



Grounds for Learning

Hope for America's derelict schoolyards

By Cheryl Corson

Not all learning takes place inside four walls. Increasingly, school planners and architects are recognizing the learning potential of outdoor spaces. And increasingly, they are taking environmental considerations into account as well. In keeping with the national trend toward high-performance schools, more and more new educational facilities reflect the principles of low-impact development in their site design. It is not uncommon for designers to orient new buildings to take advantage of natural light and prevailing winds, preserve existing vegetation and topography, and minimize rainwater runoff. Recognizing the potential of another trend—project-based experiential learning—designers are also planning outdoor learning spaces on school grounds, in addition to athletic fields. Amphitheaters, outdoor art and music spaces, gardens, and even weather stations are cropping up on the grounds of new schools across the nation.

But these positive new approaches don't benefit the majority of America's aging schools that are not scheduled for replacement. Can older schools transform their often-harsh outdoor environments into places for learning and discovery? In fact, with students and teachers so focused on fulfilling academic requirements, should they even try?

Many existing schools have found good reason to transform their derelict grounds and are realizing great benefits in all areas of academic and community life. Some initiatives are state and citywide. Others occur at regional and district levels or are undertaken by dedicated students, teachers, and staff at individual schools. Here are some examples:

Public/private partnerships

The Boston Schoolyard Initiative, a public/private partnership, has engaged half of the city's 130 schools in overall schoolyard redesign and construction since 1995. (Some of those schools won a Grand Prize in this year's *Learning By Design*; see page 6.) This is accomplished with investment from several city agencies, teamed with local foundations and nonprofit organizations. Community organizers and city-retained landscape architects work with teachers, students, administrators, and community groups to create outdoor areas that feature maps, sundials, games, settings for creative play, and spaces to focus classes on learning.

The Boston Schoolyard Funders Collaborative (BSFC) administers the private side of the partnership, which emphasizes local ownership through community participation and shared resources and recognizes the educational opportunities of the design process itself. Ample time is allocated for team building, identifying priorities, and landscape planning before developing the design. Ongoing schoolyard maintenance, which is built into

the program through BSFC training and grants, is undertaken by a schoolyard maintenance crew created and funded by the Boston Public Schools Office of Facilities Management.

Another public/private partnership, the Learning Landscape Alliance, was formed in Denver in 1999. In just a few years, 16 of 23 eligible elementary schools in the mayor's designated underserved neighborhoods have become actively involved with design and construction. Schematic design and design development is provided through the University of Colorado's School of Architecture and Planning (UCD). Licensed landscape architects hired and supervised by Denver Public Schools produce construction documents and supervise the work. AmeriCorps volunteers assist with installation during the summer, and AmeriCorps offers tuition grants to participating UCD landscape architecture students.

Projects include irrigated playgrounds, playing fields, murals, sculpture, outdoor classrooms, and space for community gatherings. These spaces also serve as an after-hours community resource. Funding comes from the state, the city, the school district, local foundations, and the business community, including the area's professional sports teams and state lottery funds.

Other initiatives

In the only statewide initiative of its kind, the California Department of Education's Nutrition and Education Training Program works toward its vision of a garden in every school. Since 1995, with state support, schools have created gardens that have become vehicles for uniting the school community. Students learn about nutrition, multicultural heritage, social responsibility, and environmental stewardship through a host of horticultural, art, and science activities.

With support from a Berkeley-based foundation, the Center for Ecoliteracy, some Bay Area elementary and middle schools are restoring a nearby creek, where horticulture, biology, chemistry, and political science come alive through students' experience of their immediate environment and watershed. The foundation also supports a well-known Berkeley middle school project, The Edible Schoolyard, initiated by restaurateur Alice Waters over a decade ago.

In south central Los Angeles, high school students own and operate Food from the 'Hood, a 10-year-old salad dressing business. Originally inspired by produce grown from a school garden, Food from the 'Hood salad dressings are distributed nationally today. All products are still field-tested with student-grown ingredients before the students contract with area farms for bulk purchasing. Profits from the company have already funded more than \$140,000 in college scholarships for participants. Food from the 'Hood is now seeking ways to replicate its program in other U.S. schools.



Photograph courtesy Boston Schoolyard Initiative

THE BOSTON SCHOOLYARD INITIATIVE, A PUBLIC/PRIVATE PARTNERSHIP, TURNED THIS URBAN SCHOOLYARD INTO A SCIENCE CLASS WHERE CHILDREN CAN WATCH BUTTERFLIES HATCH AND PLANTS GROW.

Across the country, Northeast High School in downtown Philadelphia is divided into Small Learning Communities (SLCs), one of which is devoted to environmental science. Courses and activities are directed toward college-bound students and those who wish to enter the workforce after graduation. Through the Environmental Science SLC, two courtyard gardens have been created at the school. Students have built a pond and a greenhouse, both of which are used in the curriculum. Taught by teachers from all academic disciplines, courses cover greenhouse design, watersheds, environmental engineering and restoration, park management, urban design, and more.

