

Volume 4, Number 5

on university teaching and learning

May/June, 1995

## Information Technology and University Teaching

This edition of *Focus* pursues the theme of the Dalhousie workshop series "Information Technology for University Teaching, Learning, and Research" held earlier this year. Our contributors, Professors Ronald Tetreault and Patricia Monk, were among the many faculty and staff who played a part in the success of the six events.

### The Virtual Classroom

Ronald Tetreault, Department of English

A recent story in the Toronto Globe and Mail\* reports results of a survey that should be encouraging to anyone interested in integrating information technology into education. In the 500-channel world of information and entertainment to come, a majority of Canadians would prefer access to distance education over movies on demand and home shopping. The poll conducted by Gallup Canada indicated that 62.6% of those contacted are looking for educational services on the information highway, while only 18.8% found home shopping attractive. Perhaps this result says something about the social nature of shopping as a human activity.

At Dalhousie University, we are poised to answer this demand for distance education that seems to be growing symbiotically with the communications revolution of the late twentieth century. Our Distance Education Task Force has given close consideration to the challenges posed, and has just made its report and action plan

\*(April 20/95, p.B-1)

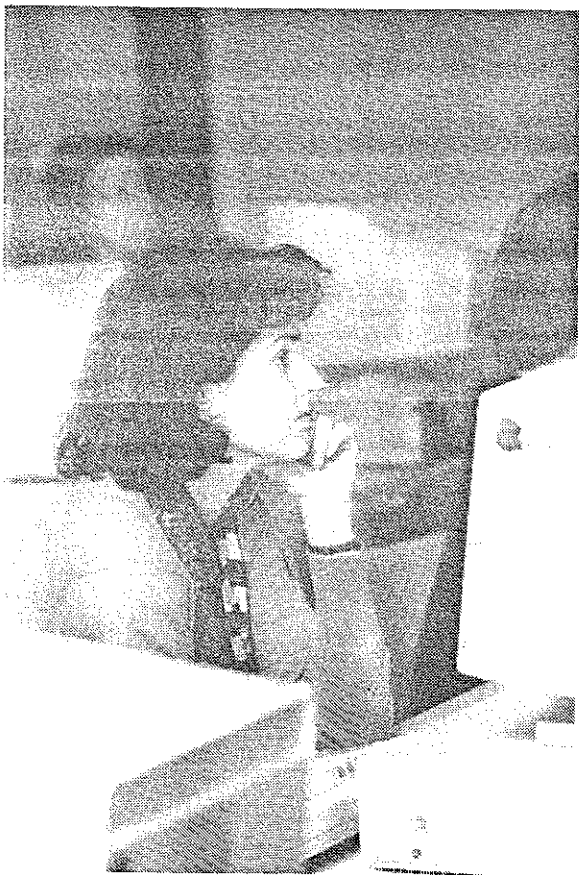
available, fittingly, on the internet via Dal's World-Wide Web server (<http://www.dal.ca/~dewww/derep.html>).

There is no doubt of the need to address these imminent changes in our educational culture, for, as the Task Force points out, "new technologies are capturing students' interest, making high quality distance education far easier to deliver than in the past, promising access to new markets and potentially reducing course delivery costs." On the level of practical pedagogy, our second annual series on computing in the humanities and social sciences offered faculty workshops on the use of presentation software and spreadsheets, e-mail, and internet resources for enhancing teaching and learning. With the enviable infrastructure supplied by our University Computing and Information Services and the dedication of our faculty and wonderfully supportive staff, Dalhousie can take the lead in providing an education without walls. The virtual classrooms of the future promise to spread learning free from the constraints of time and place.

But the information highway is not without its potholes. There are clear benefits to using spreadsheets to keep track of students' grades, and to integrating presentation software like PowerPoint into our classes to make visually arresting overheads. E-mail enlarges our contact with students and colleagues, and the internet offers a vast sea of information to feed the appetite of researchers. Real-time interactive computer video now makes it possible for a teacher to engage individual learners at remote locations,

and for the learners to respond to the teacher almost as if they were in the same room. However, that "almost" should remind us that there is more to education than efficiency of delivery.

