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Technology Implementation in Connecticut

by Ajit Gopalakrishnan

The purpose of this article is to describe Connecticut's process for implementing technology in adult education programs statewide and outline some preliminary lessons learned.

Establishing Partnerships

In February 1997, the Eastern LINCS consortium, a project of the National Institute for Literacy, met for the first time in Philadelphia at the offices of the National Center on Adult Literacy (NCAL) to build greater regional collaborations and promote the use of technology among its member states. Over the year, the members of the consortium decided to offer technology planning training for programs from the member states. In 1998-99, four medium-to-large sized adult education programs from Connecticut participated in this training which was delivered by NCAL.

Technology Planning

In June 1999, in response to the Workforce Investment Act (WIA) and other state priorities, the Connecticut Department of Education, Bureau of Career and Adult Education decided to promote the integration of technology into curriculum and instruction. After hearing the experiences and reviewing the materials of the four Connecticut programs that participated in the technology planning training, the Bureau decided to utilize the services of NCAL to offer comprehensive technology planning training in Connecticut.

This statewide initiative called the Institute for Technology Planning (ITP) was based on the belief that though technology can be a powerful tool for all learners, getting the most out of technology requires more than simply increasing the supply of hardware, software, and telecommunications equipment.

The ITP was offered twice in 1999-2000 and again in 2000-2001. Each participating adult education program was represented by a team

comprised of administrators and teachers. They engaged in five days of classroom workshops and an intensive 6-week online course. Participating teams worked collaboratively with staff in their own programs and with agencies in their communities to assess needs, draft a vision, plan training activities, and develop a technology budget. All the information was compiled into an organized technology plan. Teams received stipends for participation and interested practitioners were awarded continuing education units (CEU). A total of thirty-four programs participated in ITP and submitted high quality technology plans to the Bureau.

Overall, this initiative was well received by the participants. Here are comments from two participants:

"...the more I read through all the literature in the unit activities I realize how important it is for us to take a good look at where we want to go in the future and to clearly define our vision statement so that our goals are realistic and shared by all."

"We are greatly appreciative of having been given the chance to participate in this program. It has opened many doors for us and has given us a great basis and direction in which to take our program. It has helped us to organize what we already have, improve what we are currently using and develop future goals to work toward."

The ITP initiative was successful because the programs were interested and ready to think about planning for technology. Additionally, the training design allowed for sustained, on-going learning that was hands-on and highly relevant, encouraged reflection, provided individualized feedback, and resulted in useful outcomes.

Participating as a team enabled administrators to establish a core group within their programs to advance technology integration.

Technology Implementation

As the planning phase drew to a close, some of the programs sought funding from the Bureau that would be dedicated for the implementation of their plans. After some deliberation, the Bureau issued a request for proposal (RFP) for Technology Implementation utilizing WIA Title II federal adult education funds that made available a total of $3.2 million dollars over three years. On July 1, 2001, eight programs were awarded three-year technology grants with each program eligible for a maximum total of $400,000. During the first year of their grants, which ended June 30, 2002, these programs integrated a wide range of technologies throughout their programs.

- Wireless laptops, fully equipped with software such as ELLIS and broadband Internet access, provided rich multimedia instruction to all levels of ESL students.

- The Internet was used extensively as a resource, for research, communication, and even as a medium for publishing student work in project-based learning environments.
- Electronic keyboards were used with survival and beginning level ESL students to introduce them to the English language and to basic functions such as typing, saving, and printing.
- Electronic whiteboards were integrated into large group writing activities in ESL and high school completion classes.
- Traditional computer labs brought together classroom teachers and computer instructors to jointly plan and deliver lessons using word processing and the Internet to all levels of ESL.
- Online lessons, national curricula such as PLATO and SkillsTutor, and locally developed materials enabled students to continue learning from public libraries and from their homes.

The following are some preliminary observations with regard to successful systemic and programmatic implementation of technology.

On-site Technology Coordinator: Critical to the coordinated implementation of technology was the designation of a person on-site who had experience working with adult education students, was proficient with the use of computers and the Internet, and could interface effectively with "techies" around serious problems such as network issues or software tech support. This technology coordinator was generally not a programmer or network engineer but someone who could troubleshoot routine technical problems that frequently hamper day-to-day operations. Additionally, the coordinator provided formal and informal training to other teachers, and continued to work closely with them (often through team-teaching) until they were comfortable with implementing technology in their own classes.

Staff development: Instead of focusing solely on designing state level solutions to staff development, it seemed productive to try and assist programs to design and develop their own solutions. As a result, programs developed and conducted a technology survey of their staff that identified areas of gaps and interests. Subsequently they offered staff development that was customized and specific to the needs and goals of their teachers.

State level staff development focused on two events: A technology conference in June 2001 featured local and regional presenters highlighting the multiple approaches to technology integration. A technology marketplace in November 2001 showcased an array of hardware, software, and video vendors who provided participants an insight into the possibilities of technology.

Technical Challenges: Each program had its share of difficulties with getting hardware, software, and networks to work smoothly and effectively. Often, thoughtful plans had to be postponed or revised. For many programs, installation of the commercially produced

software involved hours of frustrations, months of delays, and sometimes-unplanned network upgrades. One program that had planned to offer a national online curriculum to its students through Web TV learned that the Web TV browser was incapable of rendering the sophisticated technologies utilized by the curriculum. Other unforeseen problems included the short duration of laptop batteries, large wireless carts not fitting in elevators, and high-energy wireless carts causing electrical problems in older buildings.

State Role: Promoting others to use technology encouraged the Bureau to reflect on its potential uses internally, especially for monitoring program operations on an ongoing basis while building a sense of community among the programs. To that end, a bulletin board was established through NCAL's Professional Development Kit (PDK) at http://www.literacy.org/pdk. Programs started to exchange information and share ideas with each other informally. Additionally, they posted responses to the Bureau's interim reporting requirements on the bulletin board. This ongoing formal and informal communication made monitoring seem more as a continuous process than as a discrete event. The process view of monitoring also enabled the Bureau to facilitate critical self-reflection within programs over longer periods of time and thus provide timely assistance.

For the practitioner perspective, please visit http://www.tech21.org/. This site contains a wealth of information from each of the eight programs including reflections on leadership and staff development, as well as several technology resource reviews and lesson plans.

Beginning July 1, 2002, the Bureau awarded seven additional two-year technology implementation grants using WIA Title II federal adult education funds.

The Future

As the state agency administering adult education in Connecticut, and as a field site for NCAL's Tech21 project, the Bureau is now faced with the challenge of trying to answer many questions such as what it means for a student to learn with technology, how it influences their growth in the program, and which approaches "work" and in what situations.

Integrating technology is a process of change, not only to curriculum but also to an organization's culture. Sustaining such changes generally require local infrastructure support beyond the initial start up phases. This necessitates the Bureau and the programs to continually explore new and creative solutions to sustenance.

Despite being a relatively smaller state, virtual learning opportunities will allow us to reach more students with fewer dollars. This summer the Bureau launched a two-year initiative designed to build a model

for a Web-based adult high school credit diploma program. The hope is that approaches like open-lab hours, Internet curricula, and video programs such as TV411 or English for All will expand instructional hours and enable students to continue learning beyond the classroom.

From an instructional standpoint, there is the ongoing challenge of helping coordinators and instructors envision, plan, and implement "tool" uses of technology that consider technology more as a resource for exploration, discovery, and problem solving, than just a delivery medium or a remediation resource.

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