E-nabling E-learning

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ABSTRACT

A new phenomenon is e-merging, putting an "e" in front of a word is somehow mak-e-ing the product or service better. In the case of education, teaching and learning are still teaching and learning whether they are done in the classroom or online. "The mere act of putting course notes on the Internet is not interactive learning; (Young, A. Info Tech Weekly, 1997). Well developed online courses, applying good educational design methodologies, can enhance student learning and offer considerable opportunities for the students, the teachers and the institution.

Many tertiary teaching and learning institutions, to meet the increasingly diverse needs of their student body and their corporate initiatives and strategies, are being driven to embrace online teaching and learning. For many academic staff there are barriers and concerns about delivering their courses "online", fear of failure, insecurity about change, lack of strategic planing, lack of support etc. It is not only essential that adequate upskilling and technological support is available for academic staff to effectively

adopt these new methods, but also to develop their understanding and their awareness of its value.

In this paper the author will argue the merits of e-learning and will examine strategies to help and support academic staff to embrace the new delivery methods and enable them to teach online.

1.   INTRODUCTION

Many tertiary institutions are now facing increasing pressures, the most obvious of these is funding but they also include perceived competition, technology advances, the balance between teaching and research and student diversity. Increasing diversity in the computing student body brings with it "changing modes of study: more re-education, more mature students, more non-majors and more hybrid degrees and study programmes" (Daniels *et al,* 1998). Changing the way we deliver our courses is one way of meeting these pressures of increasing numbers of students, increasing demand of students while still maintaining a balance of teaching, upskilling, professional development and research.

To enable teaching staff to in some way meet the

demands of their institutions and their students by changing the way they deliver their courses, motivation, professional development, training, upskilling and ongoing support are required. "Any significant initiative aimed at changing teaching methods or the introduction of technology into teaching and learning should include effective e-moderator (teacher) support and training" (Salmon, 2000).

Online delivery of courses can enhance student learning and add value to the students learning experience.

2. WHAT IS E-LEARNING?

2.1 Some Definitions

In studying the literature concerned with online delivery of courses there are many and varied definitions of elearning, eLearning, e-learning and e-Learning. (in this paper I will use the word elearning to encompass all the different spellings). InternetTime define elearning as "eLearning is the convergence of learning and the Internet" and they go on to say "elearning is a vision of what corporate training can become" (www.internettime. com, 2001). This clearly defines elearning in the field of training (as opposed to education) with the emphasis on electronic delivery. Clear (1999) argues that "it is easy to see how the commercial model of standard product delivery largely biased towards information transmission could be misinterpreted as education."

The University of Technology, Sydney (UTS) however defines elearning as "e-learning is learning by means of advanced technologies, such as the Internet, intranet, extranet, satellite broadcast, audio/video tape, CDROM and so on. The term elearning can be used to describe a range of learning situations, including distance learning, web-based learning, virtual classrooms and more. What they all have in common is the use of communication technologies as a medium for learning" (www.education.uts. edu.au/ocourses/elearning/what/index.html, 2001). UTS have broadened the definition to take in many forms of delivery encompassing new and advanced technologies yet clearly the focus is on quality education.

The term "online" encompasses many technologies concentrating today on computer mediated communications. A report commissioned by the Evaluations and Investigations Program, Higher Education Division, Department of Education, Australia uses the term "computer-facilitated learning (CFL)" (McNaught *et al*, 2000) This term is more in line with UTS's definition and one that is more flexible in an education environment.

2.2 Online Course Development

There is a marked difference between the online delivery of a course and having a set of web based resources. In developing an online course, as with the development of any course no matter what the delivery mechanism is, there must always be an educationally sound learning environment.

Online learning is another term that is often quoted and developing a course "online" is a new endeavour for many academic staff. We also often hear that XYZ university now has all their courses "online". When investigating this further we often find that the "online course" ranges from a one web page with basic course information to a course that can be studied entirely remotely with sound pedagogy and there is obviously a big continuum in between.

To date, innovation and adoption of online course development has been mainly by enthusiastic and motivated individual staff who could foresee the advantages to the students and the advancement of technology that created a more enhanced learning environment for the student.

As a result of the work of these enthusiastic individuals and the strategic direction of the institutions who all seem to want to jump on the band wagon, their colleagues are now being encouraged, if not formally requested to offer their courses online or at least have an online presence. This demand is not only coming from their managers and the institutions but also from the students themselves. Students are more demanding and indeed much more discerning about where they choose to spend their education dollar.

