Teaching Teaching with Information Technology

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Introduction

“Being teachers yourselves, you probably appreciate that you always learn from your students, so I hope you won’t mind if I learn something too.”

From the Introduction to the first online version of the Postgraduate Diploma in Computer Education subject, Teaching with Information Technology.

This paper describes some of the more important issues arising in the course of nearly seven semesters of online teaching in two subjects: Software Environments for Learning and Teaching with Information Technology (TWIT) at the University of Melbourne.

TWIT is the one compulsory subject in the Postgraduate Diploma in Computer Education and constitutes the general theory base for the course. It is also available in the Master of Information Technology in Education program and runs in face-to-face format as well as online. Its structure is quite conventional: twelve lectures incorporating an extensive Seminar program. It has three main aspects:

• introducing teachers to as many facets of using Information and Communication Technology (ICT) in the classroom as can comfortably be accommodated;
• addressing practical problems associated with using computers in a classroom;
• providing a foundation for students’ progress into research.

Online and Face-To-Face Modes

The aim in TWIT is to provide as similar an educational experience in both online and face-to-face modes as possible, but given the realities of the Internet, many things are quite different. That is not to say either mode is superior in any one aspect. For instance, the face-to-face seminar presentations are generally better but the discussion that follows is far superior in the online version.

The online lectures are intended to have the same ‘tone and voice’ employed in the lecture room. The Seminar program is conducted through a typical Forum product and fairly simple Web page technology is employed. Online students submit all assignments as email attachments. There are marked differences in the materials students are consulting in order to write their assignments. Online students have a higher proportion of material taken from online, particularly full text databases such as ProQuest and Expanded Academic. They also use more Web references than do the face-to-face students.

TWIT is a reflective practice/research oriented subject and the need for anything more than plain Web pages is minimal, but there are some exceptions. A lecturer contributing two lectures on Constructionism, which, on-campus, were presented with numerous working examples of materials constructed by secondary students, found, when trying to engineer the material for the Web, that he simply had no idea how to translate the ideas. The Web and the classroom are very different environments.

Technical Support

Starting students in online study has not produced a great number of problems. Paper-mailed instructions for finding the Web site and logging-on are posted several weeks before a course is scheduled to begin. It is very important to include a list of potential problems, with clear instructions on who to go to if they do occur. Problems have mostly proved to relate to enrolment rather than any issues with the actual subject and were solved either by advice from me, the Faculty or the main University IT Facilities.

There remained a small number of hard-core things that were not, apparently, the province of any specific area or were rare and sufficiently complicated to defy solution, so we employed a person specifically to solve them. Having a staff member who will guarantee to stay with a student until the problem is solved and not hand it to someone else is a necessity. Our experience is that it can take up to three hours, probably spread over one or two days, to get some students online. Some factors involved are:

• The student must be by a telephone and at his or her computer.
• It is far, far easier if the student has a telephone separate from the line the computer is on, so
conversation can take place at the same time as they operate the machine.

- The staff member must be prepared to telephone students out of hours since often this is the only time they can be at their computers.

**Maintaining Student Involvement**

“It’s really spooky here.”

Comment on the subject Forum, early in semester.

Comments such as this emphasise the need for the lecturer to ‘salt’ the Forum well before any students can get to it. Even if using the Forum is not a formal requirement the lecturer needs to leave some inviting ‘hooks’ for the students to catch onto. I now always allot some marks to material to be placed on the Forum simply because it is such an important communication feature. Two-way communication between students is as important as that between lecturer and student.

It is my policy to reply to emails as soon as possible. Student feed-back is unambiguous and compelling: prompt reply to email is very important in maintaining student interest and enthusiasm. I check email on arrival at my computer and always try to check again before leaving work. A filter transfers mail to subject-specific mail-boxes, but students do not always add the necessary code to the Subject line.

I have always encouraged face-to-face students to present their Seminars in a group rather than as individuals and I continued this with onliners. Students read the suggested topics, find one that interests them, then advertise on the Forum for collaborators. Further contact and preparation of the text proceeds via email. The largest group to date has had four members and was not only successful as a collaboration, it occasioned the highest level of discussion in that year.

Ideally this is the place for Lotus Notes or similar collaborative support software. Our Faculty does not run to this but students seem to be quite happy swapping MS Word files. In at least one respect the onliners seem to have an advantage over face-to-face students. With the latter there are occasional problems with coordination and groups not meeting when scheduled. This has only happened once with onliners—apparently the facility and immediacy of email obviates most of the problems associated with a tardy partner!

