Learning about online learning: An approach to staff development for university teachers

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At Central Queensland University (CQU), like many other universities, there is growing interest in using the Internet to deliver course materials and support student learning, especially for students learning at a distance. However, most staff have little experience of online learning environments and many feel they lack the background knowledge to participate in the formation of online teaching policies, or the skills to design and teach their own subjects online. In an attempt to address this situation, a team from CQU's Division of Distance and Continuing Education (DDCE) developed an online course on a topic that, it was assumed, would be of significant general interest, and invited staff to enrol as online students. The intention was to provide staff with an experience which would not only allow them to evaluate the pedagogical usefulness of this form of online teaching, but also provide a valuable starting point for more specialised training for those who wanted it. This paper discusses current staff development options for online teachers and presents a model in which a first hand experience of online learning becomes the basis upon which university teachers can build to form their own ideas about a particular approach to teaching and learning online.

The technological imperative

There is growing interest among Australian universities in the use of the Internet and the World Wide Web for teaching and learning. Both benefits and problems have been identified for a number of interest groups, ranging from university administrators to academics to students themselves (see for example Gibson, 1995; Kahn, 1997; Venables, 1998).

One major benefit of online teaching often identified for the cash strapped university system is the potential for entering new markets opened up by the ability to communicate easily with students from around the world. There is also a belief that the use of new technologies for course delivery will, in itself, attract students. Furthermore, some university administrators see online course delivery as potentially cheaper than

traditional face to face and distance education. As McMahon (1997) points out, it is "significantly less expensive to produce materials electronically than in printed form", while in the longer term, the "virtual campus" may lead to savings in both real estate and teaching costs.

However, the likelihood of such savings can be disputed. For example, it could be argued that although printing costs may fall, design and development costs may rise substantially; and if time spent in the classroom is reduced, it may be more than made up for by time spent teaching and supporting students online. Also, while the cost of producing electronic files for online delivery may be less than that for printing the same materials, there is a significant extra cost to the students if they are expected to purchase the hardware, software and services necessary for accessing online materials. For institutions not previously involved with distance education, new practices and procedures required for online delivery represent additional costs. Furthermore, in the short term, the need to ensure that students without access to the Internet are not disadvantaged means that online delivery may have to run in parallel with existing modes of delivery (face to face and print based), requiring not a cut in the demand for teaching resources but a substantial increase.

From a pedagogical perspective, the efficacy of online teaching and learning is still debatable. Many educators see the advent of online education as an opportunity to implement more student centred approaches to learning. Relan and Gillani (1997) compare 'traditional instruction' (teacher centred, face to face approaches) with their definition of Web based instruction as the "application of a repertoire of cognitively oriented instructional strategies implemented within a constructivist... and collaborative environment" (p. 43). While some of the example activities they present suggest improvements to 'traditional instruction', it would seem self evident that Web based strategies have the potential to be just as inflexible and inappropriate as any other form of poor instruction. In other words it is not the technology that is important, it is how it is used by the teacher to create new experiences for the learner. Willis and Dickinson (1997) argue that rather than online instruction making teachers redundant, as some have suggested, teachers play an essential role in the success of online education. Shotsberger (1997) sees new roles for teachers in encouraging learner involvement, blending communication methods and fostering a sense of community amongst learners.

From the students' point of view, the benefits for distance (off campus) students who have access to the Internet are potentially significant. Research indicates that distance students interact mainly with university administration (enrolment etc.) and their (usually print based) study materials, and have little opportunity for interaction with academic staff, extra resources and other students (Rural Social and Economic Research Centre, 1995). Distance students tend to suffer from academic and social isolation—both significant factors contributing to withdrawal from study. The Internet can offer distance students the opportunity to interact with one another and with the university, and to access a range of study related resources electronically. Both on and off campus students who choose to study online have an opportunity to gain skills in using Internet technology which are likely to be useful to them in their professional life, and which may be in themselves marketable features of their education. One example is in business, which has seen a shift towards the use of the Internet for interpersonal communication, information retrieval and problem solving (Natesan & Smith, 1998). The development of these Internet specific skills is seen as essential preparation for business graduates.

