

PEEC— The Place-Based Education Evaluation Collaborative

Synopsis

In early 2002, several New England foundations and educational organizations came together to form the Place-based Education Evaluation Collaborative (PEEC) with the intention of evaluating their individual programs and laying the groundwork for broader research into the effectiveness of these place-based education models in attaining mutual objectives. The members of PEEC share related program approaches, a history of shared evaluation, and a commitment to strengthening the practice, assessment and outcomes of place-based learning. PEEC has three main purposes:

- ◆ To serve as a learning organization for program developers, fueling internal growth and program development for the individual organizations;
- ◆ To develop, identify and disseminate evaluation techniques, tools and approaches that can be applied elsewhere ; and
- ◆ To contribute to the research base underlying the field of place-based education and school change.

Through PEEC, the organizations have jointly contracted with a team of professional educational evaluators, which is currently in its second year of evaluating members' programs individually and collectively.

PEEC Partners

Core members of the Place-based Education Evaluation Collaborative (PEEC) include:

- ◆ Antioch New England Institute of Antioch New England Graduate School
- ◆ Conservation Study Institute of the National Park Service
- ◆ Green Mountain-Finger Lakes National Forest
- ◆ Marsh Billings Rockefeller National Historic Park
- ◆ National Wildlife Federation
- ◆ The Orton Family Foundation
- ◆ Shelburne Farms
- ◆ Upper Valley Community Foundation
- ◆ Vermont Institute of Natural Science

PEEC evaluation efforts currently focus on four place-based education programs: the Community Mapping Program; Project CO-SEED, A Forest For Every Classroom and Sustainable Schools Project. Each core member has numerous partners involved in the programs being evaluated. These include:

- ◆ Appalachian Mountain Club
- ◆ Boston Nature Center of the Massachusetts Audubon Society
- ◆ Dudley Street Neighborhood Initiative
- ◆ Education for Sustainability Project
- ◆ High Five Outdoor Adventure Program
- ◆ Hulbert Outdoor Center
- ◆ Prescott Farm of the Audubon Society of New Hampshire
- ◆ Zoo New England

Context

Place-based education has emerged from the strong roots laid by thirty years of environmental education in the United States. This approach, which is rapidly gaining momentum across the country, focuses on using the local community as an integrating context for learning at all levels. By fostering the growth of deep and vibrant partnerships between schools and communities, place-based education simultaneously works to boost student achievement and improve a community's environmental quality and social and economic vitality. With learning situated directly in the community and focused on local issues and opportunities, place-based educational programs bring the resources of the community into the learning process, and bring the energy and skills of the students to bear on local environmental and social issues, creating exciting and relevant learning opportunities.

Seven Keys to Successful Place-Based Education

1. Learning takes place on-site in the schoolyard and in the local community and environment, focusing on local themes, systems and content.
2. Project-based learning experiences contribute to the community's vitality and environmental quality and to supporting the role the community plays in fostering global environmental quality.
3. Learning is supported by strong and varied partnerships with local associations, organizations, agencies and businesses.
4. Learning is inter-disciplinary and custom-tailored to local opportunities.
5. Local learning serves as the foundation for understanding and participating appropriately in regional and global issues.
6. Place-based education programs are integral to achieving other educational and institutional goals.
7. Learning is grounded in and supports the development of a strong and personally relevant connection to one's place.

Principles and Best Practices of Place-Based Education, 2003

Place-based education offers a fundamentally different approach to both environmental education and community development. It bucks the trends toward standardization and high-stakes testing of mass-produced, mass-consumed, one-size-fits-all knowledge

by immersing students in local heritage, regional cultures and landscapes and the rich diversity of local opportunities and experiences, using these as the springboard for study of regional, national and global issues, of increasing complexity. Grounded in the resources, issues and values of the local community, place-based education is inherently tailored to diverse local populations and situations. It makes environmental education relevant anywhere, to anyone, because local people shape it to respond to their issues.

