

# On-Line Delivery in Higher Education: What Questions Should We Be Asking?

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## **Abstract**

*The pressure to 'marketise' the tertiary education sector coupled with technological advances make it possible to communicate in an increasingly removed fashion. Universities have moved to an increased use of technology and on-line publishing platforms. However, the effectiveness of this form of education will in part be dependent on the ability of students to understand and access the technology available. From the educators perspective an understanding of the technology, together with an appreciation of students' competency in using technology is vital. Such a change in the method of delivery will inevitably impact upon curriculum development. This paper will describe the establishment of a program to implement web-supported teaching, and the experience of lecturers and students in doing so. In addition, it introduces some educational issues to be considered in the establishment of such a program and looks at the applicability of certain models of teaching and learning.*

## **Keywords**

*Online learning, Teaching, Curriculum development*

## **Introduction**

The push to commercialise or 'marketise' the education sector is now well established, as is the imperative to minimise costs. This has resulted in the search for ever more cost efficient means of delivery. In this context, electronic delivery is viewed positively. 'The virtual university is becoming a reality with increasing competition in the race to deliver the most high technology learning materials'. (Brennan & Bennington 1997) This paper is a descriptive account of the experiences of a regional campus in implementing a web-based platform as an adjunct to the more traditional forms of teaching. Firstly, it recounts the experiences of a particular group of lecturers and students in the establishment of a program to implement web-supported teaching. It then canvasses some of the broad educational issues underlying the decision to 'go on-line', and the questions which flow from this decision.

### **The Introduction of On-line Learning: Our experience**

The School of Business at La Trobe University's Albury/Wodonga Campus commenced a program to introduce a web-based platform in the delivery of its courses. This system was not intended to replace the more traditional methods of teaching, but rather, to complement them. Students were given access to lecture notes, additional reading, links to relevant web sites in addition to information about the course, tutorial questions and answers and quizzes. The aims in incorporating the technology into an established program were:

- To enhance students' development of a range of generic skills.
- To add to the inventory of teaching and learning methods, and augment current procedures for incorporating computer technology into the curriculum.
- To broaden the content of the course.
- To utilise conference formats and encourage students to work as peer groups.
- To allow for mass distribution of information avoiding repetitive questions thus providing greater free time for the educator to focus on activities which develop the students' deeper learning and generic skills.
- To provide a flexible learning environment.
- To provide greater time flexibility for students and staff.

The paper will now address the experience of introducing on-line learning from the students' and lecturers' perspectives.

#### **Students**

It appears that not all students made full use of the materials, and a survey (McGrath, 1999) has shown that 59% of these students reported having low confidence levels in relation to electronic media. Ryan (1998) identified the students' diversity of experience in the use and understanding of technology, as a major concern. This presents a challenge for university educators who wish to utilise this technology, as students enter tertiary education with vastly differing skills and knowledge in relation to the technology. Moreover, the effectiveness of technology can only be maximised if all parties to the arrangement have adequate access. Problems exist in accessing technology in terms of cost, slow access times and slow uptake rates, particularly in some regional areas of Victoria. Web based programs incorporating text, video, animation and sound are now available, but are only accessible provided users have procured the necessary technology. Respondents to a recent survey of La Trobe University students indicated that only 30% of first year students had off-campus access to the World Wide Web, let alone the appropriate software. (McGrath, 1999)

Students participating in focus group interviews have also identified that they are not quite sure of how to utilise all avenues available on the web-based package. Students tend to focus on the use of the web-based package as an aid to the collection of data and information, despite the facility to use the package in a much more interactive way. The students' focus to date has been to gain an overview of the material presented in lectures, treating the time on-line as another form of text based learning. This may simply be a matter of the students' relative unfamiliarity with the use of interactive technology, but if the system is to be used effectively, students must be familiar with its capabilities. This implies that students' entry skills must be measured and taken into consideration in the course design.

A study of the on-line provision of one subject at La Trobe University's Bundoora Campus conducted by Burley and McNaught (1997) concluded that students enjoyed the flexibility of being able to access the subject materials at any time. However, there was not overwhelming enthusiasm for the on-line system compared to the conventional delivery of undergraduate subjects. The students appeared to require more support from the lecturer than was anticipated in the design phase. As a result more emphasis was placed on the tutorial. The authors concluded that in on-line courses it was necessary to 'retain the high degree of interaction and clarification that face-to-face tutorials provide' (Burley & McNaught, 1997).

