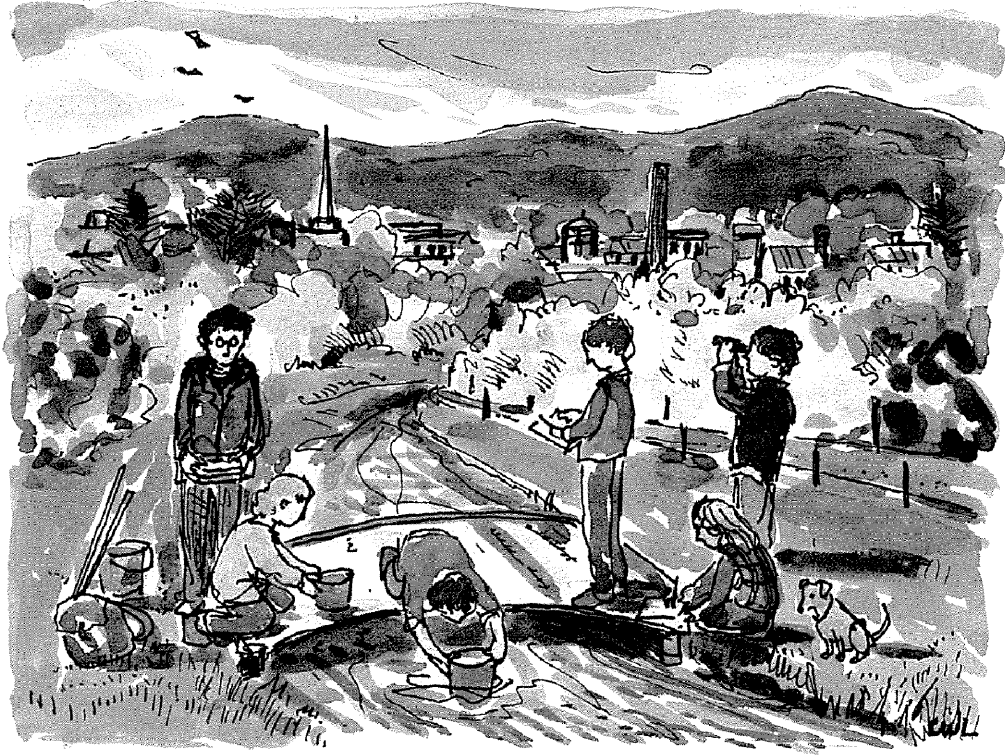


PLACE-BASED EDUCATION



Connecting Classrooms & Communities

by David Sobel

NATURE LITERACY SERIES NUMBER 4

**Place-Based Education:
Connecting Classrooms & Communities**
by David Sobel

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ties, for subsequent schools and communities we initiated an application and interview process. Schools need to prove to us that they're ready. We've also implemented contractual relationships with schools so they know what they're getting from us and what we expect from them. And from the beginning we make a commitment to develop a long-term plan to help them sustain the changes that will ensue. We're planting perennials, not annuals.

For schools and communities just getting started, use any of the hints as starting points, and remember that it's okay to start small. A one-week program this year can turn into a month-long program next year. One Eagle Scout's project for a badge can turn into a service learning program for the high school biology class in the future. Small grants, which are easier to obtain, will get you launched more quickly so you can galvanize the attention and support needed to expand in the future. Remember, getting started is half of the battle.

Creating Place-Based Schools: Core Strategies

You've got your foot in the door, the principal likes your idea, and the owner of the local supermarket wants to carry produce from the school garden. What are the next steps? Let me provide you with two guiding principles and then elaborate on six strategies for implementing place-based education.

To illustrate the two principles, I'd like to introduce two significant players in the work we've been doing. The first is Haven Neal, a retired paper company employee and town forester for Gorham, New Hampshire. When we were exploring the idea of starting a CO-SEED project in Gorham, Haven was skeptical. But as he listened and got involved, he provided inspirational guidance.