The Evolution of Place-Based Education

Place-based education builds on the foundation of diverse initiatives from across the country including:

- The Foxfire Fund: This effort is well known for its work connecting rural students to the particular crafts, culture, and historical economy of Georgia. This Fund tries to build an appreciation for the assets of rural Appalachia from which to construct and maintain a vital community.
- The Annenberg Rural Challenge: In the 1990s, the Annenberg Rural Challenge supported networks of schools across the nation, that were trying to move beyond the realm of homogenized national textbooks to connect schools to their communities. By working across the disciplines to discover local places, and work with local people, the Rural Challenge (now the Rural School and Community Trust) tries to validate the importance of where the students live and the lives and futures of the people of those communities. This has promoted a rich set of experiences that concretely support student learning.
- The Stories in the Land Teaching Fellowships: This program of the Orion Society also worked to support place-based learning by educators. These teacher-based experiences focus on the out-of-doors to enhance a positive connection to a real place and a real planet, which is increasingly challenged by overwhelming global processes such as climate change, human violence and an accelerating extinction rate. One consequence of seeing problems on a global scale is a related loss of capacity and a cultural sense of paralysis. Through place-based education we learn to overcome apathy by rooting massive global concerns firmly on a scale compatible with personal bonding, compassion, and community.
- Education for Sustainability: This is an approach that reflects a global dialogue between people working for the sustainability of the planet's biodiversity and ecological systems and the needs of people around the

Place-based education is learning that is rooted in what is local - - the unique history, environment, culture, economy, literature and art of a particular place. The community provides the context for learning, student work focuses on community needs and interests, and community members serve as resources and partners in every aspect of teaching and learning."

(Rural School and Community Trust, 2002)

world to address hunger, literacy, health, equity and hope. As reflected by the Brundtland Commission in 1987, *sustainable development* is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” The President’s Council on Sustainable Development defined education for sustainability as “a lifelong learning process that leads to an informed and involved citizenry having the creative problem-solving skills, scientific and social literacy, and commitment to engage in responsible individual and cooperative actions. These actions will help ensure an environmentally sound and economically prosperous future.”

Research Shows That Place-Based Education Works

Recent research suggests that place-based education offers significant promise for improving math and science education. The State Education and Environment Roundtable sponsored an evaluation of students engaged in learning opportunities that used the “Environment as an Integrating Context” (EIC). The evaluation looked at students using EIC methods against imbedded data. The study, by Gerald Lieberman and Linda Hoody, showed improved engagement, enthusiasm, ownership and learning outcomes as shown on standardized tests.

The recently published *Ten Year Agenda for Environmental Research and Education* at the National Science Foundation (2002) indicates that,

...many believe that environmental themes could be used as an heuristic tool to help attract students not only to careers in environmental sciences and engineering, but to other scientific and technical areas. Early research results support the claim that the environment, when used as an integrating concept, improves student interest, attitude, achievement, and attendance in school.

Many successful programs offer students hands-on experiences through field trips or "backyard science" in urban areas. These place-based activities help students make connections to local neighborhoods or traditions, thus enhancing their motivation and increasing the likelihood that environmental science will be a lifelong interest.

PEEC’s Work is Consistent with National Findings

The Place-based Education Evaluation Collaborative brings together education programs working in northern New England – including non-governmental agencies, government agencies, a graduate school, and a granting foundation. PEEC wants to further examine the confluence of ideas between “place-based” and “education for sustainability”. We want to advance the practice of these methods and document their outcomes. We also are interested in testing the following theories of change:

- ◆ Students who are engaged in active, real world learning are more successful than those who learn the same material in more abstract ways.
- ◆ Participation in positive and personally meaningful community change projects at a young age builds a sense of self-efficacy and leads to longer-term stewardship behavior.
- ◆ Increased connection to place results in increased civic engagement and greater “social capital”.

The PEEC Collaborative includes a range of programs with differing themes, modes of intervention, and levels of support for teachers. This provides an opportunity to examine data from within the confines of the individual programs as well as across programs in order to accelerate and share the vital learning from this work. In the 2002-03 school year, PEEC hired a team of evaluators to begin the process of examining both the individual programs on their terms and to begin advancing shared questions for value across the programs. The intention of hiring one evaluation team to work with all four programs on a collaborative basis was to heighten the level of shared learning that could transpire from comparative analysis in several targeted areas. This first cycle of work has now produced a full set of reports, available on our website (<http://cee.schoolsgogreen.org/PEEC>) and through collaborative members.