The level of online discussion following a Seminar posting has risen steadily since 1999. In 2001 the highest number of replies to a Seminar was 25—fifteen from the author and ten from other students. The next two rated 10-10 and 2-7. The other seminars had only one or two replies and many of them were from the lecturer. The quality and quantity so far in 2002 Seminars show a vast improvement. The average number of posts is 15 with a high of 30. The most notable feature is the number of well researched entries. While some are ‘off the top of the head’ many have clearly taken considerable time to write, replete with copious references.

There is certainly an element relating to experience, both in setting up and stimulating discussion but also in the student’s experience with online learning. At least eleven of the 25 online students in 2002 had previously taken a subject online—three of them two subjects. A major factor seems to be example: several early well thought-out and researched postings seemed to lead directly to a raised level of discussion.

I always tried to promote ‘vigorous’ discussion as part of face-to-face Seminars. I would like to do the same thing online, but have always considered it more difficult to control. Putting out a flame war is a different proposition from moderating lecture-theatre debate. Hence, online, I usually interpose myself far earlier that I would in a face-to-face discussion and am loath to let things go very far.

**Staff Demands in Developing, Maintaining and Running a Subject**

Over the life of preparatory software it probably costs as much to maintain the system as it did to write it in the first place. The literature is full of references to the cost and effort teachers invest in developing a subject online. Equal weight must be given to its maintenance and the effort needed to communicate with students.

An emerging issue is the status of a Web site when a subject is taken over by another lecturer. Online material takes a long time to write. If a lecturer is new to a subject, or indeed, the institution, it is rarely appropriate to expect them to develop their own online version of it. The usual solution is for them to take over the existing Web site but this raises immediate and very difficult issues in Intellectual Property and will probably raise educational issues as well. The University of Melbourne’s policy is that it owns the Intellectual Property which can be used once an academic leaves a subject, but the material cannot be altered without permission of its author.

In the case of my two online subjects, I wrote one (TWIT) and ‘inherited’ the other. In the latter case I had worked with the original author for many years and had shared the face-to-face version. He trusted me with his material, something that definitely cannot be guaranteed in the general case—especially where philosophical material is involved and an academic might not want their thoughts altered at all. As it happened this subject contained a comparatively small amount of material that involved controversial opinion, and in parts where I wanted to put an alternative view I simply included the initials of the respective author.

I had no qualms in turning my TWIT material over for extension and/or modification but this subject provided different problems. The replacement was for only one semester while I took leave, the syllabus is very broad and some selection of the actual material to be covered is required within that. There is also considerable variety in the educational standpoints which can be adopted in different places and in the way the material is presented. TWIT runs in Semester 2 and the lecturer concerned had Semester 1 to think about how she would approach things (both face-to-face and online), albeit while dealing with a full Semester 1 load! The nub was, when she examined my lectures, she found she simply could not follow my rather idiosyncratic style. In the end her Web site...
consisted of the PowerPoint she used face-to-face, linked to my version of the lecture from the previous year. As a stop-gap this worked, but it is obviously far from ideal and if she had continued with the subject she would have to have developed a totally new version.

**Assessment of Online Work**

For each online subject I set up two directories—one to hold the unassessed assignments and one to hold them when assessed. On receipt of an emailed assignment I do the following:

- Move the assignment to the ‘unassessed’ directory—rename if necessary. (It usually is!)
- Check that the file (or files) open correctly. (If problems occur send an *immediate* email to the student.)
- Send an email acknowledging safe arrival.
- As soon as possible assess the assignment. For multimedia or programs I wordprocess a comment document, for essays I type comments directly into the text in a different font and colour.
- Move the document(s) to the Marked directory.
- Make a note of the mark.
- Send an email to the student (usually a reply from the original submission), with a brief note including the Grade with the appropriate document as an attachment.

For a typical assignment this represents an extra 10–20 minutes over printed submissions, plus incidental email correspondence. If an assignment is anything other than an essay, such as multimedia or a Web Site, the time to unpack, reassemble and test the result must be added.

**Conclusions**

Online learning presents interesting opportunities for lecturers to learn about a different educational medium. The only time saving is in not having to physically deliver the lecture itself. Everything else takes longer and brings its own advantages and disadvantages. Cost factors in establishing and maintaining an online subject are multiplied and complicated if there is a change in lecturer.