There is a potential to involve the whole community in the education of children. This is a unique thing. It is a departure from most people sending kids off to the school and trusting local educators. If everyone feels they

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have a hand in education, it will lead to a lot stronger support for education in the local schools—if everyone has some degree of ownership.
(Fontaine, 2000)

The first principle is: *Maximize ownership through partnerships*. Each CO-SEED site winds up being a partnership between a higher education institution, schools, diverse community organizations, and an environmental learning center. The community organizations may be the historical society, the conservation commission, the department of transportation, or the planning board. Environmental centers may be the zoo, a local trails group, or a regional nature center.

Our second player is Rick Nannicelli, principal of the Great Brook Middle School. Rick's emphasis on creating a positive climate of student responsibility and mutual respect was one of the preconditions that attracted us to Great Brook. And his vision of where the project could take the school was music to our ears.

My vision for the next five years is to see education outside of the walls of the school and to see the walls of the school transformed. I want to see kids do something important for themselves, for the community and the environment. (Fontaine, 2000)

The second principle is: *Engage students in real-world projects in the local environment and the community*. Whether it be rebuilding the ropes course that got destroyed in the tornado or producing community recycling brochures for the mayor's office, students can make real contributions.

CO-SEED and other large-scale projects use an assortment of strategies to enact these principles in their schools and communities. For small-scale projects in classrooms or single schools, any one of these strategies, or even parts of strategies, will get you moving in the right direction.

Strategy #1: Put an Environmental Educator in Every School

Just like the 1928 campaign promise to put a chicken in every pot, we put an environmental educator in every school even though it's often just a half-time staff person from a local environmental learning

center. In some cases it grows naturally into a full-time position. The environmental educator doesn't just take care of injured birds or take students on nature walks while the classroom teacher gets a coffee break. The environmental educator does some direct teaching and also serves as a kind of librarian of the out-of-doors, connecting teachers to curriculum materials and local resources. Other roles for the environmental educator include acting as:

- **a science and local history expert**, providing classroom teachers with technical information and access to primary source materials on local history, and the demonstration of scientific testing techniques.
- **an outreach coordinator**, providing assistance in contacting community resource people and identifying appropriate locations for field trips, study sites, and community-based programs.
- **a communicator**, providing written documentation of project activities for school and community publications.
- **a standards consultant and curriculum coordinator**, providing specialized knowledge of the state curriculum frameworks and working with teachers to figure out the best ways to use the school grounds and community to teach their existing curriculum.

It's important to help teachers understand that we're not trying to introduce new curriculum; we don't come with a prefab set of activities or an agenda. When teachers complain "Not one more thing to cover!" we try to clarify that the environmental educator is an in-house staff-support person. In Gilford, Assistant Principal Sandy McGonagle recently reported:

We've just started to implement FOSS, our new science curriculum, and the teachers were feeling hemmed in and like they had to follow it word for word. Alan (the environmental educator) has helped them see how they can do many of the activities using local resources and they feel freed up because they've got someone to work with.

The environmental educator offers a breath of fresh air, literally and figuratively.

We encourage the environmental educators to be responsive to teachers' needs and to bring their own magic and interests into the

mix. In the Zoo Club at the Beebe School, Stone Zoo's Kim Kezar uses her animal training background to help students make behavior-enrichment toys for parrots, warthogs, and porcupines. Trailmaster Dave Dernbach's knowledge of trail maintenance provided great service-learning options for the Town Forest Day in Gorham. The Harris Center's Beth Frost translated her fascination with traditional culture into a Quebec bread oven project at Great Brook. The oven is now used to bake specialty breads for a student-run business. The Hulbert Outdoor Center's Steve Glazer's interest in local history inspired ten new historical Valley Quests (student and teacher-created educational treasure hunts) in conjunction with historical societies in the Rivendell District. Audubon's Alan MacIntyre brought his ornithology background to bear in helping 22 of the 30 classrooms at Gilford Elementary research and design birdhouses for birds found within the local watershed.

Strategy #2: Create SEED Teams to Provide Vision and Guidance

The SEED team has two or three teachers, an administrator, the environmental educator, a higher education facilitator, two to three community members (not only parents), a school staff person (great to have the maintenance director or the school lunch coordinator), and one or two middle or high school students. These team members are the movers and shakers, those willing to join the fray and rope in others.

The SEED Team meets on a monthly basis, designs in-service professional development offerings, helps to organize the Community Vision to Action forum (more below), prioritizes curriculum initiatives, and communicates with the community through articles in local papers, presentations at school board meetings, and school newsletters. The objective is to turn team members into funders by giving them the purse strings for a mini-grant program within the schools.

