

Green Bay, Wisconsin

The Einstein Project Builds a Science Program Through Community Partnerships

A nonprofit corporation founded in 1991, the Einstein Project is a business and community partnership that supports high-quality science, math, and technology education in nine public school districts, the Green Bay Catholic Diocese, and the Oneida Nation's Schools in northeastern Wisconsin. Over the past three years, the project has served 75 schools, 1,900 teachers, and 25,000 elementary school students.

The program is founded on the belief that a long-term commitment, volunteerism, and a few generous funders can get a science program off the ground. The program's founders developed some innovative strategies for procuring funds that other programs may want to consider using.

The Einstein Project did not have any support when it started- no funding, no appropriate curriculum materials, no professional development program. What propelled the project forward, according to Cecilia Turriff, one of its founders, was "a vision." Having taught all her life, Turriff says that everywhere she went, she saw a tremendous need for both good science materials and expertise in the teaching of science. "I knew I was doing the wrong thing," she says, "but I didn't know what was right."

Along with her scientist husband, David, Turriff assembled a group of Green Bay public school teachers who were concerned about the lack of high-quality science education in the area and arranged a meeting with Foth and Van Dyke, a large architectural and engineering firm headquartered in Green Bay. From that meeting evolved what was to be the essence of the Einstein Project: business and education communities brought together in a cooperative effort. The project soon spread to all the private and public school systems of Brown County, Wisconsin, including the Catholic Diocese. Early on, it became clear that, except for the Green Bay school system, no single school or business in the area was large enough to support a substantial partnership. By banding together, however, financial and human resources could be pooled that could make a difference in the educational process.

David Ewald, district administrator of the Denmark, Wisconsin, Public Schools and board president of the Einstein Project, says that when he thinks back to that time, "I don't picture superintendents around the table. I think of business people and teachers around the table." He attributes the project's initial success to this core group of founders, their "strong, energetic leadership up front who believed in an almost evangelistic sense that hands-on, inquiry-centered science was the right thing."

Solidifying the Partnership

In May 1991, a board of directors was appointed with a representative from each public school system, the Catholic Diocese, each of the three institutions of higher education in the county, six local businesses, and the Cooperative Educational Service Agency No. 7, the liaison agency between the school districts and the state superintendent's office. Accommodation in the by-laws of incorporation was made for up to 12 business representatives to serve on the board. One of the first acts of the project's board of directors was to apply to the Internal Revenue Service for 501(c)(3) status. This designation enables the Einstein Project to receive federal and state grants as well as tax-deductible charitable donations from businesses and individuals.

In the first year of operation, the Einstein Project applied for over one-half million dollars of state and federal grant money and carried out a capital fund drive in the business community for \$450,000. Even before the official fund-raising campaign was launched, several businesses began supporting the project. Wisconsin Public Service, headquartered in Green Bay, made a substantial contribution of time, materials, and money. Paper Converting, Inc., also in Green Bay, made a donation that allowed the implementation of programs to get under way. The Wisconsin Department of Public Instruction awarded the Einstein Project a grant from its Science, Mathematics, and Technology Grant Program to be used for operational expenses, and the American Chemical Society awarded the project one of six national grants to assist in the development of science partnerships.

Why were businesses and organizations willing to contribute time, talent, and funds to support the Einstein Project? Many of these founders and supporters seemed to understand that tomorrow's problem solvers are sitting in today's classrooms. For example, Dan Bollom, president and chief executive officer of Wisconsin Public Service, says, "I've always been a strong proponent of education. As a businessman and school board member, I feel there is so much we can do to help students to see the many possibilities awaiting them in the world of science and technology."

One of the project's first activities was to test two nationally known hands-on science programs- Full Option Science System (FOSS) and Science and Technology for Children (STC)- at 10 schools. After evaluating these pilot tests, the project's leaders decided to purchase, maintain, and distribute STC kits to participating schools from a centralized resource center. In 1992 and 1993, the project purchased between 100 and 150 kits. By 1994, the number of kits was close to 300, and they were serving between 12,000 and 15,000 students. Each school pays a \$100 rental fee each time it uses a science kit. In 1995, the project expanded to include FOSS's kindergarten materials. The goal for the coming school year is to serve between 25,000 and 30,000 schoolchildren.

Teacher volunteers do the in-service training required before kits can be rented. Diane McNeill, currently a science teacher at Edison Middle School in Green Bay, was one of the first teachers to pilot-test the kits for the Einstein Project, and she has been training teachers in their use ever since. McNeill says, "I have done training at all of the summer academies [annual,

week-long teacher enhancement workshops aimed at science and math] as well as after school and on Saturdays, all on my own time. When I ask myself why, the answer is the kids. They're benefiting so much- and I want to help other teachers who want to become involved. I don't want them to lose their enthusiasm." She adds that inquiry-based science teaching has benefited her personally, as well. "It has improved all of my teaching skills. I can relate using the inquiry-based method to many other subjects."