These are just a few of the many notable projects being undertaken at the district and individual school level. What schools do with their grounds depends in large part on geography, climate, student and teacher interest, administrative support, and community culture. The results are both varied and creative.

Why do it?

Facing tight budgets and swelling enrollments, school officials might ask why they should plan to include school grounds as an active part of their school's or district's overall educational program. Persuasive reasons to do so fall into five major categories:

1. Recreational. Kids need to play outdoors at least an hour a day for their health and physical development, according to the U.S. Department of Agriculture's Food and Nutrition

Service. Yet, the Environmental Protection Agency finds that Americans spend nearly 90 percent of their time indoors. Children need opportunities for organized games and for informal, creative play. Play equipment is part of this mix, and upgrading schoolyards can integrate age-appropriate, standards-compliant equipment that accommodates the new Accessibility Guidelines for Play Areas established by the U.S. Access Board in 2001.

2. Social. Children develop a greater sense of belonging to their community and its physical environment when they have a chance to learn and play outdoors. By belonging, they develop a sense of social responsibility, empathy, and compassion for one another and the natural world. One Denver school has already recorded an 80 to 90 percent reduction in disciplinary referrals and injuries since the schoolyard was redesigned, and evidence from around the country suggests a similar drop in vandalism. Another social benefit comes from community use of schoolyards. A new project at Boston's Madison Park Vocational High School features an intergenerational community gardening program that includes students, seniors from a housing development across the street, and young children at the school's on-site daycare center. Enhanced self-esteem—so important for a child's development and success—is a natural outgrowth of these shared experiences.

3. Academic. Evidence suggests that experiential, inquiry-based outdoor learning reinforces the text-based curriculum and



Photograph courtesy Center for Ecoliteracy

THE CENTER FOR ECOLITERACY, A FOUNDATION IN BERKELEY, CALIF., HAS PROVIDED SEED MONEY FOR URBAN GARDENS LIKE THIS ONE AT A NUMBER OF DISTRICT ELEMENTARY AND MIDDLE SCHOOLS.

deepens students' understanding of core academic concepts. It gets kids excited about learning and helps accommodate students with different learning styles, even those for whom English is not their first language. Nearly one-third of Boston's K-12 students, or about 20,000, speak English as a second language. Outdoor learning activities have helped keep these students engaged in the curriculum while their language skills improve. The growing use of wireless networks holds enormous potential for outdoor activities using laptop and handheld computers. Learning activities in nearly every subject—language arts, math, science, art, music, and social studies—are supported by outdoor curriculum guides widely available in print and online. (See the box on page 15 for more information.)

4. Political. Schoolyards used by children and community members during and after school hours are highly visible and valuable urban amenities. When citizens who have no children in school can see kids engaged in constructive outdoor activities, they can imagine their tax dollars being well spent. The result is a likely increase in support for future school bond issues. Revitalized open spaces also attract economic development, and this applies to schools even though they do not serve specifically as profit centers. As the projects in Philadelphia and Los Angeles show, job training and for-profit activities using school grounds can have a positive impact on the community. Students—future voters themselves—acquire a deeper sense of citizenship when they are engaged through their schools in

activities relating to their communities.

5. Environmental. America's nearly 100,000 public schoolyards make up a significant piece of the built environment. Environmental scientist Jeffrey Luvall from NASA's Marshall Space Flight Center has shown that, when paved over, even one schoolyard can contribute to the phenomenon of the "urban heat island"—an unnaturally hot area that can raise air temperatures 30 degrees, hundreds of feet beyond school boundaries.

Environmental remediation, such as planting trees and reducing the use of impervious surfaces like asphalt, would be reason enough for introducing green areas on school grounds. But to incorporate outdoor scientific inquiry into a school's curriculum and offer students hands-on experience with natural systems as well will help raise a new generation of environmentally aware and concerned citizens.

Getting started

What's included in a schoolyard restoration project, as well as how it's funded and put in place, will vary from site to site, but some common elements must be in place for a project to succeed.

- *Be sure the school's principal is supportive.* The most successful projects have the widest support base, but the support of the school's leadership is critical. Most successful projects also have grown incrementally over time. Allow time for school administrators and teachers to grow along with the project. The Boston

Schoolyard Initiative, for example, allows two years for planning and building coalitions before breaking ground on a project.

- *Build a broad base of support.* Involve students, teachers, and parents in all phases of development. Create ties to the community at large so that the program will continue even if one dedicated individual, supportive agency, or organization withdraws. Plan a broad base of financial support as well. In Denver's Learning Landscape Alliance, for example, no single funder is responsible for more than 25 percent of a project's financial support.

