

Online learning: Which strategies do New Zealand students perceive as most valuable?

Mae McSporrán

School of Computing and IT

Unitec, New Zealand

More and more tertiary education delivery includes the use of a Managed Learning Environment (MLE). Within this environment academic lecturers are known as 'Instructors'. The purpose of a MLE is to facilitate and enhance flexible online learning in a period of extraordinary growth of technology mediated or technology assisted learning. Instructors have been encouraged to respond positively by applying the various strategies the tools within the MLE software provides. Many instructors have published papers on the results of their efforts. However, the majority of the research to date has been focussed on case studies or, what instructors feel is valuable about flexible learning versus traditional teaching and learning. There is a gap regarding what strategies the students perceive as most valuable and useful to them. This paper describes the results of a pilot study conducted with Masters computing students (MComp) in New Zealand. The writer asked and documented what teaching and learning strategies the students considered as most valuable and, consequently more motivated to use.

Keywords: Teaching/learning strategies, Blackboard, e-learning, flexible learning, valuable, ranking

Introduction

This paper emulates research by Frey, Faul and Yankelov (2003) who conducted a complex study involving American Social Work students. The New Zealand study is conducted with computing students. Since computer skills form the basis of the MComp course of study, it was felt that it was unnecessary to test the students regarding 'Computer Attitude Scale (CAS)' as in the American study. The MComp course used in this study is aimed at students in full time employment. MComp weekend on-campus classes are facilitated once a month. Between these classes, instructors and students communicate through electronic means. The Managed Learning Environment (MLE) of choice by Unitec New Zealand is Blackboard.

Background

Like countries all over the world, New Zealand is committed to changing to a knowledge based economy. The consequence for the New Zealand education sector is a strategic transformation of tertiary education with many institutions re-structuring their course delivery to include online study. Online study has increased dramatically in Australia and according to Kenny (2003) management saw this as a form of cost shifting. Across Queensland alone, Choy, McNickle & Clayton (2002 p. 32) were able to survey 23 public and private institutions regarding learner expectations of online learning. Flexible e-learning has already happened, the Internet has changed how teaching and learning is being delivered and processed (Shea-Shultz and Fogarty, 2003; Downes, 2003). Like their Australian counterparts, all New Zealand universities and most tertiary education providers are prepared to support flexible online or e-learning concepts and resources. In Australia the key findings of a Higher Education report by Bell, Bush, Nicholson, O'Brien and Tran (March, 2002) for the Commonwealth Department of Education and Training Australia (DEST) states:

- Most universities (87.5%) provide an Intranet, which can be accessed by all students.
- A high percentage (92.5%) have made their handbook available online
- Online access to university libraries is high, (95%)

Whilst the writer has been unable to find equivalent published research figures for comparison with the DEST report a quick search of university web pages confirms that all New Zealand universities and most

tertiary institutions facilitate online instruction through either a website or MLE software. In theory, these MLEs should enable any instructor to transfer material to the website and transform their teaching materials into an interactive resource based flexible e-learning experience for students. In reality, many of these MLE 'shells' become a holding pen where lecturers 'park' their PowerPoint slides or course notes. The challenge is to encourage and train educators to use technology to better advantage whilst implementing changes campus wide (Northover, 2002; McNaught, 2002).

In Unitec, New Zealand, flexible e-learning has been in place since 1998, and instructors participation encouraged by putting resources online through the MLE (Northover and Donald, 2002). Students report that they find online resources useful (Northover and Donald, 2002; Kenny, 2001). Instructors constantly strive to use strategies they can only sense will be used by students to enhance learning. Whilst research into how well students learn from online strategies is important, we must also we extend our comfort zones by asking students what strategies they actually use and perceive as most important to them. Students are, after all, the 'consumers'.

Technology is widely used now therefore in reality, many teachers use some sort of electronic communication to facilitate their teaching (Palloff and Pratt (2003). Consequently examining and comparing classroom based with online delivery is no longer appropriate because the distinction between traditional classroom and online is diminishing due to the ubiquity of technology (Frey et al.2003). Other researchers argue that measured satisfaction or measured achievement studies conducted comparing online learning with in-class learning is simply no longer fashionable. Simonson, Smaldino, Albright and Zvacek, (2000) further claim that it simply makes no difference and that students learn no better and no worse, at a distance (2000, p iii). On the other hand, Hutchins (2003) reports, providing references, that "Countless studies have found student achievement in web based classes is comparable or better than that found in face to face instructional settings".

Given that a number of instructors remain concerned that Web assisted delivery is not always helpful in transferring knowledge to students, it is imperative that any strategy used by the instructor is perceived as useful by the students, otherwise, the instructor's efforts are valueless. Changing is not easy. Clay (1998) identified four stages in teachers' experience, together with levels of concern, as they adapt to the new practice (Clay 1998, p.3). These stages are awareness, consideration, implementation and innovation. The awareness stage is past, consideration and implementation are in advanced stages. We therefore need to make informed decisions regarding the strategies expected by students. According to Choy et al., (2002) the top five expectations are:

- Clear statements of what I was expected to learn
- Helpful feedback from teachers
- Requirements for assessment
- Communication with teachers using a variety of ways e.g. email, online chat, face to face
- Timely feedback from teachers

Since this investigation echoes only part of the Frey et al., (2003) American study, Table 1 displays a selection from the original American findings to aid comparison. Note that the top priority, grades, is not a teaching strategy, but a convenience because it is part of the resource supply grouping.