When we were in the initial stages of our place-based education initiatives, I met with Zenobia Barlow, the director of the Center for Ecoliteracy in Berkeley, California. (The Center for Ecoliteracy is responsible for a raft of ground-breaking projects in the San Francisco Bay area and their publications such as *Ecoliteracy: Mapping the Terrain* form the bedrock of ecological teaching.) With character-

istic Zen simplicity she advised, “If you want to change schools, offer them money to do what you want them to do.”

With this guidance in mind, we give money to the SEED teams and say, “Decide what you want to have happen and then offer teachers funds to do these kinds of things.” Each SEED team gets from \$2,500 to \$4,000 to distribute to teachers who request funding for projects to link school, community, and the environment. Teachers apply to the SEED team for mini-grants to purchase snowshoes or field guides or garden tools, hire guest speakers, publish trail guides, or for other activities which will make a project come to fruition. The SEED team determines which projects have the greatest likelihood to improve academic achievement while also benefiting the community and environment. The process of deciding who should get how much funding is one of the best techniques for helping SEED team members bond and gain clarity about what constitutes effective place-based education in their community.

In Gorham, New Hampshire, the SEED Team (locally known as the CEEC Team, short for Community Environmental Education Committee—a new finch) developed a simple grant application form. Among other things, the form asks teachers:

- What will the outcomes of this project be for Gorham students, teachers, and the community?
- How will your project result in a change that will help the local environment?

Notice that the team’s goals of having projects reach out from the school into the community and the local environment are clearly articulated in their questions.

In the interstate Rivendell District, the trials and tribulations of dissolving four school districts and creating one new district across state lines have been massive. Last year there was a 120 percent turnover of lead administrators! But the silver lining has been the opportunity to create organizations that emphasize community connectedness within the structure of the administration. In Rivendell, the SEED team has transmuted into the Community Resources Council, which aims to link community resources with the needs of the school. Using a process called the *non-box system*, the council assesses proposals on the

basis of both their educational effectiveness and their potential for community-building. In a variation on another old maxim, the goal of these SEED teams is: Feed two birds with one hand.

Strategy #3: Build Connections through Community Vision to Action Forums

The Vision to Action Forum is a one-and-a-half-day meeting, Friday evening through Saturday afternoon, for a broad cross-section of community members. Optimally, the forum engages 100 to 200 people in identifying what they love about their community and what challenges they face. Then, after a process of prioritization, action committees are formed to address the three to five most salient issues. Projects that emerge might include creating a local newsletter, preserving open space, developing better afterschool recreational opportunities, or creating better relationships between the police and local youth.

The SEED team takes the lead in planning for the forum, which takes about six months to organize. Twenty community members are trained as facilitators, and they also invite people to come and serve as hosts. David Dernbach of Trailmaster from Randolph, New Hampshire, recommends including the broadest range of political points of view, “from the greenest of greens to the blue smoke crowd.” Similarly, Nick Donahue, New Hampshire Commissioner of Education, suggests that community engagement is strengthened when you seek out unlikely partnerships. (Remember the Strange Bedfellows Principle!) At the end of a recent leadership seminar, he encouraged a group of funders and educators “to take an old boy to lunch.” Birdwatchers and snowmobilers might discover that they agree on trail development in town. After serving as a facilitator during a community forum in Gorham, New Hampshire, Sasha Letellier, a high school junior, offered the following reflection:

Before I was involved as a facilitator for the Community Gathering, I would walk down the street and adults looked at me like I was some trouble-causing kid. Now when I walk down the street, adults that I didn't know before say hi to me, stop me to tell me what a great job I did and talk to me about the conversations of that weekend.

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When we conduct the forums in our CO-SEED communities, education issues emerge, but the focus is not exclusively on education. Our objective is to initiate community projects and then look for ways to connect action committees with school curriculum. Here are two illustrative examples.

At Four Futures: Common Threads, a multitown Community Vision to Action Forum in April 2000 for the towns of the Rivendell district, the idea surfaced to unify the towns with a recreational trail. Two members of the SEED team decided to spearhead organizing and grantwriting for the trail. Their efforts resulted in \$40,000 of funding from both the Vermont and New Hampshire Trails programs, the first time the two groups have ever jointly funded a project.

