environmental behaviors rather than on simply giving children knowledge about environmental disasters in an article published in Connect magazine entitled "Global Climate Change Meets Ecophobia." A condensation of that article follows.

Ever since Al Gore's An Inconvenient Truth brought global climate change firmly into the public consciousness, worried parents and teachers have asked me, "Is it really appropriate for third graders to watch this movie?" Their deep concern: Is it useful, or counterproductively upsetting, for children to be educated about the world going to hell in a handbasket? People ask me because

about ten years ago I wrote a little book called Beyond Ecophobia advocating for honoring developmental appropriateness in environmental education. At that point, I railed against premature rainforest education for young children. I was concerned about the curriculum message: The rainforest is being destroyed and it's your responsibility, first graders, to save it! This would have been like asking us children growing up in the early 1950's to find a cure for polio.

The same thing is happening right now with global warming education. The ice caps are melting, mosquito populations are expanding and spreading serious diseases, hurricanes are getting windier, and we need you, children, to understand that it's your responsibility to fix these problems. But no pressure!

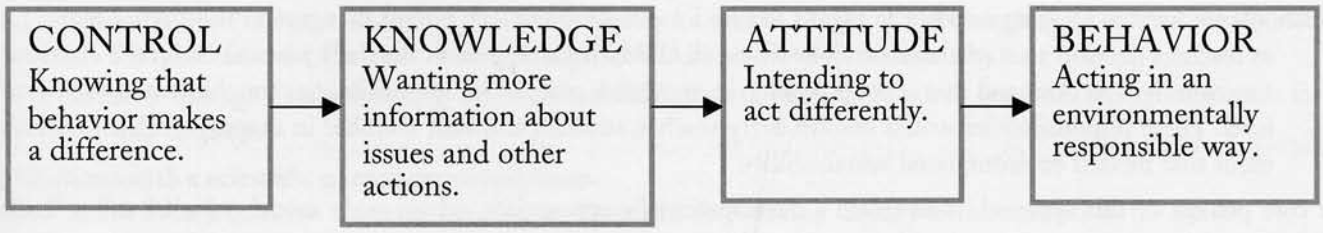
On the one hand I believe that global climate change is caused by human behavior, and we've got to do something about it fast. On the other hand, I'm concerned that prematurely recruiting children to solve this overwhelming problem will just make them feel helpless and hopeless, instead of motivating them to walk to school instead of riding in their parents' cars.

What do we know about effectively cultivating ecological behavior?

The conventional assumption in environmental education starting in the 1960's and 70's was that knowledge led to attitudes, and attitudes led to behavior. If we helped children become knowledgeable, they would become more aware of the environment and its problems, and, thus, be motivated to act toward the environment in responsible ways.

But as researchers Hungerford and Volk discovered, "… behavior, unfortunately, does not bear out the validity of these linear models for changing behavior." Just because children know that burning fuel creates carbon dioxide and that this is bad for the planet, they don't necessarily develop ecologically responsible buying patterns. Increased knowledge and change in attitudes doesn't necessarily translate into different behavior.

The pathway to responsible environmental behavior is more complicated. It's more like: having a sense of control leads to the knowledge of issues and action strategies, which leads to an intention to act, which under the right precipitating conditions, leads to environmental behavior.



If we want kids to adopt responsible environmental behaviors, one of the first things to do is teach children that their behavior makes a difference. *Turning off the lights when you leave the room saves us money and reduces carbon dioxide in the environment.* This sense of personal responsibility leads them to wanting to understand why turning off the lights saves money and reduces carbon dioxide production. This then leads to the intention to make other changes, which ultimately leads to responsible environmental behavior.

At the risk of gross over-simplification, what this suggests is that small behaviors lead to knowledge and attitudes, which lead to medium-sized behaviors, which lead eventually to bigger behaviors. But keep in mind that behaviors are only possible when choices present themselves. If you really believe in recycling, but there's no convenient paper recycling system in your classroom, you're probably going to throw the paper away.

What happens when we give children too much "bad news" about the environment?

A Swiss National Science Foundation study conducted with adults (Finger, 1993) found that too much knowledge about environmental tragedies actually discourages environmental behavior. *If global warming is a done deal, why should I bother to do*

anything about it? If this is true for adults, who have well-developed capacities to shield themselves from information overload, think how this must be affecting children.

Finger drew four conclusions that directly affect education programs:

1. "Nature experiences seem to be a necessary condition for any type of environmentally responsible behavior. . . . In particular, nature experiences should be provided for the youngest generation."
2. "It is necessary that social and collective action be an integral part of any continuing education activity."
3. "Fear and anxiety of environmental problems has the potential to turn environmental education into a counterproductive activity." Therefore, education about the problems should be substantially counter-balanced by opportunities to address the problem constructively.
4. "When low fear is involved, environmental knowledge and information do make a difference in terms of environmental behavior."

What does this all mean for global climate change education?

Emphasize behaviors rather than knowledge.

We need to recognize that we've been spending way too much time focusing on conveying environmental knowledge and way too little time on developing environmental behaviors.

Connect children and curriculum to the near-by natural world.

Keep in mind that much of the available research suggests a very strong link behind childhood nature experience and adult environmental behavior. Without that deep abiding sense of comfort in and love for the natural world, no amount of chastising about turning off the lights or biking to school is going to make a bit of difference.

A 2005 Cornell study by Wells and Leckies found that "Childhood participation in 'wild' nature, such as hiking or playing in the woods, camping, and hunting or fishing, is positively associated with environmental behaviors in adulthood." Rather than taking eight-year-olds to a slide show about global warming, it might be more useful to take them fishing or blueberry picking.

Create classrooms and schools that are communities of care for the environment.

Schools are used to a caring mindset in regard to care for people. Now let's extend that care to the environment. Just as teachers develop a set of classroom jobs where all children participate in the daily jobs that keep the classroom functioning, I recommend that schools develop incremental, progressive responsibilities for children at each grade level. These responsibilities would involve every teacher, student, and staff member in shaping a school environment that models environmental sustainability.

One core precept of this approach is to create a developmentally appropriate, school-wide model, which I call a "Ladder of Environmental Responsibility." This Ladder would provide a set of incrementally more challenging tasks for children throughout their school career and would be devised in conjunction with the state-mandated curriculum. Certainly, the science curriculum is one consideration, but all aspects of the language arts, math, and social studies curricula would be considered as well.

As we model and practice responsible environmental behaviors with children, we help them develop the durable commitment to dealing with the more expansive, heavy problems of global warming at the community, regional, and national levels as adults.

Condensed from *Connect*, Vol. 21, Issue 2, November-December 2007, p.14. David T. Sobel is the Director of Teacher Certification Programs in the Education Department, Director of the Center for Place-based Education at Antioch University New England in Keene, Hew Hampshire, and Co-Director of Project COSEED (Community-based School Environmental Education). He is author of *Children's Special Places*; *Beyond Ecophobia: Reclaiming the Heart in Nature Education*; *Mapmaking with Children: Sense of Place Education for the Elementary Years*; and *Place-based Education: Connecting Classrooms and Communities*.