The student cohort is also changing and becoming increasingly diverse. (McNaught *et al*, 2000, Daniels

et al 1998)). Many students now have access to computer technology in their home (UNITEC Corporate Research report, 2001) and are asking for the ability to access their course materials and resources from off campus locations. It is also more important to them to be able to have access to the lecturer where and when they want.

The staff who have successfully incorporated online components into their courses, cite many advantages to this method of delivery: flexible working conditions, the ability to reach new audiences, it is enjoyable, the opportunity to enhance their technology skills, the opportunity to reach a diverse student population, increased job satisfaction, ease in updating and revising courses and the ability to ensure relevance of course topics. (McKenzie *et al,* 2001).

Just how much of the course material and teaching resources should a lecturer make available online when the course is taught on-campus? This depends on the technology maturity of the lecturer and where on the online course profile elaborated below, that the lecturer feels comfortable.

3. ONLINE COURSE PROFILE

There are many different levels of online course delivery. The continuum is long with many levels in between. In an attempt to determine some of the different levels the following seven point profile has been developed.

3.1 Level 0

The first level of the Online course profile is the lack of any electronic presence of the particular course, usually due to the reluctance of the lecturer or the non necessity to have a web presence of any sort.

3.2 Level 1

The next level is a web page where students can access information about the course. This could include the course prescription, the assessment schedule, lecture and tutorial times, text books required, lecturer contact details, and other administrative issues pertaining to the course.

3.3 Level 2

At this level the lecturer has started to use interactivity and interaction with the students. While it still may not contain lecture material there may be links to resources and students will start asking questions that are answered by the lecturer for all the students to see. The notice board will be popular and information regarding the course can be posted.

3.4 Level 3

Lecture notes and/or course notes would all be available as well as access to other necessary resources, eg urls's, online text books, reference to conference proceedings. Announcements about the course would be made online. Bulleting boards may be set up but it would not be necessary for students to participate in the discussions. Virtual chat rooms could be used informally and students can share information with fellow students and the lecturer.

3.5 Level 4

It is at this level that the online course starts to take some structure and it is a requirement of the course that the students access the online component of the course. Themed discussions can be introduced and participation may be assessed. Participation in the online component of the course would be compulsory for all students. The lesson within the course would be developed for the online student.

3.6 Level 5

This level would indicate a course that can be taught almost totally online, there may still be some components that require on-campus tuition. These may be compulsory first lectures, final exams, or face to face meetings with fellow students. The lecturer at this level would be entirely comfortable with the use of the electronic environment for their teaching and familiar with the technology that they had chosen to use.

3.7 Level 6

At this level courses would be totally available online and there would be no need for any face to face meetings. Students can study anywhere, anytime and enrolment is continuous. The lecturer

is available to answer questions, direct study and oversee the discussions and direction of the course. All assessments would be submitted electronically or completed online.

4. STAGES OF STAFF DEVELOP-MENT

Clay (2000) describes four stages of development for distance educators. These can also be applied to the stages of development for educators in embracing online course preparation. (See table 2.)

4.1 Awareness

In the awareness phase the lecturers who are considering or who have been asked to put their course online or at least have an online presence, while aware that they need to do this, they are still unsure about how to go about it. They may hear or read of other staff who have developed their courses online but are probably unsure of the technology involved or the insecurity of having their course notes available electronically. When pointed out to

such staff that the material is already in the public domain as they provide hard copy of handout notes and lecture notes to students, it is still difficult to allay their fears. Somehow it seems different if the notes are online yet we must accept that the feeling is real. Help and support to learn and evaluate the technology available is also essential during the awareness stage. Staff at this level also need to have as much information available to them as possible.

4.2 Consideration

Once staff are aware of what technology is available and what support there is in place then they may contemplate the next stage of development. This is when mentors are especially valuable as they can demonstrate and support stage during the first stages of development, this may just be reaching level 3 on the online course profile table.

Introduction to the various software packages that enable course and web development, demonstrating ease of use is a helpful way to move staff from this level to the next. Also introduction to the amount, level

0	1	2	3	4	5	6
No electronic presence	Web page with course out-line Lecture times Lecturer contact information Assessment dates Student class lists	Course outline and schedules Links to resources and references made available Announcements about the course made.	Bulletin boards and virtual chat used informally All announcements made via webpages Traditional lectures and tutorials still given	Themed discussions, participation in discussions and postings assessed for final grade Lessons structured for online students	Almost available totally remotely Maybe on-campus visit for one or two lectures Maybe assessments still marked off-line	Fully remote course, can be studied anywhere anytime Assessments completed and marked online Continuous enrolment

Table 1

Online course development profile

and expectation of technical support is reassuring.

continue the development.