The Cross-Rivendell Trail Project has attracted an active committee of school and community members. Some classes have begun to investigate possible locations for segments of the trail. Work is underway to design curriculum units around trail research, design, and construction, and a paid student summer work crew has been launched. A Trail Project kick-off dinner in May 2001 attracted 40 local landowners and elected officials who enthusiastically offered their support. In the room were many citizens who had previously been skeptical about the creation of the new multistate school district.

In urban Malden, Massachusetts, our January 2001 forum focused primarily on the Beebe School neighborhood and parent community. But since the Beebe forum was such a success, forums for each of the other four magnet schools and a citywide forum are being considered for the future. At the forum, Malden Mayor Richard Howard said:

One of the things we want to prioritize over the coming years is an effort to bring the outside community into education and into the school community, and we're putting a big push on especially the business sector to match up with a school in any way they see fit.

At the Beebe School, this year's schoolwide theme is Malden: Our History, Our Environment, Our Health. One recent project has been the study of nearby Fellsmere Pond. In planning for this year, when the possibility of conducting field studies of the Malden River was proposed, many of the teachers asked, "What river?" The river is so channeled and hemmed in by old industrial facilities it is almost invisible to many residents. Enter John Pereira of Combined

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Properties, the force behind Telecom City, a massive brownfields commercial redevelopment project along the Malden River. When he heard about the mayor's charge and the school's focus on local studies, he realized that he could both improve public relations and meet the school's needs by educating teachers about the river and his project. In June 2001, a boat trip on the Malden River, paid for by Pereira, was the central component of a professional development program for teachers on how to use the river as a curricular theme for the following school year.

The recurrent theme here is: Enhance the synergy between active learning and smart growth. Community forums build bridges between school improvement, community vitality, and environmental quality. Commenting on our work in Antrim, John Vance, executive director of Monadnock Business Ventures stated:

It's been fascinating to observe the synergy between the changes at the Great Brook School in Antrim and the community development initiatives in town. The Plan New Hampshire Charette, the Celtic Festival, and the redevelopment of the Chicago Cutlery Mill all go hand in hand with Great Brook being named New Hampshire Middle School of the Year.

In this case, the two birds are feeding each other!

Strategy #4: Tread Lightly When You Carry a Green Stick

Environmental education often raises people's hackles. Michael Sanera and Jane Shaw, in their critique of environmental education entitled *Facts, Not Fear*, contends that environmental educators are short on facts and long on cultivating unnecessary fear. And they suggest that these educators are too often advocates for causes rather than objective educators, considering the many sides of complex issues. You're bound to run into this perspective if you advocate for environmental or place-based education in your town.

When we approached the Gorham, New Hampshire, community about their potential interest in CO-SEED, a segment of the community was strongly opposed. One community member said that Antioch New England "promoted the teachings of environmental groups, and that some information being taught in schools today is

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little more than propaganda.” In correspondence with the senior vice president of Crown Vantage Paper Company, one of the primary employers in northern New Hampshire, we got a clear articulation of the community concern:

Folks parading under the banner of environmentalism are greeted with suspicion and mistrust in the North Country. In the last ten or fifteen years, the more radical environmentalists appear to have adopted an “ends justify the mean” approach to correcting what they perceive as society’s environmental problems. In the process, they have run roughshod over many values held dear here: unbiased science, Yankee independence, and economic livelihood. The frequent refrain is that “environmentalists” would like to lock up the North Country so the city-dwellers will have a place to vacation—without regard to the economic impact on those who live here.

The problem stemmed from our partnership with the Appalachian Mountain Club, which had intervened in dam relicensing hearings in the previous five years, generating much ill will. The AMC’s actions had both hampered the operations of the local paper industry and led to costly legal proceedings. We were guilty by association. Our challenge was to develop a strategy that respected the various perspectives in the community and to find a form of environmental education that honored local economic and ecological realities.

