

## Nature nurtures learning

### National movement touts benefits of outdoor education

By Peter Dizikes, Globe Correspondent | December 31, 2007

At most schools, a bug in the classroom is something a janitor or computer technician has to deal with. At the Dennis C. Haley Elementary School in Roslindale, bugs are part of the curriculum.

For that matter, so are ants, crayfish, crabs, plants, rocks, and even four turtles and a lizard that live in the school lobby.

The Haley school is in the vanguard of a national back-to-nature movement - often called "No Child Left Inside" - that within the last two years has seen the creation of dozens of regional programs to draw families and students outdoors.

This is not the environmentalism of the past, which usually argued that children need to appreciate nature so they will help protect it. Instead, the new sales pitch is based on self-interest: Walking in the woods, smelling the roses, and digging in the dirt are good for mental health, learning, and brain development. Being close to nature may foster people's ability to concentrate, improves the behavior of children with attention disorders, and boosts science test scores, research shows.

"The tragedy we are facing in this generation is that there is no time for children to explore, to play, to go outside," the influential pediatrician T. Berry Brazelton said before a panel discussion this month at the Harvard Museum of Natural History. Brazelton, a Cambridge resident and clinical professor of pediatrics emeritus at Harvard Medical School, believes outdoor play lets children "find themselves, find out what they're like as people, find what works, and what doesn't work."

These concepts inform many back-to-nature plans, including a bill introduced in Congress in July to help pay for outdoor education in schools; state initiatives like Connecticut's, begun in 2006, which is designed to draw families to state parks; and one launched this year by the US Forest Service, called "More Kids in the Woods," which funds two dozen programs, some allowing inner-city children from New York and Baltimore to participate in environmental education activities.

At Haley, where students don't have ready access to the woods or lush backyards, studies often involve long-running themes relating to animals, habitats, and the human impact on the environment. The school has wetlands and gardens, and it is building an outdoor classroom. Students often visit the neighboring Boston Nature Center, and fifth-graders take a week-long trip to

Camp Beckett in the Berkshires, where they explore and study forest ecosystems.

Explaining his approach, principal Ross Wilson cited a 2003 paper by Harvard researchers Christopher Wimer and Ronald F. Ferguson, who argue that students learn more when their daily lessons, stored in the brain's short-term memory, are placed in a larger framework, allowing them to enter the mind's long-term memory.

"Typically in education a student will study a topic for a short time, take a quiz or test, and forget what they've learned," said Wilson. But by "weaving environmental education into the curriculum," he said, "we provide experiences for our students outside the classroom, allow them to build vocabulary, make connections, and they can store long-term memories and build upon that in the future."

Nature may help children in other ways. In 2004, a University of Illinois study found that children with attention deficit hyperactivity disorder experienced "significant symptom abatement" after spending time outdoors.

A California Department of Education study from 2005 showed that sixth-graders improved their science scores by 27 percent after taking week-long outdoor education classes. Several University of Michigan studies have suggested that proximity to nature enhances people's ability to concentrate.

Harvard naturalist Edward O. Wilson, an intellectual godfather of the renewed back-to-nature movement, said his observations support the idea that nature teaches children how to learn.

In 1986, Wilson (no relation to the Haley school's principal) coined the term "biophilia" in a book of the same name, arguing that humans have a deep genetic need for contact with nature. Wilson, who participated in the same Harvard panel discussion as Brazelton, defines biophilia as "an innate tendency - an instinct if you wish - to affiliate with nature, to observe it, to live near it, to understand it, to have it within reach."

Yet since Wilson wrote "Biophilia," the average American's time spent plugged into electronic entertainment has increased by almost one hour per day - thanks to the rise of the Internet, video games, and movie rentals - while per-capita visits to national parks are off 25 percent.

"In terms of our recent American experience, this has been a big change in the last 30 years," said Richard Louv, author of "Last Child in the Woods: Saving Our Children from Nature-Deficit Disorder," a keystone text of back-to-nature advocates published in 2005.

"The era of kids going outside and not coming back until the streetlights are on is unlikely to return," said Louv.

"The 1950s aren't coming back."

But getting outdoors is still crucial to the human experience, and early contact can go a long way, said E.O. Wilson, the subject of an upcoming PBS documentary that updates the life story he told in his own memoir, 'Naturalist.'

"There is no substitute for having your personal, precious body out there in the middle of nature," he said.

Haley second-grader Johnnae Smith already shares Wilson's excitement. As principal Ross Wilson guided a visitor through a science class this month, Smith rushed up, eager to explain the life cycle of the mealworm beetle she held in her hands.

"First it's a worm, then a larva, and then, after it goes through those stages, it turns into a little bug," she said.

Then, she added one more piece of empirical data: "It tickles." ■