

NETC Parting Gifts

Onward to the Next 10 Years!

by Gary Graves, senior advisor

As the funding for NETC comes to an end, I find myself wondering what lies ahead for education technology. Since 1995, I've worked with Northwest educators to plan for the effective integration of technology into their schools, classrooms, and instructional practices. Through the years, I've helped many schools, districts, and state departments of education review and evaluate their technology programs. I'd like to share some of what I've learned.

First of all, I've learned that most teachers are eager to learn new skills and improve their practice. I marvel at how proficient so many

teachers have become at using technology to enable the teaching and learning process. Because of their dedication and hard work, more of their students are engaged and accomplished. When I see these benefits of effective technology use, I wonder why it still isn't the central medium by which all teachers teach.

There are many indicators of progress in education technology. I think much of that progress is a result of improved professional development opportunities. When I used to recommend that district technology planning teams spend one-third of their technology budget equally on hardware, software, and professional development, most would smile and tell me why spending a third on training just wasn't feasible. Now technology planners nod and say, "Absolutely."

Training for teachers has become more sophisticated and pervasive through the years. Part of the credit goes to the U.S. Department of Education and its program of K-12 technology grants. Title II-d grants referred to as EETT (Enhancing Education Through Technology) now mandate that at least 25 percent of each grant be spent on staff development. Some states even require their district grantees to allocate 50 percent of total grant funding to training.

Planning for appropriate technology use is far more strategic, rigorous, and comprehensive than it was 10 years ago. In the early 1990s, research told us that only 2 percent of school technology plans included an evaluation component. Now it's a standard feature. Districts everywhere are designing methods for

Continued on page 21

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NETC Consortium Members
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Parting Gifts *(Continued from page 24)*

data gathering and analyzing those data to make more thoughtful and informed decisions about how to use the technology they buy.

In 1994, Oregon wrote the first Goals 2000 state education technology plan. Ten years later, every state in the United States has such a plan! Gone are the days when technology plans were all about hardware acquisition. Today's comprehensive plans clearly link integration of classroom technology to school and district improvement goals.

Ten years ago, high-quality classroom software was becoming widely available but it was expensive and often difficult to run. Today, because of E-rate funding, most schools can access potent multimedia software applications on the Internet using high-speed connections at little cost to the school. The power of multimedia technology, with its auditory, visual, and kinesthetic features, engages students in academic content in miraculous ways. And, powerful, inexpensive hardware brings the innovative software to students' desktops.

In the early days, I'd tell administrators and teachers that the greatest value of technology to education was that it helped change relationships in the classroom, expanding collaboration and cooperation between students and teachers and easing the burden that teachers felt to carry students through their learning. Most people were mystified when I said it at the time. Gradually, as more teachers became proficient with technology, they began to tell me how technology enabled them to better understand how their students learn and lightened their sense of responsibility to be all things to every student.

Recently when I mentioned this experience to a group of remote, small-school administrators in Montana, many nodded in agreement—they knew what I was talking about. Some had experienced this in their own classrooms or saw

it happening in their buildings. Some had even heard about this phenomenon at professional meetings. Perhaps the realization that technology has a marvelous power to transform student/teacher relationships must arise from individual experience.

I've also learned that more schools and districts are engaging staff in quality research to better understand how they can more effectively use technology to enable instructional practice, support decisionmaking, and increase student achievement. Administrators and program directors are using their own research results to guide district decisions about what tools to buy and how to integrate new tools into the curriculum.

Since 1995, educational communities across the United States have experienced waves of immigration, population increases and redistribution, globalization, and changing family structure. We see more students, learning more at a faster rate than we have ever experienced as a nation. Even as our public education system is being characterized by some as flawed and failing, there is one clear indicator of our success: the remarkable fact that even as increasing numbers of students take the Scholastic Aptitude Test (SAT) for college admission, there has been virtually no change in average verbal and math scores during the last 50 years.

I believe that access to technology has played a part in this success. Technology has provided the access and opportunity to students who traditionally would not have tried to take the SAT to be successful. Washington state's middle school math program for special education students, "No Limit!" is a wonderful example of how technology is used to level the playing field for previously less successful segments of school populations.

Progress in education is accelerating along with everything else. New technologies and increased capabilities will continue to afford

educators opportunities to learn and grow in their craft. But I think that progress over the next 10 years will have less to do with speeds and feeds and bits and bytes and more to do with our deep commitment to pursue every opportunity to help our children succeed.

So, how to proceed? We continue to build on what is working by focusing technical assistance in three key areas:

- Comprehensive planning linked to rigorous assessment and evaluation of effectiveness
- Improved research design to include action research
- High-quality professional development and training for staff and administrators

Though the NETC project has concluded, resources that help educators with technology program planning and review and research and program evaluation continue to be available on the NETC Web site and through contracted services. There is more than enough work for the next 10 years and I've learned that I am too energized by all the possibilities to quit. ■

Parting Gifts (Continued from page 21)

Teachers Focus on Effectiveness

By Judy Van Scoter, advisor

In the course of my work at NETC, I've been inspired by the resourcefulness and flexibility of teachers, who frequently have little more to draw on than their own creativity and ingenuity to develop and adapt instructional strategies and curriculum that meet diverse learner needs.

