OUT OF THE IVORY TOWER

A University/K-12 Partnership for Technology Development

The Partner Technology Schools concept is fairly simple—bring together the needs of the K-12 sector with the resources of the university to improve the education of all students involved.

One effective way to help students learn is to design projects that require them to use knowledge in meaningful ways. As a college professor, I decided to employ this principle to help my elementary-education seniors use computer technology for educational applications. We began by publishing high-interest history stories on our college World Wide Web site and eventually started partnering with schools and teachers to develop Web-based resources for elementary students and teachers. These projects benefitted both the teachers who used them and my students, who honed their technology and curriculum development skills.

The Partner Technology Schools Concept

The Partner Technology Schools concept is fairly simple—bring together the needs of the K-12 sector with the resources of the university to improve the education of all students involved. We saw the major needs of the K-12 sector as threefold and similar to the needs of any initiative for school improvement:

First, there was the issue of time for teachers to do the necessary work involved in any innovation. Second, there was the problem of helping teachers acquire the necessary technical knowledge. Finally, it was necessary to ensure that everyone involved had adequate hardware and software resources to develop and use educational applications.

How could the university help solve these problems? College students could do the work of developing educational applications using computer technology. Our university has a well-developed computer network with extensive hardware and software resources that are easily accessible via the Internet. We did not have resources to help provide K-12 teachers with necessary technical knowledge, but we did have college students prepared to apply technological skills to the elementary curriculum. At the same time, the university lacked "real life" classrooms in which students could further refine their computer skills. K-12 schools could fill the gap by providing us with projects for our students.

The University and K-12 Partners

Our first step was to begin a partnership arrangement with the elementary campus of Cincinnati Hills Christian Academy (CHCA) in suburban Cincinnati, Ohio. This K-12 college preparatory school has a somewhat diverse enrollment of 1,200 students. The school has modern facilities and outstanding computer re-

<p style="text-align:center;">BY PHIL BASSETT</p>

sources, compared to most K-12 schools.

Cedarville University in Cedarville, Ohio, is a Baptist liberal-arts college with more than 2,800 students. The university offers 14 state-approved teacher-licensure programs that enroll about 600 students. One of the school's most outstanding features is its campus computer network, known as CedarNet.

CedarNet links more than 1,800 university-owned computers, including one in each of the college's 1,100 dorm rooms. Cedarville students and faculty have direct access to Internet/Web resources from their residence hall rooms and offices via the college's triple T-1 connections. More than 95 percent of the faculty and 90 percent of the student body use the network daily. Students and faculty have access to more than 150 software products on CedarNet, ranging from Microsoft Word to human anatomy programs. Cedarville received the CAUSE Networking Award in 1997 in recognition of its integration of networking technology into the instructional program. Cedarville is also listed as one of America's 100 "most-wired" colleges.

After learning the types of projects desired, the students developed technology-based curriculum materials on campus over the next several weeks, getting help from professors and lab assistants and keeping in touch with the elementary teachers by E-mail as necessary.

The Partner Schools Project

We arranged our first cooperative project through E-mail and phone conversations with

Dr. Phil Bassett (second from left), the author of this article, looks over some curriculum materials created by his college students for the Partner Schools Project.

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Projects covered a wide range of topics but generally involved the design of Web pages or links to already-existing Web pages for unit plans that the teachers could use later in the school year.

the CHCA principal, Dr. Mark Beadle. The first step was for the teachers to identify curriculum areas and unit topics for which they desired computer-based materials. During this time, we developed teams of two to three education students who would work with each teacher. The university students were to tour the school and meet with their partner teacher for about 30 minutes. After learning the types of projects desired, the students developed technology-based curriculum materials on campus over the next several weeks, getting help from professors and lab assistants and keeping in touch with the elementary teachers by E-mail as necessary.

Projects covered a wide range of topics but generally involved the design of Web pages or links to already-existing Web pages for unit plans that the teachers could use later in the school year. Projects developed over the past three years appear on the Cedarville University Education Department Partner Schools Web pages at http://www.cedarville.edu/dept/ed/resource/

schools/index.htm. (Click on Cincinnati Hills Christian Academy.)

Benefits

The elementary teachers reported that the university students' tech projects were more extensive and of a better quality than they themselves would have been able to produce because the university students were able to spend a great deal of time on the projects. The teachers were delighted with the Web resources, especially because the university students had linked to the most appropriate sites and had developed grade-level appropriate resources when necessary. The teachers felt that their students would be less likely to access objectionable sites because all of the sites had been screened by our students. The teachers saw having resources organized and easily accessible from the Cedarville University Web pages as a plus.

Our university students benefitted from working on materials that teachers would ac-

A kindergartner at Cincinnati Hills Christian Academy works with the Arctic Animals Web page created by the Cedarville University students.

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The elementary students enjoyed the Web pages
on the human body and arctic animals created by
Dr. Bassett's Cedarville University students.

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tually use to instruct real elementary students. They worked diligently and produced work of higher quality than required because they were working not for a grade, but to help children learn. In addition, the university students learned about the resources available to them as future teachers and began to envision new ways of using computer technology to enhance student learning.

Lessons Learned

We learned three important lessons in planning and implementing this program. First, an initial face-to-face meeting between the university students and the teachers with whom they worked helped the project to go more smoothly. Even though communication via E-mail was helpful, a brainstorming session with the teacher and the opportunity to see the classroom and meet the elementary students were very advantageous.

Second, for the project to continue successfully, someone other than the school principal or college professor needs to coordinate the project. Both partners will need to commit sufficient resources to support the partnership at a level where it can become routine and institutionalized.

Finally, we learned that the use of computer technology to enhance learning holds much promise for educators. However, a major commitment of resources for hardware and training of both pre-service and in-service teachers will have to occur before computer technology becomes more than a supplement to an entrenched system of education.

Partnerships between K-12 schools and universities in developing computer-related curriculum resources hold great promise. When such collaboration matches resources and needs and is supported at the institutional level, it can enhance the education of pre-service teachers and accelerate the integration of computer technology into K-12 classrooms. ✐

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The author (left) and his students consult on some technical problems relating to the Partner Schools Project.