- *Build long-term maintenance and evaluation into your plan from the beginning.* The Boston program has developed a shared-maintenance protocol that assigns responsibility for a variety of tasks to the city, the school, and local community groups. Training is made available to school custodians and community members. Denver has already commissioned what is known as a post-occupancy evaluation, which promises to yield information on how the physical design is actually being used, along with hard data on the impact of outdoor facilities on learning and student behavior. Such studies help others learn and can produce supportive evidence for future initiatives.

- *Incorporate government guidelines into your plan.* Chief among these are the 1997 *U.S. Consumer Products Safety Commission Handbook for Public Playground Safety* and the 2001 *U.S. Access Board's Guide to ADA Accessibility Guidelines for Play Areas*. Six states have passed legislation incorporating the CPSC's Handbook: California, Connecticut, Michigan, New Jersey, North Carolina, and Texas. Others are following suit, so it pays to check your state or local parks and recreation department before you begin.

- *Seek funding opportunities from the private sector and foundations.* Use local and regional resources for in-kind services and training. Denver's program has won the financial support of the city's sports teams, but another city might find that an athletic goods manufacturer or a seed company is anxious to contribute. Be creative! Explore university extension agencies for master gardeners who must complete community service as part of their training. Check for other university institutes that may be of assistance, such as the Natural Learning Initiative at North Carolina State University, or local foundations like the Center for Ecoliteracy in Berkeley, Calif.

National resources are also available, such as the National Clearinghouse for Educational Facilities Web site, which catalogs numerous resources on outdoor learning and playgrounds. Once an organizational structure has been developed for a project, AmeriCorps can be a useful source of volunteers. National nonprofits such as the National Wildlife Association and the National Gardening Association also offer valuable resources.

For existing schools with historic ties to their neighborhoods, the schoolyard may be one of the most valuable assets a school has. Drawing on examples from across the country, schools and their communities can regain their connections to the natural world and add a new dimension to students' learning and sense of belonging in their environment. ■

Cheryl Corson (cheryl@cherylcorson.com), a landscape architect in private practice, is the former communications manager at the National Clearinghouse for Educational Facilities, Washington, D.C.

For more information

- Boston Schoolyard Initiative, Boston, Mass.; www.schoolyards.org.
- California Department of Education School Garden Project, Sacramento, Calif.; www.cde.ca.gov/nsd/nets/g_index.htm.
- Canadian Biodiversity Institute, Ottawa, Ontario, Canada; www.schoolgrounds.ca/schoolgrounds/home.html.
- Center for Ecoliteracy, Berkeley, Calif.; www.ecoliteracy.org. Publications include: *The Edible Schoolyard*, 1999, and *Getting Started: A Guide for Creating School Gardens as Outdoor Classrooms*, 1997.
- Center for Environmental Education at Antioch New England Institute, Keene, N.H.; www.cce-ane.org.
- Corporation for National and Community Service (Senior Corps and AmeriCorps), Washington, D.C.; www.nationalservice.org.
- The Edible Schoolyard, Berkeley, Calif.; www.edibleschoolyard.org.
- Food from the 'Hood, Los Angeles, Calif.; www.foodfromthehood.com.
- Grant, Tim, and Littlejohn, Gail, eds. *Greening School Grounds: Creating Habitats for Learning*. Gabriola Island, B.C., Canada: New Society Publishers, 2001; www.newsociety.com.
- Kiefer, Joseph, and Kemple Martin. *Digging Deeper: Integrating Youth Gardens Into Schools & Communities. A Comprehensive Guide*. Montpelier, Vt.: Common Roots Press, 1998; (802) 223-1515.
- Kutska, Kenneth, Hoffman, Kevin, and Malkusak, Antonio. *Playground Safety Is No Accident: Developing a Public Playground Safety and Maintenance Program*. 3rd ed. Washington, D.C.: National Recreation and Park Association, 2002; www.nrpa.org.
- National Clearinghouse for Educational Facilities, Washington, D.C.; www.edfacilities.org. Publications include "Planning School Grounds for Outdoor Learning," 2000, and resource lists on "Outdoor Learning" and "Playgrounds."
- National Wildlife Federation Schoolyard Habitats Program, Washington, D.C.; <http://nwf.org/schoolyardhabitats>.
- U.S. Architectural and Transportation Barriers Compliance Board. *Guide to ADA Accessibility Guidelines for Play Areas*. Washington, D.C.: U.S. Access Board, May 2001; www.access-board.gov.
- U.S. Consumer Product Safety Commission. *Handbook for Public Playground Safety*. Pub. No. 325. Washington, D.C.: C.P.S.C., 2001; www.cpsc.gov/cpsc/PUB/PUBS/playpubs.html.