In the beginning, the CO-SEED materials talked about educating for “ecological literacy,” which for many in the North Country translated into tree hugging. They assumed we wanted to teach children that cutting down trees was bad and that by extension, people that cut down trees (their parents) were also bad. (I can sympathize. It’s like when my kids come home after the substance abuse program in school and tell me I shouldn’t drink a beer with dinner.) In southern and central New Hampshire, “ecological literacy” played well, but not up north. In Gorham, the solution was to focus on forestry education. We worked with the town forester, placed an intern in the school who owned his own independent logging operation, and implemented a high school science curriculum that focused on the town forest.

By having AMC educators work in the schools and collaborate on forestry education, and by providing opportunities for people from different factions to work together on shared projects, the social cli-

mate has improved. Commenting on the change in temperature, Appalachian Mountain Club vice president Walter Graff noted, “Prior to CO-SEED, our staff were afraid to shop in Gorham wearing any piece of clothing adorned with an AMC logo. Now they’re proud to wear their AMC fleeces and it often leads to constructive conversations in the check-out line.”

A group of educators in Montana had a similar experience a few years ago. When they tried to implement a statewide environmental education program, they found that “environmental education” was a lead balloon. But when they talked about a Montana Cultural Heritage program, there was support across the board. The program explores the history of people’s relationship with the land just the way an environmental education program would, but “cultural heritage” has less baggage than “environmental education,” and places environmental issues within a broader context. Similarly, we have found it more effective to talk about “place-based education” rather than “ecological literacy.” Sometimes, we elaborate and refer to “community- and place-based education,” to give equal emphasis to cultural and natural contexts for learning.

For me, environmental education is like cilantro. Cilantro is an appealing herb when used in the right proportion. Salsa with too much cilantro is obtrusive and unpalatable. But salsa without cilantro doesn’t taste right; it’s missing an essential ingredient. In community- and place-based education we need to find the same kind of balance between environmental quality and economic vitality, or between nature studies, history, and literature

In CO-SEED schools, we try to create this kind of balance in a variety of ways. We encourage SEED teams to pursue projects within four domains of work: curriculum integration, schoolyard enhancement, community-based education, and school sustainability. A thread of environmentalism runs through all of these, but doesn’t dominate in any of them. In each domain we seek to balance environmental perspectives with other genuine concerns. The following text details each of these domains.

Curriculum integration. We try hard not to get labeled as just a science education initiative. Some of the best school/community projects, for example, focus on community history. The Community Arts Day in Antrim, New Hampshire, brings stonecutters, glassblow-

ers, contra dance musicians, African drummers, and weavers into the school to share their passions. We like it when the middle school math teacher has the seventh and eighth graders survey the fifth and sixth graders about the school lunch program and the afterschool club offerings because they are using the school for real-life data analysis. Other projects integrate art and science, such as when the art teacher joins up with the fifth grade teachers to create accurate, elegant, and artistic maps of the wildlife at the local McCabe Forest.

Schoolyard enhancement. The National Wildlife Federation has helped many schools improve habitat for wildlife in their schoolyards. Butterfly gardens, native plantings that feed birds, and model ecosystem plantings all make the schoolgrounds more biodiverse. But we want the schoolyard to be more welcoming for people too. We encourage the creation of suitable outdoor workspaces so teachers can send children outside to write comfortably in their journals, or so parents have better seating at athletic events. The Boston Schoolyards Initiative works with neighborhood groups to design schoolyards that serve as community gathering spots.

Last spring, Bill Church, the high school physics teacher in Littleton, New Hampshire, was rebuilding a set of steps on a trail that connects the schoolgrounds with downtown. He commented, “Because of CO-SEED, I felt comfortable calling up the Town Public Works Director at 6:30 in the morning to request a front-end loader to deliver rocks to the upper end of the trail. He was there at 7:15.” Place-based education is about connecting people to people, as well as connecting people to nature.

Community-based education. Collaborating with the hardware store to help them assemble their wheelbarrows is equally as valuable as completing a project with the town conservation commission. In the new Depot Project, a place-based program based at the Great Brook Middle School, serving the towns of Antrim, Hancock, Frankestown, and Bennington, New Hampshire, students designed and built the new entranceway garden for the town selectmen’s office. In Malden, Massachusetts, when the city recognized that they were recycling only three-and-a-half percent of their solid waste, the mayor said, “Beebe’s our environmental school, let’s get some of those students involved in helping us solve this problem.” All sectors

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of the community can provide opportunities for useful service-learning projects for the school.

