Conversations on Technology
What can I do that's simple?

prepared for

The Institute on Learning Technology

part of the

Spring 2001

This conversation also is available from the Learning Through Technology web site, http://www.wcer.wisc.edu/nise/cl1/lt/
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Question #3:
"I'm not ready to take on a huge learning technology development project. Can you give me any hints to give me a jump start? Something straightforward that worked well for your students? Or do you know of any resources on the web that I can draw from?"

I guess my major advice is to start small and then build. Start with email with your students. Assign them essays to write or questions to answer that they can send you by email. You can give them dead lines and then collect all the messages in a folder and sit and grade all at once and send personal messages back in a day or two. Students like this. If your class is too large do this by groups.

Use the spread sheet program you know and have students do a project with that. Then collect the diskettes and review them at your convenience. Be careful of viruses. Students can handle the spreadsheet projects well.

Web resources are so rich I would be hesitant to have you do this first. I guess I would need to know what course you are planning to use the web in. In the general science course hear on campus so-and-so is using the web to have students examine science claims that are not valid. Her students are doing well with this project. You know she is developing a laptop course where students will be using the computer, special simulations, and the web in class. That may be too advance for you to start with. How about using the CD that comes with your text for that course in Inorganic Chemistry you are teaching. Just start by using it in the classroom to back up your lectures. You may want to talk to our own Dr. A who is upgrading the entire general chemistry laboratory course with computerized data acquisition. There are so many ways to go. You can almost start anywhere depending on the course you choose to infuse technology into. The important thing is to do something. Every step we take to prepare out students for a technologically rich career is a step in a forward direction. They need to see us learning even though we are professors. They need to see that it is possible for them to do so and they can if we give them the chance to grow under our tutelage.

Do small things first. If you teach some statistics in your courses learn how to use spreadsheets and how teach statistics using spreadsheets. Perhaps the
biggest hurdle is getting started. The way I learned web page construction was to write a grant in which I said I would put together a web page for a particular project. Then I wrote in release time and money to take a class to learn how. Because I had to do it for the project, I did it. Sometimes we need to give ourselves some motivation. Once you get started it really isn't hard to add on little bits of information as you go. Web pages don't have to be fancy to be informative and helpful. In fact some of the most useful web pages I have found were rather plain.

I found the easiest method to get started was to begin experimenting and then to find the local experts and get a quick lesson or two. There is no substitute for trying to do things and then asking for local help. Most schools will have people ready to help. If yours doesn't, look for workshops. They are often held at both local national meetings. Some people learn well from on line courses, others need someone close by. The key is to get started and then look for help.

As I said there are others developing materials and you only have to select The ones you like (maybe later you'll want to make your own) and there are Sites where you can get materials and evaluations of materials like journal of chemical education

The people who have studied this and who say that technology is not the solution until you have a very good idea of what pedagogical improvements are needed are correct. Just putting lecture notes on the web, or using Powerpoint slides projected from a computer rather than overheads or writing on the board are not improvements in themselves. Technology only can serve to enhance the learning and teaching goals and it does not replace them.

You may start with occasional lectures projected via computer. Email correspondence is almost no learning curve for most of us. Web site use may be simple for merely posting problems, but more complex for interactive procedures.

I don't know any way to do it but jump in and spend the time.
The TI-89 computer algebra system calculator works well for my students. It is easy to use and very powerful for the kinds of computations currently encountered in the first two years of college mathematics, engineering, and science. It will also give you (the instructor) a feel for the ways in which this technology might affect what you teach and how you teach it. I would suggest looking at Calculus: Mathematics and Modeling to see how this kind of technology can be used in courses in science and mathematics. Be aware that such powerful technology will change what should be emphasized and what should be de-emphasized in your courses. Keep an open mind as you look at these materials since they will present material in a manner that is probably unfamiliar to you.

Learning a new presentation style will be difficult. If you think that you cannot learn new ways of presenting material, then you should not embark on this kind of activity. As your colleagues begin to use these technologies to present material in their classes, you will become the traditionalist in your department. Your enrollments will suffer, but this probably will not have any affect on you prospects for tenure since research is the key to advancement at our institution.

Go to a web site such as Hotbot and do a search for a specific topic such as the Heisenberg's Uncertainty Principles while choosing the video or Java options. You can then download the movies to your desktop.

The calculus part of Dartmouth's MATC project has Maple based modules that you can use for calculus. I like Bob Devaney's web site at B.U. for dynamical systems experiments. Most Java applets on the web are junk, but I like his. My best advice is to convince your department you need a special technology TA until you are really used to the system. You can't spend 10 office hours a week JUST on fixing the students' computer troubles.