4.3 Implementation

After staff have made the decision to put their course online then they move to the

implementation level. This is a demanding and time consuming stage, yet it can also be very rewarding as new skills are learnt, new instructional design developed and interesting new ways of teaching students conceived. It is at this stage that staff need the most support and if possible, incentives to

4.4 Innovation

Now that the course is online, innovation can take place. As the course progresses and the staff and students begin to feel more confident changes that improve and streamline the course can be achieved. Recognition from their managers and peers makes the end of the development stage for the staff all the more worthwhile.

Lecturer Stage	Lecturer Concerns	Lecturer Needs
Awareness	How online courses are offered Why online courses are offered How online courses relate to the institutions mission	General information Opportunity to separate fact from fiction Opportunity to ask questions
Consideration	Quality of online instruction Drawbacks and benefits of online delivery Availability of assistance	Consultation with experienced staff Published research and articles Opportunity for hands-on practice
Implementation	Time Online course design Student interaction Quality standards	Coaching from other staff One-on-one intensive training and course development support Incentives Job-imbedded opportunities
Innovation	Improvement Contribution Recognition	Opportunities to assist and mentor others Recognition Ongoing training and follow-up

Table 2

Stages of academic staff development in online course preparation Adapted from Clay, M. (2000)

5.   ENABLING STRATEGIES

In order to enable elearning, institutions first need to develop clear strategic directions in regard to the delivery of courses electronically. Strong and focussed leadership with adequate support for teaching staff is essential.

5.1. Professional Development and Training

5.1.1   Common Mistakes

Too often teaching staff eager to develop their course online fall into common traps, even teaching staff who are well respected in their traditional teaching. Clay (2000) has identified "Five common mistakes of new distance Instructors". These mistakes are equally applicable to teaching staff developing their courses for online delivery. They include:

- Putting the textbook online
- Using cutting edge technology when simple measures would suffice
- Failure to develop structure and clear requirements
- Not taking the time to learn the technology
- Failure to interact with the students and follow up regularly.

Early training in the development of online teaching staff can help to highlight these common mistakes and avoid the same pitfalls as the early adopters.

5.1.2   Adequate Training

Many institutions have now standardised on one of the many online course development software tools eg Blackboard, WebCT, inhouse developed framework tools, Lotusnotes. Once the decision has been made for the institution then training programs for teaching staff need to be put into place quickly as adequate training before commencement is essential. This training, from the authors own institution's experience, is best done with small groups within schools with early adopters acting as mentors. Once courses are set up, ongoing training and support needs to be available. User groups such as the BUG (Blackboard Users Group) at UNITEC

Institute of Technology, provide opportunities for peer support in a non-threatening environment.

Training programmes such as that developed by Gilly Salmon of the Open University and described in "E-Moderating: The Key to Teaching and Learning OnLine" (Salmon, 2000) can be adopted as working examples of best practice in the training of staff to participate in online delivery of their courses.

For those teaching staff who do not feel as comfortable with the technology, training sessions on the hardware and telecommunications aspects of their online course delivery are required. This is an often missed area of the training, yet one that would clearly help many non technology literate teachers..

The third area of training that is required is that of the pedagogical requirements of offering courses online. Workshops such as "Preparing your course for online delivery" held as a pre-conference workshop at the NACCQ Conference 2001 is an excellent example of the training required to adjust the teaching to an online environment.

5.1.2.1 Training Programmes for Teaching Staff

Once teaching staff have made the commitment to embrace this new method of delivery, training programmes are an essential stage in the professional development of the staff member. Whether using integrated, parallel or distributed approach to staff development typical training programs would consist of workshop and mentoring courses for:

- teaching staff and the "online learning" staff
- new (to online learning) teaching staff and experienced (in online learning) staff
- teaching staff and instructional designers
- introduction to the technology and software.

5.1.2.2 Training Programmes for Trainers

The need for high quality staff developers is well recognised (McNaught *et al*, 2000) Training programmes for the trainers are an excellent idea and a good example of these would be the workshops run by the Teaching Learning and Technology Group held at the University of Notre Dame, Indiana, "A

Workshop for Faculty Developers and Technology Consultants on Strategies To Help Faculty Integrate Technology and Pedagogy" (Teaching Learning and Technology Group, 2001).