School sustainability. Examining the school as an integrated system offers numerous opportunities for balancing economic and envi-



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Place-based education is about connecting people to people, as well as connecting people to nature.

ronmental points of view. Students can research whether using 100 percent postconsumer waste paper in our copiers is worth the cost. Energy assessments can lead to a reduction of the school's electrical bills as well as provide good math curriculum. Monitoring of indoor air quality makes for good science education at the middle and high school levels and can potentially reduce the incidence of respiratory infections during the winter months. Encouraging parent-led groups to bike to school can reduce air pollution on the schoolgrounds and increase physical fitness. A balanced emphasis on health, ecology, and economy makes these kinds of activities broadly appealing.

Wild Treasures, an Antioch New England program for Vermont and New Hampshire middle schools, provides a further example of

the cilantro balance we aspire to. Environmental studies faculty member Jimmy Karlan designed this program to encourage middle school teachers and students to research ways to make their school more ecologically sustainable. Once the research is complete, students propose changes to the school board, and, if approved, help implement them. One sixth grade class at the Oak Grove School in Brattleboro, Vermont, evaluated the school lunch program. An early summary of the student research, written by the students, explains:

The projects we chose to explore are starting a schoolwide composting and garden project, a paper waste recycling program, and finding an alternative for polystyrene lunch trays. The main questions we used were: How much paper, lunch trays and food waste do we have in one day, one week, one year...? We found that we waste about 20,350 trays, 5,106 pounds of paper, and 5,735 pounds of food waste in one year. We need improvement! With polystyrene lunch trays, we are still debating whether to get an industrial sized dishwasher for the plastic trays or the biodegradable trays with less maintenance.

When they interviewed school officials about the dishwasher option, they discovered cost and logistical hurdles, which led them to suggest replacing the polystyrene trays with paper trays, which can be recycled or composted.

In April 2001, their proposal to the school board was approved unanimously. One school board member recommended implementing the change at all of Brattleboro's schools rather just this one elementary school. School superintendent Ray McNulty commented, "I was really impressed with the data collection and the work that went into it." Significantly, the school board appreciated that the students made a case that was both financially reasonable *and* ecologically responsible.

Similarly, high school students in a Rural Trust project in South Dakota did economic research on the problem of decreasing sales tax revenues in their town. A growing number of local residents were shopping out of town because local stores didn't carry the products they were looking for. The students found that if these residents would spend an additional 15 percent of their income in town, rather than shopping elsewhere, the community could be economically healthy. Through working with local merchants to diversify their offerings, and educating the citizenry about the impact of shopping

locally, students have been credited with increasing those sales tax revenues by 27 percent, or \$7,000,000. Paul Nachtigal, past Director of the Rural Challenge, says, “By raising those issues, by surfacing that conversation in the broader community, these students have contributed directly to the viability of that community.” (Baldwin, 1998)

Place-based education works best when both economic and environmental concerns are balanced. In Alaska, that means inviting native elders to train adolescents in caribou hunting. In Brooklyn, New York, that means having students map the sources of toxic waste emissions to help in the struggle to reduce childhood asthma. In the North Country of New Hampshire, it means teaching math and science through forestry education. Environmental education gains credibility when jobs are given the same importance as prairie dogs and plovers.

Strategy #5: Nurture Continuous Improvement through Ongoing Professional Development

In the beginning, it will be easy to attract the early adopters, the handful of teachers who share your beliefs and want to move in the same direction. On the other end of the spectrum are the sticks-in-the-mud. Their lives are too full, they don't see the relevance to what they're doing, or they are just a couple of years away from retirement. Don't worry about them. Your challenge is to get to that broad middle group of teachers who are recruitable but hesitant, and for lots of good reasons. One of the big tricks is: *Just show up*. More often than not, it's the chance conversation in the hallway or the visit to the teaching intern that leads to a blossoming of interest in the program among new teachers. And your presence shows that you are committed to the project and willing to work hard to involve others.