## **Lecturers**

After an initial trial by two lecturers, all staff within the School of Business Albury/Wodonga Campus agreed that first year subjects would be on-line by 1999. The IT lecturer conducted training sessions on the use of the platform late in 1998, however, most lecturers were not using the system until February 1999. This time lag, coupled with the lack of hands-on experience of some of the staff concerned proved problematic. Lecturers were divided into groups of two or three which included one relatively more experienced person. These groups were intended to provide assistance and support for lecturers without overburdening the IT lecturer, and in this respect the system worked quite well. All subjects were on-line by the start of the semester, but many of the 'finer points' of the platform were not fully understood by the lecturers and it became a 'learn as you go' approach.

Concentration had, to this stage, been upon the mechanics of the platform, rather than on the pedagogical considerations in ensuring its most effective use. Early in 2000, lecturers were given the opportunity to attend a one-day session which addressed some of these considerations. During this session it was clearly identified that individual lecturers have utilised the platform in quite different ways. Whilst some have simply used it as a replacement for text based material, others have completely reviewed the traditional format, curriculum and presentation of subjects placed on the web. A closer look at the development of subject material over the web identified that this mode of delivery was more appropriate to some disciplines than others. Areas considered less suited were in the disciplines of management communication and law where a strong emphasis was on discussion generated during face to face sessions. However, across all subjects it was recognised that students were utilising e-mail to contact lecturers to a greater extent than had been the case in the past. A spin off advantage to students from utilising on-line delivery was an increased skill level in computer and Internet use.

The issue of resourcing the introduction of this platform has been a major concern to lecturers. Three areas of increased workload were identified in discussions with lecturers using on-line delivery.

1. Additional time to learn the on-line system's pedagogical options and technical features.
2. Time to undertake subject planning, design and material development and set up on the system.

3. Time taken in on-going monitoring, fine tuning, technical trouble-shooting and the increased asynchronous communication.

Lecturers have identified that the time actually spent in administering and preparing web-sites was far greater than anticipated. In addition, the time taken varied with the technological competency of the lecturer. This has some implications for further training and professional development. In the rush to get subjects on line, the temptation is to merely substitute the same material as has been used in the past without proper consideration for the optimum use of the resources at hand.

Course designers need to think critically and plan for the addition of the technology to their teaching repertoire. In this respect, the introduction of new technology as an adjunct to the traditional teaching model is a consideration that impacts upon curriculum design. The importance of the method or instructional strategies is recognised in many theories of curriculum development. (Marsh, 1992) This presents problems for university staff, some of whom have no teaching qualifications or training. Typically, in the current university climate, instructional design support is limited and lecturers have little choice in using unfamiliar and perhaps unsuitable technology.

The danger in the rapid introduction of electronic delivery is that the focus may be on the delivery medium, rather than on the quality of the learning experience. University teachers need to be aware of the model of teaching and learning that they implicitly or explicitly adopt, and critically consider the role of the technology chosen in both the development of curricula and the delivery of the material. This requires educators who understand the capabilities of the technology to be used, who are trained in its use, and who are accurately informed about the skill level of their students.

### **General Educational Considerations in the Design and Delivery of Electronic Course Material**

Our experience in implementing on-line delivery at undergraduate level has highlighted two general questions that relate to the educational experience. Firstly, what is the effect of on-line delivery on communication between lecturers and students? Secondly, does on-line delivery enhance what we already do?