5.2 Adequate Technical Support

The role of the Information Technology Support Centre (ITSC) cannot be under estimated in setting up the infrastructure to enable and support online learning. The expertise and advice of the ITSC staff is required in the design and implementation of the computer networks that will be used for the online courses. Teaching staff computers may also need to be upgraded and telecommunications issues resolved.

The choice of the software tools is also a consideration for the ITSC staff to enable them to provide the hardware to support the software. They will also be involved with the purchasing and the licensing of the software, considerations that are not always forefront when making strategic decisions to be "online".

Once the infrastructure is in place and running, ongoing support is required. The inevitable "crash" of the staff computer requires immediate attention. Students sometimes experience difficulties logging on remotely and then the inability to access the software required as typical problems when accessing their online courses. To overcome the technical difficulties, both hardware and software, 24 hour help desk support is required.

5.3 Mentoring Support

One on one assistance is one of the most powerful means of developing staff confidence and expertise, yet it is not always practical as it is perceived as expensive. One example of a mentoring program that has proved successful is RMIT University, Melbourne Australia who have appointed 75 "Learning Technology Mentors" as part of its IT Alignment Program. These academic staff have time release to get involved in online course development and work with their colleagues to provide help and support. At UNITEC Institute of Technology, Auckland, several schools have appointed "Online development mentors" (eg School of Information Systems and Computing, School of Accountancy,

Law and Finance, School of Applied Management, School of Communication) similar to the RMIT model, where these staff provide training in the use of the online tools and technology and mentoring of staff to develop their own skills and expertise.

5.4 Institutional and Administrative Support

To ensure that teaching staff who are contemplating developing their courses for online delivery are fully informed, the institution needs to formulate and articulate the vision of online course development and electronic delivery. Brick, d'Arbon and Robson (1998) report that online delivery can "stimulate more individualised teaching and learning by the staff and students … and … spawn new ways of learning previously unobtainable".

This must excite innovative teachers who are continuously looking for ways to improve their teaching practice and stimulate their students learning.

Once the decision to embrace and deliver courses online is made, institutions need to build a comprehensive infrastructure to enhance and provide ongoing support for their online teaching staff and students. This needs to include an enhanced network and telecommunications strategy, a software and hardware upgrade policy, and a dedication to the administrative support and the ongoing professional development needs of the teaching staff, articulated in enlightened policies.

5.5 Reward Systems

If developing online courses and resources is a strategic priority for an institution then it is essential that teaching staff are adequately compensated for achieving the institution's strategic priorities and objectives. Rewards can come in different ways, they can be individual rewards or team rewards and also vary from individual to individual. Some institutions have a bonus system for teaching staff and one way of compensation is to set objectives with the staff member and pay a bonus when the objectives are met.

Another option to reward staff is to offer international conference attendance. This method of reward is twofold as the staff member is able to meet and

hear international experts and also make personal contacts that are beneficial to themselves personally and also to the institution.

Another successful strategy is to offer time release to staff who are keen and ready to develop their teaching online. This can be an initiative that is funded within schools, maybe paid for from entrepreneurial funds or research grants. Other reward systems that have worked successfully are the offer of special or "cutting edge" computers and other technology to those staff who are developing courses.

Each reward is really individual and what is an incentive to one staff member may not be to another. Determining in advance what incentives are being offered is the best way to encourage, support and recognise the superior performance of teaching staff.

6.   CONCLUSION

Teaching is still teaching whether it is done online or at the front of a classroom. In this age of rapidly developing technology, students are demanding faster better access to the material that will help them learn. "Students are able to manage their learning more effectively with resources and systematic information at their fingertips." (McNaught *et al,* 2000). Tertiary institutions that are cognisant of this requirement need to offer this service to their students. The students of the future will be the "play station generation" they will want learning that is "Just in time, just for me, just a keystroke, just for now" (Spender, 1999, as quoted in Salmon, 2000).

"Higher education has begun an irreversible transformation - with information technology as the catalyst. New technology options arrive at an accelerating and confusing pace. The flood of information that confronts us daily hinders our best efforts to keep up with it." (Teaching Learning and Technology Group, 2001) Adequate training programs for academic staff and adequate support for the technology are the keys to success in this new and constantly developing environment.

Some tertiary institutions may choose not to offer any courses online, these will be the few elite that can stand by with other major unique selling points. However to continue to provide high quality education to an increasingly demanding and technologically literate society, tertiary institutions that wish to maintain a place in the education of our future generations must embrace online delivery of their courses now. Wherever, whenever and however a course is delivered a teacher will always need to

be there. Recognition, training and support of the teacher is therefore of paramount importance.

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