

Schoolyard Habitats[®] Learning Through Environment-Based Education

Introduction

Environmental education has progressed to encompass more than nature and science. Once thought of as an "add-on" to required curriculum, today environment-based education can be used as an integrating context across the subject areas and is a means of relating subjects already being taught in a real-world context. Interdisciplinary in approach, environmental education has evolved to incorporate the standards of learning for all subjects, including math, language arts, and social studies. At the same time, environment-based education offers students the opportunity to learn reasoning skills that enable them to think critically about real-world situations. Additionally, this method of teaching and learning has resulted in an improvement in student behavior, a renewed excitement towards learning, and an improvement in student performance on standardized tests.

At the same time, environment-based education programs work to increase public awareness of environmental issues and teach students about social and cultural concerns. Beginning at an early age, students are introduced to common, real-world problems and begin to think critically about solutions, and how the decisions they make today may affect their future. The goal of environment-based education is to prepare all students, as they become the decision makers of tomorrow, to consider all aspects of an issue, including social, cultural and environmental concerns.

The National Wildlife Federation™ Approach

NWF's Schoolyard Habitats program provides administrators and educators a framework for incorporating environment-based education into their school curriculum or youth service programs. Through the creation and use of wildlife habitat sites, the Schoolyard Habitats program gives formal and non-formal educators the resources they need to create and use an outdoor learning site on school/facility grounds and provides interdisciplinary curricula based on the national Standards of Learning. Schoolyard Habitats sites provide students with a place to experience hands-on learning and connect to the natural world while providing local wildlife with essential habitat. First-hand, students see and experience the difference that stewardship makes toward improving the environment.

Schoolyard Habitats projects provide enriching, exciting, and interactive educational activities that foster enthusiasm in students and educators alike. Those involved in environmental education have long been aware of the benefits of these programs, but recent studies have begun to provide empirical evidence that both student attitudes and test scores improve when students learn from an environment-based curriculum. Additionally, research has demonstrated the value of a diverse and well constructed school ground in a child's education. NWF's Schoolyard Habitats program combines both of these resources, enabling students to experience the natural world in their own schoolyard. These programs are a proven means to improve not only the atmosphere of your school or facility, but also the academic performance.

The Benefits of Environment-Based Education

Using the Environment as an Integrating Context for learning (EIC) is a framework that links multiple subjects to the environment. It is an overlapping approach to education, providing an interdisciplinary, collaborative, student-centered curriculum that has many positive academic results. One study, conducted by the State

Education and Environment Roundtable (SEER) clearly presents the benefits of an environment based curriculum in any school. The study found that:

- 100% of schools using environment-based learning had students with improved behavior, attendance, and attitudes relative to traditional schools.
- Not only attitudes improved, but test scores increased as well.
- 77% of schools with environment-based curriculum had improved standardized test scores and 73% had improved Grade Point Averages.

(Lieberman, Gerald A. and Linda L. Hoody. Closing the Achievement Gap: Using the Environment as an Integrating Context for Learning. State Education and Environment Roundtable. 1998.)

The Benefits of an interactive and Diverse Schoolyard

Schoolyards are an excellent place to get children excited about reading, creative writing, studying nature, or even participating in music. Educators who use their schoolyards for learning activities report improvements in student performance and attitudes when schoolyards are involved in the learning process. According to one study:

- **69%** of educators observed a **positive impact on academic learning**, including improved performance on standardized achievement tests or improved mastery of curriculum standards when activities involved the schoolyard.
- 93% of educators surveyed observed a positive impact on the learning environment created by schoolyard learning activities, which lead to improved teaching and learning.

(Education Development Center and the Boston Schoolyard Funders Collaborative. Schoolyard Learning: The Impact of School Grounds, Nov. 2000, pg. 24.)

Successful Projects

Extending environmental education into the schoolyard is an effective and convenient way to expose children to nature. All too often students must entertain themselves on paved school grounds, with few trees and no wildlife. One study performed by the University of Michigan (School of Natural Resources, 1998) determined that the following characteristics are essential for a schoolyard to benefit a child's education.

A successful schoolyard must provide:

- an opportunity for hands-on experience
- a sense of ownership in the project
- an opportunity to learn using many senses
- an opportunity for a wider range of subjects to be addressed by outdoor activities

(University of Michigan, School of Natural Resources. (1998) Elementary School Survey in Michigan, conducted Fall 1998.)

NWF's Schoolyard Habitats program addresses each of these characteristics in the certification process, and the positive academic results are apparent. When certifying schools, NWF ensures that the Schoolyard Habitat site encourages student involvement and interdisciplinary teaching. To date, NWF has certified almost 2,000 habitat sites.

A comparison was made within two states, Minnesota and Georgia, with 83 and 124 certified elementary school sites respectively. This comparison showed that fifth grade students in schools that have or have had NWF certified Schoolyard Habitats sites used as teaching tools **significantly outperformed** students in schools without habitat sites on standardized math tests. Additionally, the socioeconomic makeup of each group was not significantly different, implying that the demographics of the schools was not a factor in this difference. (Indicator used was percentage of students eligible for free and reduced price lunch.)

One example of how a school can improve with the addition of an outdoor classroom is demonstrated by

Gililand Elementary School, a certified school in Texas. At this school:

- Over 85% of students passed all sections of the Texas Assessment of Academic Skills above the state average;
- Graduates showed a sustained interest in science;
- Texas Monthly magazine rated Gililland a four-star school based on student achievement; and
- The Texas Education Agency named Gililland a "Title I Commended School."

(National Education and Environmental Partnership. Environmental Education and Educational Achievement: Promising Programs and Resources, October 2002.)

Making a Case for Wildlife Habitat Sites

In today's learning environments, where schools are striving to meet and exceed high standards of learning, educators and youth leaders must be creative in presenting content. The schoolyard can provide a valuable avenue for reinforcing concepts for students across the disciplines.

In addition, Schoolyard Habitats projects provide a unique and necessary experience often lost to children growing up in today's society. This is especially true in urban settings, where exposure to the natural world is extremely limited by development and access to green space.

The planning, design, implementation, and on-going monitoring and maintenance of a Schoolyard Habitats project provide endless opportunities to meet and exceed high academic standards across the curriculum. Teaching with a Schoolyard Habitats site as an integrating context across the subject areas can both support and strengthen the quality of instruction and student engagement.

From pre-school through high school, Schoolyard Habitats projects enhance the teaching and learning of science, math, social studies and English in many ways. Using a habitat-based learning site makes learning more real, fun, hands-on, interdisciplinary and relevant.

Young people learn most readily about things that are tangible and directly accessible to their senses — visual, auditory, tactile and kinesthetic. With experience, they grow in their ability to understand abstract concepts. Concrete experiences are most effective in learning when they occur in the context of some relevant conceptual structure. (Benchmarks for Science Literacy)