We must never lose sight of the fact that, first and foremost, education is a social activity, too. A flesh-and-blood physical presence is indispensable to this process, because teaching is not just the transfer of information but includes an exchange of thoughts and feelings, a subtle atmosphere that is as much emotional as intellectual. Perhaps these values could be retained by incorporating technology that beams "star teachers" into the classroom; but if instruction is turned over to leading experts in the field, the roles of the rest of us will be diminished to that of acolytes to a prevailing orthodoxy. It will become increasingly difficult to be exposed to a wide range of methodologies and opinion, and harder for radical ideas to challenge what is being purveyed to a mass learning audience. Technology can make us better at what we do, but it cannot replace all that we do.



An attentive workshop participant.

## Notes on E-Mail and Teaching

Patricia Monk, Department of English

I started using e-mail to help me with a large science-fiction class (60 students). I thought, as science fiction readers, they might be responsive to this form of student-professor contact. I had two principles:

- it had to be **low tech**. I didn't want to have to learn more about e-mail than I already knew (how to send, receive, forward, edit, etc. messages, and to make up a distribution list) and could explain to students.

- it had to be **one-to-one** mail. I didn't want to set up a conference or a modified list. I wanted an exchange between me and one student at a time, not a free-for-all among the students.

I announced the rules in the first class. I told the students that they were required to do certain things involving e-mail as part of their class work, and, in return, I would use e-mail to help them with the work of the class. The requirements were:

- each of the students had to obtain a username (account) on the VAX, and send me a message so that I would know she/he had carried out my instruction. I would then be able to make up a distribution list to send messages to the whole class.

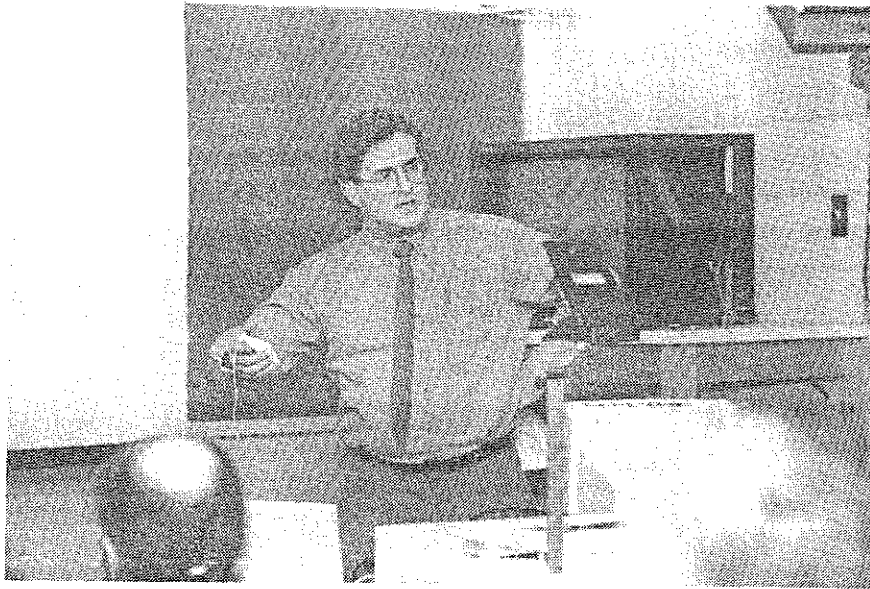
- each of the students had to send me one message per week on the subject of science fiction. It could be about any aspect of it, not necessarily the book we were reading that week.

In return for their fulfilling the requirements, I promised them the following:

- that I would respond, **on a regular basis**, to their comments;

- that, in addition, I would **answer any question or respond to any problem** they wished to raise with me by e-mail that concerned the work of the class;

- that, depending on the nature of the question or problem, they could expect **either** a full response immediately (if I knew the answer), **or** a quick response saying I would have to check the answer and would get back to them, **or** a request to raise the point in the next class because I thought it would be interesting for general discussion, **or** an invitation to come to my office because I thought whatever they had said needed in-person attention; and



Professor Ron Tetreault talking technology and teaching during a recent faculty workshop at Dalhousie.

– that I would take as much time as necessary to deal with what they said; there was no limit on their questions. And it was time consuming (minimally an hour to an hour and a half most nights, and sometimes longer)!

The **benefits to the students** included the opportunity for the confident to try out their favorite theories on me and correct me if they thought I was wrong about something (science fiction fans own the God-given right to correct everybody in science fiction, including the authors); the opportunity for the less confident to say things they were too overwhelmed by the confident to say in class; and for everybody to say things that there wasn't time for in a class discussion among sixty people.