However, as mentioned above online course delivery does involve a shift in costs from the university to the student. Students who want to study in this mode need to have access to the necessary computer hardware as well as paying often substantial fees for access to an Internet Service Provider (ISP) (Kellie & Ferguson, 1998). If students want a printed version of content delivered online, that is also a cost they have to bear. As well, whatever the strengths and failings of online pedagogies, the still evolving technology of computers, modems and ISPs means that studying online may be at times very frustrating as students encounter viruses, unstable software, incompatibility problems, and slow access times. These kinds of difficulties may effectively counter the flexibility provided by online delivery.

These are just some of the issues faced by university teachers as they contemplate the use of online technologies in their own teaching programs and participate in policy discussions in the wider university context. This paper presents an approach to staff development which allows teachers to develop their own understanding so that they can participate in the discussion of the pedagogical, technical and resource issues related to online teaching and learning that is currently under way in many of our educational institutions.

Online expertise among academic staff: The current situation

Despite the many unresolved issues surrounding the use of online technologies in university teaching, more and more universities are offering subjects and courses online. However, such offerings have tended to be piecemeal and idiosyncratic. Online teaching has been the province of individual academics with the interest, energy and resources to develop their own materials for the Internet. These people have been path finders, experimenting in their different disciplines with all kinds of innovative pedagogies (see for example Corderoy, 1998 and Ottmann & Tomek, 1998, the proceedings of recent ASCILITE and Ed-Media conferences, which contain reports of many such innovations). But while these individuals have developed valuable skills and experience, the fact that they tend to work in isolation means that there is little transference of their expertise to colleagues. If they do try to involve their colleagues, their levels of expertise may discourage other staff members who may be alienated by the language of online technologies and feel comparatively unskilled.

Governments and universities have provided funding or other kinds of support for team based projects aimed at developing units or courses online. While such projects are beneficial for those involved, the expertise developed does not tend to flow on to those not directly involved in such projects. The result is that while there are pockets of expertise in very specific areas, for the majority of teaching staff, online teaching and learning goes on very much at the periphery of their daily research and teaching activities.

Because online teaching and learning is a relatively new phenomenon, most academic staff have little or no personal experience either as online learners or teachers. For those unfamiliar with the technology, the dominance of computer jargon in the discourse of online learning is doubly distancing, on the one hand creating a sense of inadequacy or anxiety and on the other obscuring the connections between their existing teaching practices and teaching using the Internet. Lack of familiarity with online teaching and learning and the current media hype about the Internet may also cause teachers to be sceptical of the educational value of new technologies. Furthermore, as workloads increase and fewer resources are available, becoming conversant with a new technology may be a low priority.

These barriers have serious consequences for universities: academic staff with valuable experience and expertise in university teaching and learning are not participating in discussions and decision making about new delivery methods, and their skills and experience are not being carried over into their own online teaching and learning projects. Not only are they being disenfranchised in terms of their input into online policies and practices at the university level but the university community suffers from the loss of their expertise.

Opportunities for staff development

To date, staff development opportunities in the area of online teaching have been limited.

Most universities offer Hypertext Markup Language (HTML) training courses or workshops which tend to focus on the development of Web materials, usually without consideration of the learning context and instructional design. For many teaching staff such training is inappropriate because they lack the technical skills or access, teaching opportunities or time to take immediate advantage of their new knowledge, and it quickly becomes lost through lack of application. A preliminary study of CQU teachers and students suggests that technical knowledge is only a part of what teachers need to know—teaching and interaction strategies are equally important (Bennett, 1998). Furthermore, moves towards team based models for online development (as promoted in CQU's Exemplar program (Edwards, 1998)), improved text to HTML converters and user friendly class management software reduce the need for teaching staff to spend time learning HTML.

User support groups, such as CQU's Web Forum, have emerged at many universities. Such groups provide 'communities of practice' which may support sharing of knowledge and the spread of innovation (Martin, 1997). While very useful for those already utilising online technologies in their teaching, user groups tend to focus on the needs of current practitioners and, despite the best efforts of those involved, often fail to attract less experienced Web users.