“EIC learning is not primarily focused on learning about the environment, nor is it limited to developing environmental awareness. It is about using a school’s surroundings and community as a framework within which students can construct their own learning, guide by teachers and administrators using proven educational practices. EIC-based programs typically employ the environment as a comprehensive focus and framework for learning in all areas: general and disciplinary knowledge; thinking and problem-solving skills; and basic life skills, such as cooperation and interpersonal communications.”
(Liebermann and Hoody)

The evaluations of the four programs attempt to understand whether and how the models provide opportunities for educators, students, schools, and communities to change their practices in the short, intermediate and long term. The following attempts to distill common outcomes shared by two or more of the programs:

Short-term outcomes:

- ◆ Connections are forged and partnerships are formed between the school and the community
- ◆ Student learning occurs out in the community or teachers use the community in their teaching
- ◆ Teachers understand that the program is related to state educational standards and serves as a tool for teaching, not an add-on curriculum
- ◆ Students are more engaged in learning through service or teachers encourage service learning

- ◆ Schoolyard/school sustainability improves

Intermediate outcomes:

- ◆ Students gain the knowledge, motivation and/or skills for stewardship/citizenship behavior
- ◆ Teachers and/or schools implement or adopt place-based education beyond the initial program intervention
- ◆ Social capital increases in the community

Long-term outcomes:

- ◆ Civic society is strengthened; communities have enhanced sustainability, vitality, and/or civic participation
- ◆ Schools engage in systematic improvement efforts
- ◆ Students develop a greater attachment to place

The Need for On-going PEEC Research

In some senses PEEC is both a microcosm of the larger place-based education initiative and a mirror of the individual place-based projects it promotes. At their various levels of scale, each of these entities promotes greater collaboration, a greater attention to interdisciplinary work, and an attention to the strength inherent in diversifying one's base of support. Examining the PEEC programs together builds the credibility of each of these programs as well as offering broader-based knowledge to the field.

The first year of collaboratively evaluating PEEC's programs has revealed several conclusions:

- ◆ The four programs are clearly strong vehicles for enhancing education. In particular, all four programs demonstrate commendable success at promoting teacher practice change.
- ◆ With some variability, teacher practice is affected in consistent ways by these place-based education programs.
- ◆ By highlighting outcomes salient to all four programs, we begin to suggest the power of place-based education as a broader educational approach.
- ◆ By highlighting process strengths, challenges and opportunities, the four programs have the opportunity to learn both from their own efforts and from those of other programs. Quite consistently, recommendations specific to one or two programs have powerful implications for all four.

- ◆ All four programs are received very positively and are highly valued by a range of stakeholders, from teachers to students to administrators to community individuals and organizations.
- ◆ Patterns in the data gathered this year for the individual program evaluations suggest that there were positive outcomes emerging for all of the intended audiences, beyond teachers: students, schools, organizations and communities.
- ◆ There are ample opportunities for growth and refinement within the program models, with some challenges being internal and others external to the programs.
- ◆ It is worth examining how program offerings might be enhanced not only by refining themselves but by merging the key strengths offered by both the professional development and school improvement models.
- ◆ This year's research revealed that there are multiple fruitful roads to follow to continue to examine the processes that contribute to successful programs and the outcomes being sought.
- ◆ Two particular areas emerged as potentially useful to pursue as widespread evidence of the usefulness and effectiveness of place-based education: the importance of community-based learning for special-needs students and the impact of place-based education on student motivation toward learning and engagement in school.

Program History

The **Upper Valley Community Foundation** is the fiscal agent and umbrella organization for PEEC. The work of PEEC is partially supported by funding from UVCF's Wellborn Ecology Fund, a special endowment devoted to supporting environmental and ecology education in the Upper Valley region of New Hampshire and Vermont. The knowledge and information developed through PEEC will be shared with Wellborn grantees and other organizations providing place-based and ecology education throughout the Upper Valley and beyond.

Each of the four partners has an extended history of collaboration with schools that are engaged in groundbreaking work through place-based education. The following vignettes illustrate one content area from each program.

