

Four Principles of Technology Training

by David P. Diaz, Cuesta Community College

It's a simple concept: technology training should focus on what faculty members can use in their own classrooms to help their students learn.

But trainers don't always keep this in mind. About five years ago, I was co-teaching a week-long workshop in multi-media software. The faculty participants were enthusiastic and wrote glowing evaluations: "This is great. We learned so much."

One evening at dinner, I asked some of them how they'd use the information they learned. Their reply: "Oh, we don't have this software at our campus." It turned out they were all PC users, while the software they had just learned was Mac-based. A PC version wouldn't be out for another year.

In my 10 years of conducting technology training on college campuses, I've seen many changes, one of which has been in the type of faculty customers. The first wave was made up of techno-savvy instructors who were gung-ho to learn anything new. The second wave is not as easily impressed by technology for technology's sake. They're open-minded, but they want more practical classroom applications.

It's not clear, though, whether traditional technology training models will be sufficient to meet the needs of this escalating second wave of consumers.

Kenneth C. Green, author of the yearly survey "The Campus Computing Project" said that the two top instructional technology (IT) challenges confronting institutions of higher education are "assisting faculty [to] integrate IT into instruction" and "providing adequate user support." To this end, institutions invest heavily in staff, hardware, software and other resources to support a traditional training program.

Apparently, they have not invested enough. F. Robert Walczak, in a February 2001 *Converge* magazine article, points out, "...about 25 percent of a given technology budget in the private sector goes to training. In the schools, it is a breathtakingly low 6 percent."

Even if colleges increase spending on training programs, it's not clear whether traditional training methods are adequate to address training and support needs. William Bridges, in an article from the book *The Leader of the Future*, said the speed and frequency of organizational change creates a state of urgency for organizations to develop new forms and practices.

New forms and practices are definitely needed when it comes to technology training for faculty. Traditional training programs promote gradual, incremental change, while keeping pace with the rapid and frequent change of the technology age requires radical innovation.

More important than funding is the problem of focus. Traditional training methods often have a focus that prevents optimal technology training for educators. I use and teach four principles for administering technology training and support that I developed in my doctoral research. I've tried and tested each principle in faculty technology workshops on campuses statewide. These training principles focus on values that are shared by most, if not all involved. Thus, with better buy-in from the faculty, training is more efficient and leads to more rapid deployment of instructional technologies into the classroom.

Principle One

Technology training and support should emphasize good teaching, not good technology. Faculty should use technologies because they're indispensable to the teaching and learning process, not merely because they exist. One pitfall of traditional technical-based training is that it focuses predominately on the technology.

Pedagogy-based technology training, on the other hand, focuses on preparing teachers to implement newly gained technology skills and knowledge. It focuses on generic knowledge and skills that faculty can adapt to any classroom, regardless of discipline, hardware or software.

Examples include designing collaborative and discussion assignments on the Web, addressing learner preferences and learning styles in the technology-mediated classroom, the role of learning theory in selecting instructional technologies, and the pedagogics of multimedia presentation. I described the differences between pedagogy-based and technical-based training more fully in the article "Technology Training for Educators: The Pedagogical Priority," in the March/April 2000 *Computer-Using Educators* newsletter.

In my role as Cuesta's faculty distance education mentor, I meet individually with faculty members and also deliver pedagogy-based training workshops. I try to allow teachers to reflect on their own teaching and learning styles, and what they believe are "good teaching practices." Along the way, I expose them to new ways of thinking about teaching and

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learning and help them decide what technologies might best support their needs. This type of training creates better buy-in from faculty members. They know that at the heart of the impetus to implement technology is a foundational concern for good teaching and learning principles.

Principle Two

Technical-based training should focus on how to *use* it instead of how to *build* it. Traditional training teaches faculty how to build educational products, such as Web sites and PowerPoint presentations, and focuses on the teacher as technician. However, teachers should not be considered primarily technicians. Instead, they should be considered “end-users” and their considerable expertise should focus on teaching and learning activities, not on specialized tasks or repetitive “techno grunt-work.”

Trainers should distinguish between pedagogy-based and technical-based training. Pedagogy-based technology training should be a precursor to, and should drive the focus of, subsequent technical training. Technical-based training should focus more on mission-critical technical skills such as those that help faculty implement instructional technologies. Faculty should leave other repetitive or complex specialized tasks to skilled technicians or student help.

Principle Three

Distribute product development across the organization. Traditional technology training makes faculty members the sole developers of educational products. This model will not suffice in the 21st century. There are too many technical skills that faculty must master in putting, say, a quality Web site online, or creating a compelling PowerPoint presentation.

Colleges must support a team-based approach. By using the talents of many people, institutions can distribute the workload of product development across individuals and departments.

This is not only more time and energy efficient, it also serves as an integrated “cross-training” mechanism that helps team members learn from each other. These teams could be composed of a faculty member who provides the product concept, and other specialists including digitizing technicians, and software, graphic design and technology pedagogy specialists.

In a team approach, faculty members would share their instructional concept with the rest of the team, who would then work together to bring the project to fruition. Schools operating on a shoestring budget might consider employing techno-savvy students as team members.

Principle Four

Bring more training and support to the teacher, not the teacher to the training and support. Inherent in the traditional

training and support model is the concept that “if you build it, they will come.”

Many institutions are building enormous, costly facilities that will house sophisticated technological hardware and software to better prepare their faculty. Unfortunately, teachers who train on the latest and greatest hardware and software rarely have this equipment available to them in the “trenches.”

We need to bring more training to faculty members (or to their virtual space). That is, rather than focusing on the trainer and training, as in traditional face-to-face workshops, the focus is on the learner and learning.

This is the very same learning-centered principle that we in the community colleges encourage faculty members to use in the classroom and this is why we advocate, in many instances, distance education. This principle accommodates the learner by allowing faculty members to remain largely in their own, familiar environment and optimizes their time spent “on task.”

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Read More About It

- William Bridges, “Leading the De-Jobbed Organization,” *The Leader of the Future*, pp. 11-18. Jossey-Bass, 1992.
- David P. Diaz, “Technology Training for Educators: The Pedagogical Priority,” *Computer-Using Educators Newsletter*, pp.1, 25-27, March/April 2000.
- Kenneth C. Green, “Paying the Digital Piper,” *Change* magazine, March/April 1995. See www.campuscomputing.net/archive/change/marapr95.html.
- Kenneth C. Green, *Campus Computing 1999*. Encino, Calif. Campus Computing.
- F. R. Walczak, “Theme and Variations: The Workplace is That Space Between the Ears,” *Converge*, p. 62, 65, February 2001.