

## USING THE WORLD WIDE WEB IN DISTANCE EDUCATION PROGRAMS IN AUSTRALIA

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### **Electronic Environments in Distance and Open Learning in Australia**

Throughout Australia, the availability of a comprehensive telecommunications infrastructure and the deregulation of that industry, together with the growing ubiquity of more powerful microcomputers and modems in Australian homes (ABS 1996), has created a context within which the use of the internet in teaching and learning in higher education in general, and distance education and open learning in particular, is increasing dramatically. The speed of adoption of technology relegates arguments regarding the importance of the reasons for this adoption (e.g. pedagogic effectiveness or institutional ego), to irrelevance.

The use of eMail, ftp facilities, video/audio conferencing, proprietary internet/intranet software (e.g. First Class, CoSy and various Lotus products) and the world wide web are portrayed as providing flexible and easily managed options for so called 'new paradigms'. The rhetoric asserts that this will empower lecturers to develop new educational materials and experiences for and in conjunction with learners, without the need for centralised support and co-ordination. The uncritical acceptance of such an 'empowerment argument' (and the cost savings perceived by management and government to accrue from it) has seen the demise or devolution of a number of centralised distance and open learning units within Australian universities. This paper, through a case study of Curtin Learning Link (CLL), evidences the possibilities of the co-existence of centralised professional support and the empowered 'amateur/enthusiast'. Our work with students and staff in this area, has lead us to believe that there is the real possibility that, as the technology becomes more sophisticated, the 'amateur/enthusiast' will become relatively de-skilled and more reliant on professional support to produce and maintain a quality and (in the increasingly global education market) competitive learning environment.

### **Computer Conferencing Learning Contexts**

The use of the web and Computer Mediated Communication (CMC) as a teaching learning tool is now well documented (see for example Berge and Collins 1995). Similarly, the issue of the neutrality or otherwise of technologies in general and computers in particular has been subject to a deal of debate (for an example of the range of research in this and the related area of tele-education, see the 'no significant difference' web site <http://tenb.mta.ca/phenom/phenom.html>).

Schwan (1997) also argues that CMC is not a neutral transmitter of information because of the influence of a myriad of factors that impact on the teaching learning process. For example, the large amount of information that can be presented simultaneously to a large audience of participants makes it a less controlled environment. He goes on to emphasise that, particularly with respect to asynchronous discussions, both tutors and students can encounter difficulties in following the various threads. In fact, a far more sophisticated understanding of the discussion is needed than for the linear face-to-face tutorial context. Students and tutors require skills to match the new environments and tutors need to be provided with efficiency tools to support their work both in teaching and assessment. In spite of this, our students identify communication opportunities as providing the greatest benefits in the long term.

Kaye (1990:288) summarises the strengths of CMC contexts: “

- the convenience of an asynchronous communication mode, which liberates users from both time and space constraints;

- its value as a medium of written communication, within a system in which students are graded essentially on the quality of their written work;
- the enhanced levels of interactivity between and amongst students, tutors, course developers, and other members of a widely dispersed learning community; and
- the reduction of the isolation felt by many distance learners and the potential of CMC for collaborative learning.”

Burge (1994:30) in her study of how students learned using CMC, identified two key instructors’: “

- discussion management: providing some kind of structure, pacing and focusing the class discussions, providing time for thinking and cognitive space for creativity and some self direction, and reducing negative conditions, such as censure of others’ remarks or unhelpful controls or interference; and
- contribution: giving fast and relevant technical help, sending timely and individualise content-related messages and feedback with summaries of discussion and guidance about resources and offering affective support.”

### **Conceptual design**

This paper does not focus on the technical issues of CLL which are dealt with elsewhere (Boyd *et al.* 1996). However, it is necessary to identify those relevant technical design. These are:

- the need for a transparent interface;
- the need for the site to be fully accessible to students with minimal levels of web expertise and hardware/software;
- a visual representation of the discussion (threading), follow-up and links to provide clues to assist students to follow the discussion; and
- the ability to evaluate the quantity of students’ participation.

Pure technical and graphic design while important in motivating staff and students, were not the starting point for CLL design. One of the major problems apparent in teaching and learning web sites, is that many developers confuse information provision with the process of teaching and learning. The premises on which CLL was designed are that, good practice:

- encourages contacts between students and faculty
- develops reciprocity and co-operation among students
- uses active learning techniques
- gives prompt feedback
- emphasises time on task
- communicates high expectations
- respects the diverse talents and ways of learning.

