

THRIVING ON COMPLEXITY?

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After many years, technology finally seems to be on the threshold of becoming a standard teaching method on many college campuses. Surveys indicate various instructional technologies are used by many, though less than a majority, of college faculty. Perhaps more important, many college administrators seem to have become enthusiastic supporters, who are encouraging the use of technology in the classroom. This may seem like good news for a committee that is dedicated to exactly this goal, but it represents a new set of challenges.

There are several indications that much work remains to be done. A national survey recently reported that 67% of faculty feel stressed by keeping up with technology, more than feel stress due to teaching loads or demands to do research and publish. Some faculty who have chosen not to use technology feel threatened, and it appears that some faculty are adopting presentation software or other technology because they are afraid that if they don't they will look out of date. In some cases, individuals feel so frustrated by the changes that they have become self-proclaimed Luddites, opposing all instructional technology.

Even the professors who are adopting teaching seem to be feeling some discomfort. One faculty member who responded to the survey mentioned previously said, "I just don't have the time. I don't have the time to use everything they come up with." This is not an unusual sentiment. Within a decade, college teaching has changed from a profession where change was slow or nonexistent into a hectic race, where technologies that were implemented last year have already begun to seem passe. One might well say, "It will be great, if only we can survive."

The first few faculty who used technology in their classes were an unusual group. These early adopters found the technology to be exciting. They recognized the possibility that sometimes the technology wouldn't work but were willing to accept that risk. Sometimes there was an almost evangelical belief that technology was not just a new teaching tool, but a catalyst that could dramatically change the educational process. Now, new technology users are more likely to expect technology to be both dependable and efficient. This new attitude is making the job more difficult for technical

support staff.

Campus technology has become crucial within a very short time. Five years ago, an announcement that e-mail would not be available on a campus for two weeks would probably have been viewed as an inconvenience to a small number of individuals; today it would be seen as a disaster by many. Most college faculty have become dependent on technology to do their daily work. How many faculty who use technology have a backup plan in case the computer fails to work? Some college administrators are talking about a 7/24 campus, that is providing services to the students seven days a week, twenty-four hours a day.

The term 7/24 is a clue to where colleges are going. It originated in the electric power industry and represented a commitment to provide essential services without interruption. Like electricity, gas, and water, campus technology is becoming a utility. More and more college personnel expect technology to always be conveniently available. Even though few campuses make this commitment explicitly, it is being implicitly accepted as a basis for operation. Many campuses are just beginning to understand what this commitment means.

These changes in the view of technology represent new challenges for the CCCE. There is still a need for the committee to take a leadership role in the development of instructional technology. In addition, there is still much to be learned about the educational use of "older" technologies, like electronic mail and presentation software. Finally, the committee must be ready to help colleagues who have been slow to change when they are ready to explore new methods. This committee must find ways to cope with a broader spectrum of faculty interests than ever before in an environment where technology is increasingly taken for granted. The good news is that there is still plenty of work for this committee; the bad news is that the job has become much more complex.

Continuing adventure:

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The results of using the techniques, interactive PowerPoint lectures, I've previously described, are promising. I've had a second class in a year in

which the lowest grade was a C. Students still transfer out of our majors courses' into one of our review Chemistry courses, and some just withdraw. Still this kind of performance has been quite rare, in my sections or in sections of my colleagues. See Karen Timberlakes' article in this Newsletter for more detail and ideas.

Action has switched to one of our new remodeled classrooms with multimedia equipment. We have a 1200 lumen Sharp projector mounted from the ceiling, a high quality screen which pulls down, and has a lock down feature which makes it very rigid. A large wheel based table has connections for my portable PowerBook, an Elmo projector, VCR, and both phone and T1 connections for the Internet.

My procedure at the moment, after some experimentation, is to connect the power cord, projector cable and remote mouse accessory then start my PowerBook in my office. I boot the system, a PowerBook 292, bring up PowerPoint, Director and Netscape if I'm going to show animation or Internet material. I open the PowerPoint lecture I'm currently using and go to the slide we left off on. I generally check the slides I'm using for the next lecture to make sure all is well, especially if links to movies, etc., are still good. If I need material from a CD I put the CD in now. I put the PowerBook into sleep mode, disconnect the power cord, move the cart (which has three shelves, with the PowerBook on the top; spare wires, remotes, batteries, handouts on the next; and my briefcase on the bottom) to the classroom. I also have about 1.5 inch foam rubber strips under the PowerBook to cushion bumps, and still let air circulate for cooling.

In the classroom I turn on the projector (ours must be turned on before you connect to the PowerBook or they can't talk to each other), plug in the PowerBook, and connect it to the projector. Touch any key and the PowerBook is up and running within seconds with the application programs I'm going use already running. When I'm finished I put the PowerBook back to sleep, disconnect, wheel the cart back to my office, reconnect to my T1 line and at a click of the mouse I'm up and running, checking material for my next lecture. My Mac reconnects to the Internet without any action on my part..

This cuts down substantially on the time and stress of completely shutting down and rebooting my system. We are having some problems with the very impressive remote for the projector. It doesn't work in the present configuration, which means I can't zoom in on movies, programs, etc. You can zoom in movies, stop, start, loop, etc. in QuickTime 4. To do this requires opening a movie in QuickTime and saving it in QuickTime format. If you just link to a movie that you last played in

Simpletext or some other program it will reopen in the same application.

Working on the PowerBook, even with its 14.2 inch screen, is still less efficient for me, so I prefer to use my desktop machine with a 20" screen. Unfortunately for some reason when the files are transferred to the PowerBook many links to movies, etc., are broken. Transferring with everything (440 MB and growing) lessens the problem, but some links still break. I've been having better luck connecting the PowerBook to my desktop machine with a special cable from Apple, the PowerBook then appears as a hard drive on the desktop. All files being changed are saved to the PowerBook as a hard drive. This method works well but there are still some intricacies and inconsistencies which have eluded me. For that matter I can move shapes on a slide in my office in PowerPoint, leave the machine on as described above and have it change by the time I use it in lecture? Technology is fun, but it is more fun when it works consistently.

Great Expectations for Computer Usage by Undergraduate Chemistry Students

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Over forty years ago at MIT I started using computers for calculations in chemistry. I have moved from a mainframe computer fed by punch cards for each run to teletype terminals connected to mainframe computers by slow telephone lines to the early microcomputers with 8K of memory (Commodore PETS and Apples) to the Pentium III machine I am writing this article on. I have served my time on computer committees and even was offered the position to manage our network. I continue to help friends with their computer problems and amazed that I can hold my own with most professional computer staff personnel. For the past twenty five years I have been a consultant/evaluator for the North Central Association (NCA), the