A. CO-SEED

Project CO-SEED of Antioch New England Graduate School has been working collaboratively with a dozen schools, six environmental learning centers and a diverse array of rural and urban New England communities for the last seven years. CO-SEED aspires to creating a synergistic relationship between school improvement, community development and the preservation of environmental quality. This requires extensive collaborative engagement of town officials, teachers, administrators, scientists, community officials and environmental educators. CO-SEED facilitators from Antioch New England Institute secure funding for a partnership between a local environmental learning center and the school, which brings the skills and energy of a half-time educator to the school. Coordinated by a local organizing committee, the ELC staff person works with faculty and community members to implement projects that boost student academic achievement while serving targeted school and community needs. Ongoing professional development supports the faculty and key community leaders throughout the process. The work of CO-SEED has been evaluated for five years by Harvard University faculty and RMC Research Corporation.

In Littleton, NH, the high school physics teacher made the unit on mechanics and force vibrantly real when he had students help in the reconstruction of a path connecting a residential area to the school. The town's Public Works Department provided heavy equipment needed in the project and the students applied their understanding of physics in using equipment to move raw stone into appropriate position for trail reconstruction. The students learned good science, developed positive relationships and got a safer way to school; the public works department got a greater understanding of community-based education. Another group of middle-school students worked with a consulting engineer on developing plans for the closure of the community landfill. Community members credit the students with getting a bond measure passed that had been defeated for three previous years in a row.

B. A Forest for Every Classroom

A Forest for Every Classroom is a unique collaboration between nonprofit organizations and governmental agencies with the shared vision of students learning from and caring for public lands. During the past two years, Shelburne Farms, Marsh-Billings-Rockefeller National Historic Park, the Green Mountain National Forest, the National Wildlife Federation and the Conservation Study Institute have developed and implemented a year-long professional development model that uses forest lands to engage students in learning about natural resources and ecological systems in the place where they live.

Participating teachers receive exceptional support to develop locally-based curricula rich in natural and cultural explorations that address concepts of forest ecology, land management and stewardship.

This year, a 7th grade math teacher from central Vermont created a comprehensive math program focused on the collection and analysis of real-world forest data. Her experience in A Forest For Every Classroom transformed both her own teaching style and the students' motivation for learning math skills. They experienced the practical applications of math through utilizing Biltmore sticks and other forestry tools, assessing woodlots, creating a forest management plan, and presenting the plan to a local agency.

C. The Community Mapping Program

A partnership of The Orton Family Foundation and the Vermont Institute of Natural Science, the Community Mapping Program supports students, educators, and community groups in a process of local inquiry. Middle and high school students work with community groups, conduct fieldwork, and use tools including Geographic Information Systems (GIS) and Global Positioning Systems (GPS) to explore their communities and address specific local needs. connects educators and students with community groups to work on local inquiry projects. The work is needed by the community group to promote the sustainability of the community and it animates the curricular learning of the students. The gallery at the program website features descriptions of community mapping projects from across the disciplines, richly linking field-based inquiry, school-community collaboration, learning for sustainability and tools like global positioning systems, geographic information systems.

In Duxbury, VT, students worked with a local land trust to examine issues related to farming in the Mad River Valley. The students interviewed farmers in their communities and contributed to a geo-database of leased lands as part of an effort to identify and conserve agriculture in an area being squeezed by ski-area development. Sharon Academy students used Arc GIS to portray natural resources and identify special places for the revision of the town's Master Plan. In Hartford, VT, students worked with the local health clinic to design, map, and interpret walking loops of different lengths to support exercise for community members with diabetes. In each case the students engaged with specific elements of where they live to learn about the patterns and processes that sustain their communities.

D. The Sustainable Schools Project

The Sustainable Schools Project (SSP) of Shelburne Farms and VT Education for Sustainability is an innovative whole school model for school improvement and place-based learning. SSP was developed following Vermont's adoption of two state standards, *Understanding Place* and *Sustainability*. The SSP emerged from a teacher professional development series that engaged teachers from more than 30 schools. The project helps schools use sustainability as the "integrating context" for curriculum, community

partnerships and campus ecology. They define sustainability as “improving the quality of life for all – economically, socially, environmentally –for current and future generations.” The model is based on a set of facilitation tools – a process – that supports a vision that comes directly from the school, parents, and the community. It is based on coaching and consulting with school faculty, facilitating whole group decision-making, and creating a common dialogue and identifying shared goals and methods. Overall the SSP aims to increase students’ learning and civic engagement specifically focusing on creating a sense of place, feeling like one can make a difference, and understanding the interconnectedness of the world. During the 2002-2003 school year SSP has worked with one urban elementary school in Burlington, VT. The local partners contribute to the teachers’ deeper understanding of sustainability, community service-learning projects, and enhancing or initiating new curriculum in literacy, science, math social studies.