Chickering and Ehrman (1996)

### **Curtin Learning Link - A Case Study**

Curtin Learning Link (<http://www.curtin.edu.au/learn/>) (Illustration 1) has been designed as a web based electronic environment for distance education and open learning students, through which course materials can be accessed and student communication with other students and staff can be facilitated (Herrmann *et al* 1996). Anecdotal evidence from student surveys and interviews supports this thinking, with students also responding positively to a university identity as opposed to entering a number of disparate unit sites.



(<http://www.curtin.edu.au/learn>)

Illustration 1

The CLL site also offers a range of generic support services designed to meet perceived distance and open learning student needs and administrative requirements (Table 1) and is available to all students whether or not their particular unit(s) have a web component.

<p>Library Inquiries, Catalogue search, books or copying, past exam papers</p> <p>Examination inquiries and results</p> <p>Disability inquiries and support</p> <p>Assignment turn around, Service Concerns, Mail Distance Education.</p> <p>Enrollment inquiries or changes</p> <p>Counseling support</p> <p>Problems with Curtin computers or the Internet</p> <p>Curtin Student Guild</p> <p>Peer Support List</p> <p>Problems with Curtin Learning Link pages</p> <p>Electronic Submission of Assignments where available</p> <p>Distance Education Handbook</p> <p>Text Book inquiries</p>
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Table 1

Student discussion options incorporated in CLL units are designed for asynchronous use, *i.e.* participants do not have to be on-line at the same time but rather providing a place where messages and information are left to be accessed at times suitable for the users; thereby allowing the students and staff to organise their involvement according to their needs and availability. These discussion groups are passive forums in that the students and tutors must choose to go to the site to interact. This is in contrast to the intrusive devices such as listserves which send the messages to the users.

Distance and open learning units/courses can be 'associated' with CLL in two ways. The first is a collaborative arrangement in conjunction with the university's centralised distance and open learning services provided through the Centre for Educational Advancement. Within this model, lecturing staff, instructional designers, coding/programming and other support staff work collaboratively in the ongoing development of the web site. There is no set pattern for this team approach; the emphasis being on site development aligned to the perceived and stated needs of the learner and lecturer. The second, allows for lecturers to develop their own site without the involvement of central support - in the manner of Renner's (1995) craftwork - and the site is then linked to CLL. These two 'models' of development provide examples of the ways in which the new technologies have impacted the distance

education process. Both can provide a range of learning environments for students: indeed, they are not mutually exclusive as is often portrayed.

The use of the web and other CMC forms has brought with it a number of assumptions not always obvious to the 'enthusiast'. A brief examination of these assumptions provides some insights into changing roles of the participants and the direction of CLL development.

### **The appropriateness of the use of new technologies in distance and open learning.**

The use of new technologies in distance and open learning is often based on a "leap of faith" (Bates, 1997:96). What appears to be a good idea is implemented and then, hopefully, evaluated. While access to hardware can place in the hands of the craft worker/enthusiast the technical facility to create learning materials/experiences, this does not guarantee that these materials/experiences will be meaningful or useful for the learner or that they automatically produce quality results and require less time and skill to operate.

An example from CLL may clarify this point. Lecturer A, whose print-based learning materials had been refined over a number of years decided to develop a web-based component for the unit. The funding which was provided was used by him to 'learn html' (hypertext markup language). While technically proficient (although a competent programmer could have completed the task in much less time), his assumption that paper-based materials would convert directly to a web-based approach begs the question of whether this is an appropriate use of the technology? Putting these materials on the web may save institutional printing budgets, but anecdotal evidence indicates students tend to print out large passages to read later, thereby transferring the printing costs to the students.

### **The nature of the multi-skilling required for the use of new technologies**

The second assumption relates to the types and level of skills required by lecturers (and learners) in using the new technologies. Asking a fundamental question - "What do lecturers and learners want to or need to achieve through their teaching-learning activities?" begins to identify what technical and pedagogical skills may be necessary. The use of the web provides an environment which can be rich in information, interaction and collaboration. However, these attributes are not equally easily achieved. The learning of an html scripting or the use of one of the many development packages, is in fact the acquisition of very low level skill in what is potentially a sophisticated environment. This is similar to the belief that possessing keyboard skills is the only requirement for being a professionally competent desk top publisher.