Clearly, there is a need for appropriately targeted staff development programs which meet the needs of teachers who cannot or do not wish to participate in existing programs. This suggests that a particular kind of introduction is required—one that increases an awareness of teaching and learning strategies, provides the background knowledge and develops

confidence in discussing issues, one that focuses on the teacher rather than the technology. Such a model corresponds to the first three stages in learning a new technology identified by Russell (1995) in a study of new email users: (1) awareness; (2) learning the process; and (3) understanding and application of the process.

Successful staff development programs should empower academics to participate in discussions about online teaching and learning and to get involved in online projects in their own disciplines. Such programs must give academics the kind of experience of online learning that will enable them to see beyond the jargon and make connections with their own experience and knowledge as university teachers. As teachers, academics need to become aware of the possibilities of online learning so that they can begin to conceive ways to use the technology in their own contexts.

Rather than presenting online learning as an entirely new discipline, informed by technology rather than pedagogy, in which academics are reduced to the status of novices, staff development should focus on enabling academics to connect the use of new technology to their own teaching experiences.

An online course at CQU

In late 1996, the DDCE Online Learning project was initiated. The aim of this project was to provide staff with an opportunity to discover the nature of online learning for themselves. A small team developed and delivered a short Web based course in which staff (both academic and general) could enrol and learn about online learning from a student's perspective. Rather than presenting a course about Web page development or online teaching and learning, the chosen field of study was history, the particular topic being the Irish Potato Famine. The rationale for this approach was that such a course would be both intellectually and emotionally engaging and so maintain the attention and motivation of the participants. It was also a topic which, it was assumed, few enrollees would have prior in depth knowledge about—so everyone would be starting at the same level. The course itself consisted of six lessons which utilised a variety of media, and incorporated online assessment activities which not only made use of resources available on the Web but also explored the new assessment opportunities offered by online communication. A full description of the development of this course can be found in Macpherson, Bennett and Priest (1997), and in

Macpherson (1997). Introductory information about the course itself can be found at http://www.online.ddce.cqu.edu.au/weststuff/info.htm or http://www.online.ddce.cqu.edu.au/west/default.html

Early in the project it was decided to use an existing, off the shelf software package to assist with the delivery and administration of the course. The package chosen, WEST (Web Educational Support Tools), was, coincidentally, an Irish product. (WEST has subsequently evolved into a product known as TopClass, and the company is now known as WBT Systems.) The WEST software provided us with a number of useful tools including a framework for delivering course materials, an electronic message system, a noticeboard to which the tutor could post class announcements, a discussion list to which the tutor and students could contribute, and the electronic submission and review of assignments. While WEST presented some design limitations, we found it easy to set up and manage and it proved to be stable and reliable.

By April 1997 the research, design and development of the course were complete and it was ready to deliver. CQU staff were invited to enrol and over the next two months we ran a series of 10 day courses which attracted 46 enrolments, with participants from various faculties and CQU campuses. A tutor who responded to student queries and reviewed assessment activities supported each 'class' of up to eight students. The tutors were drawn from both the development team and the instructional design staff of DDCE. This provided an additional opportunity for staff development for our own designers who were able to become more familiar with the demands of an online course.

Since mid 1997, the course has also been offered to four groups (with a total of 35 enrolments) external to CQU with participants located in Australia and overseas. It is interesting to note that the only modification required for these classes was the extension of the course period from ten days to two weeks to allow for international and national time differences.

Course evaluation

We asked all those who participated in the Irish Potato Famine course to complete an evaluation survey (see Appendix) in which they ranked various features of the course and commented on the best and worst aspects, as well as identifying positive and negative features. Twenty-

eight evaluation forms were returned. This response rate reflects a return rate of approximately 90% of those who completed the course. We also received feedback that 'students' had relayed directly to their tutors during the course.

The majority of 'students' rated the quality of the design, overall effectiveness and implementation as either "excellent" (the highest possible rating) or "very good" (the next best possible rating) (totals of 22, 26 and 19 respectively). In particular, participants identified as a clear advantage of the WEST system the ability to communicate with their tutor and to access the noticeboard and discussion list. This provided human contact and so reduced the sense of isolation that might otherwise have occurred.