Getting involved in a place-based education program is a form of professional development for teachers—and it's often difficult to get overworked teachers to volunteer for professional development. It's helpful to approach professional development keeping in mind that old marketing adage that says “the customer needs four or five exposures to the product before she'll buy it.” Professional development needs to happen in many guises over long periods of time. Rather than try to create new committees or schedule new meetings, try to piggyback onto existing structures. The practice of piggybacking can make it easier to get new teachers involved and give staying power to

long-term efforts. The following are some of the venues we utilize to conduct professional development.

In-service workshops. Schools have a few in-service days built into their contracts and we try to claim some of them for programs on place-based education. During the second year at Great Brook School, we offered an all-day program called “Machinations, Magellan and McCabe: Problem Solving in the Local Environment,” which featured workshops on design technology, orienteering, snowshoe explorations, and mapmaking. All of these workshops translated into new projects over the next two years. In Malden, we conducted a Faculty Visioning Day in the summer, followed by a full-day professional development program in the fall. The Visioning Day parallels the Community Vision to Action forum that we conduct, but it was just for school staff, administrators, and teachers. We’re considering adding a visioning day for students as well in some of our new sites.

Our recent winter staff development day in Gilford, entitled “The Power of Place: Digging into the Local Community,” was consciously designed to be both playful and serious. One of the goals for the year was to have students and teachers “play and learn in their backyard,” so we created a set of indoor/outdoor opportunities. We created treasure hunts on the playground, learned math through measuring trees and identifying tracks, constructed historical quests, refined the school’s recycling program, and trained teachers to use GPS units.

We also take advantage of regular faculty meetings to make presentations on research studies, to conduct problem-solving activities, and to do evaluation with teachers. Voluntary book groups that read and discuss books like *Starting from Scratch* (Levy, 1999) or *Digging Deeper: Integrating Youth Gardens into Schools and Communities* (Kiefer and Kemple, 1998) also raise the level of conversation.

Grade-level team meetings. This is where most of the planning happens in schools, and we soon realized that it was a venue we should use. When the district science curriculum was reorganized and the sixth grade teachers at Great Brook needed to teach geology, we did a mini-workshop on connecting the New Hampshire curriculum guidelines with projects that used local resources. The crucial

learning for us was that we had to go to the teachers rather than expecting them to come to us.

In Gilford, Alan MacKenzie, the Audubon environmental educator in the schools, conducted an all-day program just for the first, second, and third grade teachers on how to use the nature trail. This close focus on particular grade levels and a specific topic facilitated lots of quick curriculum development.

Teacher retreats and summer institutes. Research by the Chesapeake Bay Foundation concluded that short-term teacher trainings didn't translate into better environmental teachers or improved student behaviors in school. They now have a two-day minimum for curriculum trainings and most of their teacher workshops are a week long. Also, they realized that residential training programs intimidated teachers who weren't early adopters, so they decided to offer multiday, but not overnight, programs closer to the urban areas where many teach.

In CO-SEED institutes, we aspire to a healthy balance of work and play. Our summer institute includes mini-courses on mapmaking, teaching to the standards, and teaching local history, as well as yoga, swimming hole excursions, nighttime games of "vampire orienteering tag," and alpine flora field trips. We've also found that it's crucial to include high school students and community members as participants in our institutes. The enthusiasm of the high school students often overcomes the hesitancy of jaded teachers. At a retreat in Gorham, one of the best project ideas came from a high school student who said, "You know, one of the really big problems [at our school] is that it's too buggy at the field where the girls' lacrosse team practices." This comment led to a wonderful, integrated industrial-arts-and-ecology project on making bat boxes—to increase the bat population, to eat the mosquitoes, and to make lacrosse practice more enjoyable.

Turn teachers into workshop leaders. Teachers listen to other teachers. My colleague Heidi Watts found that the single most effective instrument for professional development is having teachers visit each other's classrooms. When a teacher sees that another teacher can do something, she's more willing to try it herself. If visits are not practical, then have teachers lead workshops. Once you've identified

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the teachers and community members who have classroom skills and charisma, get them on the team. We have teachers from our established sites do workshops for teachers from new sites.

Develop grantwriting skills in lead teachers and administrators. After your own involvement with the project ends, you want things to keep going. One of the ways this can happen is if teachers and environmental learning center staff take on the challenge of seeking external funding to support ongoing innovation. We help teachers learn how to write grants and help them get their articles about their work into print. To date, our support of local school districts has led to more than \$600,000 in new grants and leveraged funds to support place-based education projects in these schools.