Although the lecturer may feel a sense of empowerment, or more accurately control, over his/her work, the inability to code more sophisticated uses of the environment in a sense de-skills with respect to the full possibilities of the medium. Often the case is that the web site is defined more by the lecturer's skill level than by the unit objectives and needs of the learners. With respect to the learners, it can be argued that in many cases, such empowerment which may flow to the lecturer does so at the expense of the students who have no choice as to what on-line skills they may wish to acquire.

Most people find it easy to master the technical skills of using eMail. However, as Schwan (1997) demonstrates the acquisition of the technical skill does not guarantee efficient use. When learners and lecturers are confronted by an asynchronous discussion, issues of lack of visual clues, complexity of threading and the management of large amounts of textual information arise. This is beside the problem of developing a communication technique which is neither informal face to face talking nor formal professional writing.

### **That all academic staff wish to multi-skill**

The response of lecturers to the availability of CLL has been mixed at best. A number of factors were recognised as affecting this; perceptions of the teaching learning process, teaching loads, content type, access to and competence with the new technologies to name a few. The changing perceptions of the 'academic' role and the increasingly pressured environment of the university mean that some lecturers see their interests as lying elsewhere and place a relatively low priority on teaching responsibilities: offers to assist in multi-skilling may be rejected.

Our experience is that few ideal types can be identified and at best many craft workers 'sub-contract' technical work and are more accurately described as cottage industry workers. The craft worker, often an 'heroic individual' or as described by Bates (1997) the 'Lone Ranger', sees no need for contribution or responsibility to, or support of the organisation. This immediately raises issues of quality control and continuity. The repository of knowledge, either formal or tacit which resides in a centralised support service, may need to be engaged in new ways to negotiate issues on behalf of students or provide the necessary continuity in the event of the lecturer suddenly or unexpectedly becoming not available to continue teaching. Without the development of 'corporate knowledge and skill' over time the organisation can become de-skilled. Equally the range and level of skills expected of the student user becomes an issue. Clearly there are so-called generic computing and internet skills, but unit sites may come to rely on idiosyncratic skills and processes unless collective standards are established and maintained.

### **The manner in which multi-skilling can be achieved**

The extremes of the industrial model and the craftworker model both fail to recognise the basic requirements of ownership, participation, knowledge and skill inherent in electronic learning environments such as Curtin Learning Link. Control is confused with ownership, efficiency with participation and assumptions are introduced about the different ways of knowing and types of knowledge. In working collaboratively, the roles of the various participants - lecturers, instructional designers, computing specialists, graphic designers and students - all contribute to, and hopefully feel ownership of, the learning environment.

Given the wide range of support which may be requested by lecturers, a range of approaches needs to be provided. For example, the role of instructional designer may need to change to provide support, project management skills, expert knowledge, evaluation expertise and reflective opportunities. By providing a range of examples of discipline based, appropriate applications of the new technologies in distance and open learning we are able to provide options from available resources and the chance for co-operation in specific and targeted staff development activities.

Students, particularly off-campus students, present a much more complex problem. Whilst on-campus students can receive skill training and support and have technical problems resolved by available staff, the student remote from campus often in isolated sites, has no such opportunities. In the initial stages of implementation of CLL, a 'help desk' facility was provided to off-campus students who presented with problems of access, hardware and software as well as lack of suitable skills and knowledge to operate in the web environment. There was a group which lacked any computer skills or knowledge at all. In effect, we were able to supply little practical support for these students. While this group is quickly disappearing, the development of increasingly sophisticated environments has ensured that there will always be students needing support. The implementation of guidelines to obviate this problem usually meets with resistance from a group who see it as reducing their empowerment. So the issue of conflict of student and lecturer 'rights' again appears.

### **Conclusion**

New technologies and their new learning environments bring opportunities to re-think current practice. One such change which has occurred in the development of Curtin Learning Link is an apparent shift in control of the distance and open learning production process from a centralised unit to the academic craft worker. Centralised units must respond in positive ways to these changes whilst ensuring the quality of the learners' experiences. Methods of managing new situations, expectations, relationships and roles are developing to meet the changes. Curtin Learning Link is one of many attempts to develop, within the context of electronic learning environments, a useable, sensitive framework to value-add to the teaching learning experience.

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