During their summer training institute, project directors connected classroom teachers with local energy producers, farmers, and small businesses that are working to make Burlington more sustainable through environmentally responsible economic initiatives. These local partners will contribute to new math and science curriculum projects. Recent Parent Teacher Organization meetings focused on the sustainability project have garnered a greater percentage of the parent population than ever before. Parents are requesting more comprehensive material in the school newsletter and are asking to be involved in curriculum and planning meetings at the school. Research suggests that if parents and community members are more involved, academic performance increases.

PEEC Goals

PEEC is now looking to build and enrich this process of shared learning for the needs of the region and the wider educational community. We are currently focused on two goals

A. Build on a process of continuous and shared evaluation and learning by expanding the comprehensive evaluative work initiated by the PEEC partners.

In a recent nomination for a Youth Development prize offered by the WT Grant Foundation, Kathy McHugh, Program officer for the Jessie B. Cox Charitable Trust, said,

The PEEC collaborative offers two tantalizing potential future impacts. First is the opportunity for its participants to reflect together, in a disciplined and data-driven process, on each other’s programmatic theories, strategies and outcomes in order to incorporate into each individual program the best practices derived from their collective knowledge. Second, the PEEC collaborative evaluation, by including several different program models, offers the possibility of advancing the state of current national research about both the pedagogical value of place-based education and about its importance to instilling values of stewardship, sustainability and civic responsibility in youth. This

award will enable these early efforts to become a major longitudinal study with far-reaching consequences for youth development programs, school curriculum, and community youth programs, as well as for the environmental programs that have until now nurtured place-based education to its current state of advance.

The four partner organizations have embarked on a significant evaluation effort and are supported by an advisory board consisting of Gerry Lieberman of the SEER Project, Tom Marcinkowski of Florida Institute of Technology, Michael Murphy of Harvard University and Jennifer Jewiss of the University of Vermont.

To enhance our current evaluation efforts, we would:

1. Expand our current qualitative evaluation efforts and initiate quantitative assessment of achievement measures in all of the schools involved in the partner projects.
2. Reflectively rework our logic models, program goals and methods to incorporate critical new learning into our assessment design.
3. Formally publish the already existing evaluation documents of CO-SEED and PEEC.

B. Create of a network of place-based education professionals, websites and instructional materials with a focus on assessment and evaluation, representing this learning to the wider education community.

All of the partners have begun to play a leadership role in advocating for place-based education over the past three years. Examples of this leadership include:

The Promise of Place: Community-based Education in the Northern Forest was the first regional conference on place-based education to occur in New England. All of the partners collaborated to cosponsor this event, which attracted more than 200 people to Jackson, NH, in November 2002.

Representatives from three of the partner organizations offered a seminar on place-based education to the National Leadership Council of the National Park Service in February 2002 in Washington, DC. This seminar was part of the National Park Service's attempt to heighten the role of education and community partnerships in its mission.

Representatives from all of the partner organizations have served as keynote speakers on place-based education at environmental education conferences and foundation seminars in Maine, Vermont, New Hampshire and Massachusetts, Utah, Wisconsin, Oklahoma, Missouri, Ohio, Michigan, Nebraska, Oregon, California, Colorado, Quebec, and British Columbia over the past few years.

To expand this role:

1. Participants from partner organizations will collaborate in providing seminars and workshops throughout New England.
2. The PEEC website, which links the partner organizations, will be enhanced to support curricular and evaluative materials on place-based education.
3. The Green Schools Grants program of the Center for Environmental Education at Antioch New England Institute will provide small grants to schools trying to incorporate place-based pedagogy and assessment methodologies into their practice.
4. PEEC partners and evaluators will participate in related national conferences and dialogues seeking to examine and strengthen place-based educational practices.

For More Information

More information about PEEC is available at <http://cee.schoolsgogreen.org/PEEC>.