Strategy #6: Nurture Community Exchange

Once community engagement begins, there's a need for institutionalized structures that keep the energy flowing back and forth from school to community. This is new territory for us and for lots of place-based education projects around the country. In the search for new species of school/community engagement, we are exploring these possibilities:

Educator membership on town committees. One way to maintain the flow of connections between school and community and to keep teachers abreast of local issues is to have teachers and environmental educators serve on town committees. Because environmental educator Beth Frost is a member of the conservation commission in Hancock, New Hampshire (one of Great Brook's sending towns), she's been able to involve middle school students in a trail project to connect the school with a new recreation area. In our new site in Bradford, Vermont, we've got a selectman and a conservation commissioner on the SEED Team, and Heather Trillium, the environmental educator from the Hulbert Outdoor Center, makes it part of her job to attend town committee meetings.

Curriculum exhibition events. Public events that bring students, teachers, and parents together to view the curriculum give community members a formal chance to see what place-based education

offers. Curriculum work that impacts the neighborhood and the environment deserves to be celebrated in the same way we celebrate theatrical and sports events. In Gilford, New Hampshire, we took advantage of the school's monthly curriculum showcase to present the improved community access to the nature trail. On family math and science nights in Malden, Massachusetts, students and parent volunteers taught community members about how school programs contribute to improvements at the Stone Zoo. In Antrim, New Hampshire, the annual Great Brook Junk Out, a Saturday cleanup of the downtown stream, was an extension of the fifth grade wetlands curriculum.

We also encourage the use of town committees as juries to evaluate student work. When Great Brook sixth and seventh graders developed a plan for a piece of conservation land, the students presented their work to the members of the conservation commission for approval. The review of the students' plan also constitutes professional development for community members who serve on the commission.

Community Arts Day. What a great idea! All regular classes are canceled for the day and community artists and craftspeople come to the school to lead half-day and all-day workshops. Local potters do clay work, stone masons teach stone carving, and the environmental educator does snow sculpture. One year, the industrial arts teacher and I made snow forts with the wind-packed snow. It was a thrill to watch half-a-dozen fifth and sixth graders muscle a hundred-pound block of snow onto the roof of our entrance tunnel. One of the most popular classes was Rock 'n' Roll Rebels. Musicians from the locally famous Rynborn Blues Club worked with students to craft a couple of songs. Later this project evolved into cutting a CD with some middle school musicians.

At the end of the day, we thanked the community members with high tea, complete with porcelain teacups, Twinings, crustless cream-cheese-and-cucumber sandwiches, scones with strawberry jam. The atmosphere was buoyant. "I always love coming into this school," declared one musician, "because the atmosphere is always so upbeat. It really feels like teachers and students want to be here." These kinds of responses are the foundation stones of community support.

Community engagement evenings. Another vehicle for extending community engagement can be evening dinner meetings with selected segments of the community. Because many of our projects used town libraries and primary source material, we invited town librarians and members of town historical societies to join us for dinner and problem solving. Teachers and students presented relevant projects and then broke into small groups to talk about how the libraries and historical societies could help us and how students could be a resource in their work. Could students create exhibitry for town libraries? Could class projects focus on data collection for the historical archives? Could the town librarians help students do research that contributes to the local Celtic festival? Out of one of these meetings emerged a project in which sixth graders documented the history of individual houses for the historic society.

Another evening focused on local craftspeople and artists, and another on town businesspeople and community leaders. Our meeting with local artists led to the idea of a residency by a landscape designer to work on a design for Great Brook's schoolyard. Twenty-four fifth-through-eighth graders participated in the month-long project to create the master plan—a plan that will guide class and community involvement for the next five years.

By implementing pieces of these six strategies consistently over a number of years, your school and community will start to look different. The process can be likened to the geological concept of punctuated equilibrium, which suggests that change happens little by little over a long period of time and then, all at once, there's a major shift. Or maybe it's like moving past the tipping point on a pair of scales—you don't see much change, and then the balance shifts to the other side. My advice: Don't get frustrated in the early stages. Assume a time frame of three to five years at a minimum, and learn to love the process as much as the product.