The comments of participants were varied, but the overall response to the course experience was overwhelmingly positive. We were surprised by the number of respondents who specified that learning about the Irish potato famine was the best thing about the course. Many had spent additional time researching assignments and using the Web to find out about their own Irish or Scottish family history. They testified (sometimes indirectly) to having had a powerful learning experience, and this in itself may have validated the use of the Internet in teaching and learning for them. Many respondents felt that through participating the course they had developed a greater familiarity with the Web (particularly with the use of search engines and the possibilities of Web based communication) and formed ideas for their own use of the Internet as a teaching resource. Some found that having first hand experience of an online course was motivating in itself. For instance, one respondent wrote: "I will be able to use what I have learned here in my teaching practice, and [it] has 'fired me up' to design a similar package for the students."

The negative features of the course experience were largely related to the limitations of the technology. Many respondents experienced some frustration in trying to connect to the site via a modem, but this was in itself a valuable learning experience for potential online teachers, giving them insight into the difficulties their own online students might face. As one respondent put it, it was useful to learn "what it is like to be a student suffering through an online course". Many also found those assignment activities which required them to search for information on the World Wide Web time consuming and frustrating, but this too was valuable

experience for them, helping them to form a more accurate picture of the strengths and drawbacks of using the Internet for research. As one respondent commented, a strength of the course was "learning what there is and isn't on the Web—that although there is a ton of material out there you have to be very discriminat[ing] in its use".

When individual 'students' ran into difficulties with the course it was in some ways more instructive for them as potential online course designers and teachers than when things went smoothly. They were alerted to the need for careful design and the experience raised important questions about both the technology and the pedagogy. For example, on one occasion when an assignment was accidentally lost in cyberspace the 'student' commented that he had got caught up with the technology and had neglected to take the simple precaution of keeping a copy of his submission for himself.

The survey also showed that the rate of access to the multimedia components of the course—Shockwave animations and audio files—was quite low (accessed by only 10 participants). It was clear that the majority of participants were either not interested in these files, unable to configure their browsers for them, or unwilling to wait for them to download and play. This was a challenge to our original assumption that multimedia components were worth the effort of including.

Overall, the responses to the initial evaluation indicated to us that the opportunity to study online had enabled staff to develop their own ideas about the value of this option for delivery and support. Even the inevitable technical problems were a useful reminder of the imperfections of the medium. One participant volunteered: "It has really opened my eyes to online learning, and reinforced my opinion that we have to be very careful developing material to be delivered in this way".

As well as the course 'students', the staff in DDCE who had produced and tutored in the course also reported that the project had provided valuable staff development. Those involved in its production developed a methodology for design and development which will form a basis for future online work. Those involved in tutoring gained valuable experience in teaching by way of the Internet. Small group discussions were held with all who tutored in the course in which tutors reported that they had been made aware of important facets of online teaching, in particular such things as student expectations of immediate feedback and

the provision of technical assistance. One interesting feature of this mode of teaching was that tutors felt that there was no difference between on and off campus 'students' as all communication with students was conducted through either email or telephone.

Longer term effects

One year after the course was first offered, we asked our CQU based 'students' to participate in a follow up study on the long term value of the Irish Potato Famine course for them. We received nine responses from a group of 16 who had originally provided feedback and who were still at the university. Of those, all but two indicated that they had been involved in some form of online teaching and learning during the past year. The kinds of projects they had been involved in ranged from activities such as setting up an electronic reserve in the library, to using IRC (Internet Relay Chat) between campuses, to lecturing about online learning, as well as either developing an online course themselves or enrolling in other online courses as a student. Despite this diversity, all of those who responded indicated that the Irish Potato Famine course had given them the "skills or background" they needed to get involved in such projects. Respondents specified that the course had been "motivational" for them, stimulating their enthusiasm for the medium and their desire to get involved with online projects. They also commented that as their first Web based learning experience, it gave them an idea of both the possibilities and the limitations of online teaching and learning.

Perhaps even more significantly, all but one respondent indicated that they had been involved in discussions with colleagues about online teaching and learning since completing the course and that their involvement in the Irish Potato Famine course had given them the "background knowledge" they needed to participate in such discussions.

In summary, a range of positive outcomes has arisen from developing the Irish Potato Famine course. Staff who enrolled in the course report an increased awareness and understanding of the issues surrounding online learning and an increased capacity to be involved in such projects.