"Door Knocking" Produces Results

As Ewald says, there was a lot of "knocking on doors," especially in the early days. As one of the main "door knockers," Cecilia Turriff found herself spreading the word of the project's mission to anyone who seemed the slightest bit interested. She went to local school boards, PTA and Girl Scout meetings, meetings of the chamber of commerce, and business conventions. "My job was to finagle," says Turriff, "and I did it well."

If businesses didn't have funds to donate, the project asked for free materials- or materials at a discount- for the kits. The requests were met with a variety of contributions. One business donated plant stands for the *Plant Growth and Development* unit. One hundred buckets for use in the *Chemical Tests* units came free from a plastics company in California. In addition to providing seed money for project development and needs assessment, Wisconsin Public Service funded the restocking of the *Electric Circuits* unit. When the project's photocopying machine went on the blink, Turriff called a company in Milwaukee that serviced the machine at a saving of about \$600. (She says the machine is clunking along to this day.) Finally, having identified the original manufacturers of some key items in the STC science kits, the project was able to go directly to the supply source itself. Motors for the *Magnets and Motors* unit, which previously had cost \$1.27 apiece, were obtained for a mere 20 cents apiece, for example. Turriff estimates that between January and April of 1994, she helped save the project more than \$30,000 in supplies by getting them donated or at reduced costs.

Even a building was, in a sense, donated by the community. In 1991, the Einstein Project occupied a house located on the grounds of a local parochial school. This house was- and still is- rented to the project for \$1 per year in exchange for the project using the school as a place to develop programs. Originally used as the project's science resource center, today that building houses the Einstein Project's four-person full-time staff.

Volunteers Are Key

In addition to the teachers who volunteer to do the training, an enormous number of other volunteers augment the project's small staff. These dedicated individuals put in hundreds of hours in the 3,000-plus-square-foot warehouse space that currently serves as the resource center. Volunteers stock the new kits, refurbish the old ones, and prepare the bags of materials that go into the kits. According to Project Director Jim Cornell, many of the volunteers are senior citizens, "doctors, dentists, teachers, and people who just care enough to give their time." For example, a retired carpenter came

in and built an enormous stand on which to grow plants. A retired dentist made balances for the *Balancing and Weighing* unit.

The extensive use of volunteers also makes the project attractive to funders. As Cornell explains, "It makes the project very attractive to people who want to support it financially. They know that very little of their money goes into overhead."

Anna Kim, a former clerk in the resource center, says, "A volunteer network can play a big part in keeping a science resource center together. Without this kind of community support, it would have been a struggle to make it work." And the volunteers seem to get a lot out of their experience. According to Kim, "They really enjoy it. They feel like they are doing something useful. In time, they came to feel like family- second moms and dads."

Looking to the Future

What does the future have in store for the Einstein Project? One of the current priorities is to strengthen the use of computer technology. The project has established a countywide bulletin board system, complete with electronic mail, conferences in each major scientific discipline, and CD-ROM capability. Students, teachers, scientists, and myriad project stakeholders may access the bulletin board system with a local phone call from a modem-equipped computer. On-line conferences, which are intended to broaden users' knowledge base within a specific science discipline, are serviced by one or more experts from the community. For example, professional from Green Bay's two largest hospitals service the medical conference, local veterinarians tend the vet conference, and a high school biology class researches questions posed by elementary school children in a life sciences conference. In effect, the technology component provides a forum where individuals can sign on electronically and talk to each other on-line, leave messages, read other people's questions and answers, and establish a dialogue with an expert.

In addition, the project is working with teachers to identify science modules that lend themselves to collecting and graphing data. The project plans to facilitate the recording of the data on computer spreadsheets or databases so that the data can be reproduced readily in text or graphic formats. This integration of technology with scientific discovery will give students a better understanding of how computers are used in business, industry, medicine, and other fields.

The project also continues to confront financial realities. According to Cornell, "Our ultimate goal is that the project will be nearly self-sustaining, relying very little on repetitive case contributions from local businesses and individuals." But Cornell is quick to acknowledge the essential role the business community has played in the project's growth. He says, "Without the belief and commitment from this key segment of the community, the project could not have moved from concept to reality. Their generous contributions of time, expertise, and funds have rendered this a total community effort, one that has a very high probability of continued long-term success."

Lessons Learned

- Enlisting local business and community support has many benefits. Businesses can donate funds, but they are also a potential source of materials, technical expertise, and guidance in the business world.
- The program has benefited from a broad funding base that includes a combination of federal and state grants, as well as contributions and in-kind services from local businesses.
- It is important to involve teachers in inquiry-centered programs every step of the way. Teachers can help with program research and development and in-service training, and they can serve as proponents of the program
- An efficient, well-stocked materials center is essential and can be kept running smoothly with the help of community volunteers.