***What is the effect of on-line delivery on communication between lecturers and students?***

While students appear to be demanding more technology in higher education, they are not demanding this as a substitute for face to face teaching. It appears that students want location independent resources in combination with personal contact. (Jones & Jones, 1996). From an educational perspective, questions arise as to the appropriate mix of technology assisted learning on one hand and the perceived benefits of personal contact in the teaching-learning relationship on the other. It appears that new technology offers great potential to improve teaching and learning and to aid the communication process, but the precise role of face to face communication in learning must be understood. Clulow and Brennan (1996) found that a major contributor to success rates for business students enrolled in a tertiary program was the amount of interpersonal contact. It is established that interaction between teacher and learner and feedback from the teacher is a core element of learning. (Laurillard, 1993) It is suggested by Laurillard (1993) that there are three aspects to successful communication - that it is interactive, adaptive and reflective. While there are many problems with the traditional lecture, there are also many advantages in the face-to-face interaction which occurs despite the limitations of large class sizes. The lecturer can interpret students' verbal and non-verbal cues, make eye contact, ask questions, rephrase, repeat. In other words, face-to-face teaching is able to be interactive, adaptive and reflective. The available technology does not currently match this adaptability and potential for effective communication.

***Does on-line delivery enhance what we already do?***

In the quest to educate students in the university system, most teaching at undergraduate level is still dominated by the lecture/tutorial/practical mode of instruction. This mode of instruction may be at odds with the constructivist approach, which sees the student as an active participant in the process. The learner constructs his/her own picture of the world from personal experience (National Board of Education and Training, 1995, p.84). The emphasis is on the individual learner's construction of understanding and meaning. In a university the emphasis under such an approach will be on developing skills in the learner to construct patterns of meaning and significance using intellectual or theoretical frameworks. The learner will be able to make sense of a wide range of information. As Laurillard (1993) points out, the teacher is an important mediator in the

process of constructivist academic learning. The teacher, particularly in undergraduate programs is partly responsible for providing experiences from which students can construct their own meaning. It is to be anticipated that increasingly sophisticated technology will be able to support this constructivist approach to teaching and learning more effectively in the future.

We intend to direct future examinations of on-line learning in our context towards the following questions. These questions are based on the 'seven principles of good practice in higher education'. (Chickering and Ehrmann 1991) We are interested in establishing the extent to which, and the methods by which, on-line learning is able to:

- Encourage student- lecturer contact?
- Encourage co-operation between students?
- Encourage active learning?
- Provide prompt feedback?
- Emphasise time on task?
- Communicate high expectations?
- Respect different talents and styles of learning?

The utilisation of publishing platforms provides the potential to address each of these points in novel ways so that the student experience is enriched. Our experience has shown that it is important that the technology is used to enhance what we already do, rather than using it to simply replicate current practice. "Clicking on icons no more of itself stimulates learning than entering a library." (Ryan, 1998). It is also problematic that not all lecturers have the knowledge of and skill in the use of such media.

The issue of cost is pertinent, as research has shown that technology solutions may add to rather than decrease costs of production delivery. (Cunningham, 1998) The move to technology represents a high capital investment in both technology assets and professional time to develop and prepare courses to effectively incorporate this new technology. Once developed, the cost per student could be significantly less. Further research is required into these cost factors, including the ongoing cost of ensuring information is kept up to date, and the hidden cost of monitoring open forums.

## **Conclusion**

This paper has undoubtedly raised more questions than provided answers. We see the definition of the 'right' questions as crucial to the successful implementation and continuation of on-line delivery. This must be seen as

a challenge to educators, in addition to the many other challenges we face in order to simply 'keep up' with technological developments. The nature and capabilities of the available technology will effect communication in the educational context, and as such are vital considerations in curriculum design. Educators may need to alter their role in this new learning environment, so that they become 'more of a coach in a learning activity than a main source of learning'. (Schou, 1998)

It seems that a real danger in the rapid introduction of on-line delivery is that the focus may be on the delivery medium, rather than on the quality of the learning experience. University lecturers need to be aware of the models of teaching and learning which they implicitly or explicitly adopt, and to critically consider the role of technology both in the development of curricula and the delivery of the material. This requires lecturers who understand the capabilities of the technology to be used, who are trained in its use, and who are accurately informed about the skill level of their students. Our experience as outlined in this paper has left us with a number of critical questions to consider:-

- Does on-line learning enhance the quality of communication between student and lecturer?
- Does on-line delivery enhance learning?
- What is the lecturer's responsibility as a course designer?
- What are the resource implications of the introduction and use of on-line learning techniques?

Whilst we may not have the answers, we believe that as soon as we stop questioning what we do and how we do it, we have lost the battle.

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