Computers Have Little Use Without Teacher Training, Study Says

By Millicent Lawton

If computer technology is to be a cost-effective aid to improving schools, educators must focus as much on supporting and training the people who use it as they do now on buying hardware and software, a private foundation concludes in a recent report.

Today's high-tech innovations will have little effect on education if schools adopt them without building a "human infrastructure" that includes adequate training for teachers, according to the study released June 25 by the Washington-based Benton Foundation.

The report, "The Learning Connection: Schools in the Information Age," warns that "technology alone is no panacea."

The six-month study looks beyond initiatives to wire schools to the Internet "to ask harder questions about how to make this effort work for kids, classrooms, and communities," said Andrew Blau, the director of the foundation's communications-policy and -practice program.

> 'Technology alone is no panacea,' Benton Foundation report warns.

The Benton Foundation works with nonprofit organizations, schools, and libraries to help them make effective use of electronic communications technology.

The foundation's report comes to some of the same conclusions as another recent study of computers and K-12 education.

A panel of experts organized under the auspices of the President's Committee of Advisers on Science and Technology presented a report to President Clinton on June 9 that says attention must be paid to content and pedagogy—not just hardware—and that a special focus should be placed on teacher professional development.

"The substantial investment in hardware, infrastructure, software, and content that is recommended in this report will be largely wasted if K-12 teachers are not provided with the preparation and support they will need to effectively integrate information technologies into their teaching," the presidential report says.

In its "Report to the President on the Use of Technology to Strengthen K-12 Education in the United States," the panel also calls for a federal commitment to a large-scale program of research on education in general and educational technology in particular. The panel recommends that annual funding in those areas be boosted fivefold, to about $1.5 billion.

Training Is Crucial

The Benton report, meanwhile, says that perhaps the biggest obstacle to the effective use of computers in the classroom is inadequate teacher training.

Technology puts more demands than ever on undertrained teachers with little or no extra time on their hands, the study found. In addition to learning the mechanics of computer hardware and software, and altering their pedagogy to reflect student-centered learning, teachers are also being asked to develop lesson plans that incorporate Internet resources into the curriculum.

"Even the staunchest advocates of computer networking in education concede," the foundation study says, "that in most places technical problems, inadequate training, and insufficient time for teachers to figure out ways to integrate technology with the curriculum have combined to thwart the dreams of reformers for a technology-driven overhaul of the education system."

Educators, the report says, must also address five other issues when it comes to using computers in the classroom: the content of the Internet, curriculum reform, assessment of student learning, equitable availability of technology, and community involvement.

Efforts must continue to be made, the report says, to make the Internet more useful for teachers and students. Currently, the vast computer network can be "an unwieldy, uneven, and often unreliable information source," according to the Benton report.

Some commercial, university, school, and publicly funded efforts have generated good resource lists and lesson plans, but the Internet is not necessarily the place to turn students loose, the study says.

Indeed, teachers interviewed for the report said students need to learn how to evaluate information and to have a structured research formula before they use the Internet. The report advocates encouraging students to devise lesson plans for themselves.

Figuring out how to measure the effect of computer networking on student achievement has also become increasingly important, the report says, even as the difficulty of doing so has become more obvious.

Experts differ on whether familiarity with computer technology improves student achievement. And common assessment techniques won't necessarily shed much light on the issue, the study says.

Many analysts argue that standardized tests may be useful for measuring discrete skills and factual knowledge, but not higher-order thinking skills. Some alternative types of assessment, such as portfolios of student work, may be promising, but their subjective nature makes winning public acceptance problematic, the report says.

For More Information:

▶ "The Learning Connection: Schools in the Information Age" is available at no charge from Bonnie Brown, the Benton Foundation, 1634 I St. N.W., Washington, D.C. 20006; (202) 638-5770; by fax at (202) 638-5771; or by e-mail at benton@benton.org.

▶ "Report to the President on the Use of Technology To Strengthen K-12 Education in the United States" is available at no charge from D.E. Shaw & Co. Inc., 120 W. 45th St., 39th Floor, New York, N.Y. 10036; (212) 478-0608; by fax at (212) 845-1286; or by at e-mail deckelg@deshaw.com.

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