How could we improve the staff development process?

Discussions with course participants, tutors and developers have suggested a number of potential improvements to the course to enhance its effectiveness as a staff development tool.

One is to provide further opportunity to discuss the course itself, as distinct from the discussions of the content which arise as 'students' progress through the study materials and activities. This would allow participants to act at a meta level and, by sharing their reflections about online learning, create a richer experience.

One option would be to provide a discussion 'space' or list dedicated to reflections on the teaching and learning aspects of the course which could be used while the course is in progress. This would have the benefit of allowing participants to make comments and observations while their experiences are fresh in their minds, although it could also prove to be an undesirable distraction from the learning environment. Another option would be to invite discussion and reflection once the course period has finished. This would allow participants to concentrate on the course requirements before providing feedback on the course delivery medium. Of course, where groups of participants are in the same physical location these discussions could occur face to face.

Another possibility is to provide opportunities for interested course 'graduates' to act as tutors for subsequent groups, allowing them to experience the course from a tutor's perspective.

Increased background knowledge and personal confidence gained through participation in the course may serve as an introduction to other training options, such as HTML courses, project work and user groups, thereby making these activities more effective. Another potential application for the course is as a precursor to planning for an online project or policy discussions.

Finally, work with one of CQU's faculties suggests the potential for developing a follow on course (based on what has been learnt from the Irish Potato Famine course experience) that introduces staff to current research and instructional strategies for online teaching and assists them in the preparation of their own online teaching and learning plan.

Conclusion

As an introductory staff development exercise, we believe that the Irish Potato Famine course has been successful in achieving its original aims of increasing course participants' knowledge and awareness of online teaching and learning.

The course provided a genuine learning context, allowing staff to experience online learning as a student would. The provision of tutor support added to the authenticity of the experience, distinguishing this course from many other online courses available. Participation required only minimal computer skills and technical support was available through email or telephone.

There was a further benefit for staff of the Division of Distance and Continuing Education who developed the course materials and acted as tutors for the classes. Those involved developed an understanding not only of online instructional design strategies and the mechanics of assembling materials, but also of the role of the author in researching the content, the teacher in supporting the students and the administrative framework required.

The success of the Irish Potato Famine course as a preliminary staff development tool suggests that for academic staff with little experience of teaching and learning using the Internet, learning about online learning should begin at the beginning—with a hands on experience of an online course. Participating in such a course and having the opportunity to reflect on and critically appraise it enables staff to draw upon their own teaching knowledge and experience in face to face and distance education modes and make connections to the new medium. This experience can then become the basis for subsequent staff development programs focusing on technological or pedagogical issues specific to individual contexts.

Acknowledgments

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Appendix

The Irish Potato Famine: Course Evaluation Form

If you have completed the DDCE on-line course on the Irish Potato Famine then the design team would be most grateful if you would spend a short time completing the following form.

Thank you for your input into our evaluation process.

Please rate each of the following aspects of the course using the scale:

5 = excellent
4 = very good
3 = good
2 = satisfactory
1 = unsatisfactory

Question 1
The effectiveness of the interaction process with your tutor. Rating:

Question 2
The value of the visits to other sites on the Web as part of the teaching and learning process. Rating:

Question 3
The value of the assessment tasks as aids to your learning. Rating:

Question 4
The value of the audio files as aids to your learning. Rating:

Question 5
The ease of use of the facilities offered by the software environment (e.g. e-mail, movement between lessons, reading noticeboard, etc.). Rating:

Question 6
The helpfulness of the course in learning about the possibilities of on-line teaching and learning. Rating:

Question 7
The overall success of the course in teaching you about the Irish Potato Famine.
Rating:

Question 8
The overall quality of the course design. Rating:

Question 9
The overall quality of the implementation of the course. Rating:

Question 10
What was the best part of this course for you?

Question 11
What were other positive aspects of the course that you feel are worth
commenting on?

Question 12
What was the worst part of the course for you?

Question 13
What were other negative aspects of the course that you feel are worth
commenting on?

Question 14
What other comments would you like to make about any aspect of the course?

Thank you for your comments.

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