The **benefits to me** included an opportunity

– to deal with more members of the class on an individual basis than I could have hoped for otherwise;

– to encourage the quiet ones (From the beginning of September, I had an ongoing discussion of *Star Trek: The Next Generation* with one student who was, in September, too shy to open her mouth in discussion – by mid-January she was contributing freely.);

– to defuse potential confrontations about some matters (a student who felt my request for per-

sonal names on message headers conflicted with the right of anyone on the net to write behind a pseudonym); and

– to count on them, by the end of November, to be sufficiently alert to their e-mail to send them essay topics, class cancellations, information about the availability of text books, and so on.

It worked well for the students and for me.

As a result, I have tried using e-mail, with varying results, in other classes at different levels. It works least well with first-year students (with some exceptions); students in honours and graduate seminars respond well, since an introduction to Internet and e-mail is part of their programme, and welcome the opportunity to practise. In addition to the original set-up, special uses for my graduate students included their submission of abstracts of their oral presentations ahead of time to all members of the seminar, and special uses for my honours students included the submission to me ahead of time of a written opinion (one paragraph) on the subject of the discussion in the week's classes. (I would then download these and print them up in a handout for the whole class to refer to during the discussion.)

The foregoing notes should be regarded as hints, not as a recipe.

## Does Technology Make It Better?

"We cannot . . . take for granted that information technology will enhance the learning environment." So observes Steven Sliwa in sum of the point that the tendency since the Industrial Revolution has been to first use technology to increase productivity and hope that improvements in quality will follow.

He sees a bit of that trend in education. We began with one-on-one meetings between students and tutors – Socrates and the students who followed him around. Then, a long line of "innovations" began intruding on education: chalk boards, semesters, course schedules, prerequisites, credit hours, lecture halls, overhead projectors, standardized tests. "Did these innovations occur to augment the quality of learning, or did they rather come about to accommodate mass education and to assure consistency of teaching?" (p.8)

At the current intersection of higher education and technology, Sliwa finds relevant an important distinction the manufacturing and service sectors of our economy already make:

- *mass production*, with a focus on reducing the cost of inputs while increasing the consistency of outputs,
- *mass customization*, with a focus on increasing options for the consumer at the point of sale.

There's no question that technology can make higher education much more efficient – something most attractive in times of financial difficulty. The point here is to use technology to do something other than simply automate current teaching practices. "The integration of information technology into academia should not be motivated by faculty management optimization, but should emerge as a result of a new conceptualization of learning." (p.9)

Yes, technology can and should be used to help teachers do the routine and repetitive tasks of teaching as efficiently as possible, so they can focus on designing and preparing instructional experiences that inspire students and nurture their development. Sliwa notes that, as we apply technology to time management issues, "one educational goal should not be lost: to increase the number and quality of one-on-one interactions or one-on-few interactions between faculty and students." (p.9)

In other words, the notion behind mass customization is that we respond to the learning needs of a diverse range of students with an educational experience appropriate to who they are, where they are, and what intellectual development issues confront them.

However, although technology may return us to our roots, it does so on drastically different terms. Must this central faculty-student interaction occur in a conventional classroom? Must it happen on a campus with brick and ivy buildings? Must it be face-to-face? Must it be governed by conventional time constraints? No to all these questions, if we incorporate technology.

Is that the way to go? Sliwa offers a sure guideline as we consider an intriguing array of new options:

Rather than improving productivity through mass production, the higher education of the future should embrace new information technologies which significantly improve the quality of learning. (p.12)

Reference: First appeared in the March issue of *The Teaching Professor*, Magna Publications, as adapted from Steven Sliwa, "Re-Engineering the Learning Process with Information Technology." *Academe*, November-December 1994: 8-12.



is the bulletin of the Office of Instructional Development and Technology at Dalhousie University. It appears five times a year.

Eileen M. Herteis, M.A., Associate Editor  
Alan Wright, Ph.D., Editor  
Production: Janice MacInnis  
Office of Instructional Development & Technology  
Dalhousie University  
Halifax, Nova Scotia, Canada B3H 3J5  
Tel. (902) 494-1622 Fax (902) 494-2063  
E-Mail: Alan.Wright@Dal.Ca