One of the many ways I've seen teachers personalize and enrich the work of schools is in their approach to technology. Teachers across all grade levels use technology in wonderfully effective ways to help children learn and share what they know. They use whatever is available, from familiar, well-regarded and, in many cases, well-worn hardware and software, to shiny, new, and untested digital devices, to find ways to accomplish their instructional goals.

Along the path of their own learning, students use technology to learn not only content but the process of exploring ideas and topics; solving problems; communicating, collaborating, and creating; and so developing confidence in their own abilities. Teachers guide students along their path by creating learning environments that nurture and encourage this kind of curiosity and involvement.

My work at NETC has focused on integrating technology into PK–12 classrooms and has given me the opportunity to work directly with teachers in their classrooms to learn from them and share their wonderful work with other educators in the region. NETC has developed print and Web-based resources that present real teachers and classrooms engaged in extended projects, using technology along with other tools of education to accomplish real learning.

At the NETC Web site *classrooms@work*, teachers experience firsthand the types of tools and projects that support instructional practice from the teachers who created and implemented the projects. The *Early Connections* Web site offers information on using technology with young children in formal and informal educational settings.

NETC has launched a new Web site, *Focus on Effectiveness*, to promote student achievement with a focus on research-based, proven instructional practices enhanced by effective technology use. It combines proven practices with examples of ways in which technology supports and enhances the strategies.

Teachers can study a strategy in depth and explore technologies that support the strategy. They can also learn about practices for addressing current educational challenges such as meeting the needs of English language learners in the classroom, encouraging connections between school and families, student motivation, and others.

Classroom scenarios highlight these integrated strategies within the context of a subject area and age range. And overviews of relevant research stress the elements that are key to obtaining the greatest benefits and the critical points for effective implementation. We hope these scenarios will provide a starting point for thinking about combining instructional practices with effective technology use.

Firsthand stories about young students taking video footage on the tundra (talk about engagement); students in a really small Montana school taking advantage of a nearby stream for cross-grade studies; and high school students documenting the history of their area in words and photos and publishing on the Web are just a few examples that show the flexibility of educators.

These stories represent the wonderfully rich and diverse examples of how materials and tools can be adapted to fit the needs of students and how technology can be used to engage children in meaningful learning activities. What is most striking to me about these stories is the creative energy, dedication, and resilience of the educators... and how truly joyous their classrooms are! ■

Bridging Distance Education Options

by Kirk deFord, associate

The Digital Bridges Project has evolved during the past six years in response to ever-increasing requests for information about distance education options. The first iteration of the *Digital Bridges* Web site focused on Interactive Videoconferencing and its companion videotapes still serve as useful resources to a broad range of educators.

Recently, the Web site was expanded to reflect new developments in K–12 distance education. The newest edition of the site offers new, experience-based information about online learning for all audiences, with information organized around the issues and written from the unique perspectives of specific audiences: parents and students, teachers, counselors, administrators, and legislators.

The information directed to parents and students focuses on student readiness, finding quality,

accredited classes, and components for successful online class completion.

For teachers, there is general information and also a deeper exploration of pedagogical questions about the difference between face-to-face and online teaching. After reading the Digital Bridges material, some successful face-to-face teachers will discover that their interest and instructional approach is not compatible with the requirements for online teaching. Others will discover that they are well suited for the special requirements of online teaching and will pursue the deeper information at this site.

Because high school and other counselors are usually the point of contact for parents and students interested in online learning opportunities, they must be knowledgeable about the ins and outs of online education. Digital Bridges will support their efforts to inform and guide student and parent decisions about online programs.

One of the many responsibilities of administrators is to provide the best learning opportunity for

every student in their school. The information targeted to administrators will support the planning of programs that are sustainable in appeal, policies, and funding.

State legislators and school board members, who make decisions about the form and process of educational programs, will find information that proves useful as an introduction to online education, for planning policy, and to support legislative decisions. Planning sheets and a glossary of distance education terms contribute to the information gathering process.

As K–12 educators take a closer look at distance education opportunities to meet more needs of more students more of the time, the *Digital Bridges* Web site will continue to be available to parents, students, and educators eager to explore online education and interactive videoconferencing.

The Digital Bridges Project has served as a personal and professional bridge for me, affording opportunities to meet and work with many fine educators regionally and across the country. Over and

over again I have been impressed by the high degree of professionalism and integrity I have encountered as I have worked with a wide range of educators. As the Northwest Educational Technology Consortium becomes a legacy resource, Digital Bridges will continue to influence practitioners in their pursuit of excellent learning opportunities for their students. ■



digital bridges

k–12 online education for teaching and learning