Design

Using a simple design the writer asked New Zealand MComp students to indicate, in a questionnaire, a perceived value to them of each of the 18 strategies referred to in the Frey et al., (2003) study. The questions and themes remained identical. . In one instance the language differed slightly to accommodate local usage (course prescription in place of syllabus). MComp students were also asked whether or not their instructor used the strategy or, if they had experienced it elsewhere. The results for MComp were grouped into the four themes adhered to by the Frey et al., (2003) study. The themes are:

- communication strategies,
- course information strategies,
- learning resource material strategies and
- assessment and grading strategies.

Table 1: Strategy overall ranking by the American Social Work students

Strategy	Perceived ranking value: American Social Work students
Posting of grades online	1
Posting of detailed assignment instructions online	2
Online feedback regarding assignments	3
Email communication with the instructor	4
Posting of lecture note online	5
Posting of Syllabus (<i>course prescription</i>) online	6
Posting of course calendar online	7
Provision of computerised study guides	8
Submission of assignment online	9
Online Quizzes	10
Posting of task lists linked to reminders	11
Provision of links to online resources	12
Online announcements	13
Availability of email address of all class members	14
Multi media assignments and tests to complete	15
Mandatory interactive email assignments	16
Online academic discussion groups.	17
Availability of homepages for posting personal information	18

The pilot sample is small but Unitec New Zealand records indicate that the sample is representative of the Masters Student cohort. No effort was made to ascertain students' particular learning styles since the Frey et al., (2003) study concluded that there appeared to be no difference in student experience of the online learning regardless of their learning style. As stated above, because the New Zealand study subjects are post graduate computing students, the CAS used by Frey et al., (2003) also was considered unnecessary.

Method

Data were gathered from questionnaires returned by MComp students giving ranking value. One hundred and three (103) questionnaires were delivered to the users' post boxes. Fourteen (n=14) were returned completed. The replies were tabulated in a spreadsheet.

Unitec records were consulted for MComp students. These records show that the MComp cohort age group ranges from 25 to 50 and that they come from a diverse ethnic group of mainly males (80 - 85%). The number of students taking the MComp degree is small but growing. Female participation varies each semester from 15% to 20%. For further information regarding these students, a previous study featuring MComp students entitled *Factors Affecting Contributions to Electronic Discussion Boards* (Joyce, 2002), could prove useful.

In the next section under the results in Table 2 displays the strategies New Zealand MComp students perceive as having the highest value in rank. Scores rated between 1 (no value) to 5 (very valuable). The New Zealand rankings are displayed against the American Ranking to allowing comparison.

Results

Table 2: Overall ranking by the New Zealand Master of Computing students:

Themes/ Strategies	Perceived ranking value: MComp students versus American students	
	NZ MComp	USA Social work students
Communication		
Email communication with the instructor	4*	4
Online announcements posted on Blackboard (Web)	2	13
Availability of email contact for all class members	6*	14
Availability of homepages for posting personal information	16	18
Course Information		
Posting of detailed assignment instructions online	1	2
Posting of course prescription (syllabus)	5*	6
Posting of course calendar online	19	7
Posting of task lists that are linked to reminders	11	11
Learning Resources		
Posting of lecture notes online	3*	5
Provision of computerised study guides	14	8
Online self assessed quizzes	17	10
Provision of links to online resources	12	12
Online topic discussion groups	7	17
Example tests and exams (including Multimedia	13	15
Assignments and grading		
Submission of assignments via Blackboard or email	10	9
Online feedback regarding assignments	9	3
Posting of grades online	8	1
Recognition for peer email and chat	15	16

* Denotes that New Zealand Instructors all claimed they used this strategy

Discussion

Whilst there is some alignment, and the results from New Zealand cohort are not all consistent with the American findings this study does confirm some parts of the Frey et al., (2003) research. For example, in both studies students value clear online instructions. However, the New Zealand participants ranked the facility to communicate with peers online much higher than those in the American study.

Communication and learning resource strategies

New Zealand MComp students meeting on campus monthly (see page 1) rank online communication and discussion higher than students their American peers. It is not clear in the American study how often the Social work students meet on campus. Furthermore, there could be a 'cultural difference' as many of the Unitec students are 'new' New Zealanders and could have specific language needs. The availability of class email contact addresses for peers and online topic discussion groups ranked sixth and seventh respectively for the New Zealand students whereas, the American students ranked these as 14th and 17th. In unison with the American cohort, New Zealand students are scarcely interested in 'Homepages' for students.

Assessment and grading strategies

It should also be noted that posting of grades whilst still important to the New Zealand students, is ranked much lower at eighth place. It could be argued that since this posting occurs after the event, feedback is

therefore of limited value. In fact, assignment and grading strategies as a theme does not appear to be as important to the New Zealand students as the range in ranking for these strategies is from eighth to fifteenth. On investigation, it was found that in the New Zealand classes the structure of study features online discussion groups orchestrated by the instructor. And, in 16 of the 18 master papers offered, instructors claim that marks are attributed for group work. The teaching and learning structure of the New Zealand degree might account for the difference in ranking of grading strategies by the two cohorts.

Course information strategies

The MComp students ranked posting of detailed assignment instructions as the most important strategy with the American group giving this strategy second place. This high ranking by both groups shows great student concern that they have task related information and, that their instructor has the ability to write clear instructions which in turn enable students to interpret exactly what it required from them. This concern is echoed in the Australian study by Choy et al., (2002). It would appear that the course information strategy group and online announcements provide the greatest value to both cohorts of students. This grouping ranks from first to eleventh place. This might indicate that students place practical value on the area of information retrieval over the other three areas.

Learning resource strategies

In line with Unitec's focus on online delivery of resources to students, the graduate faculty within the institution provides all necessary forms and generic material through its online e-library. It is unclear whether the American institution provides this service therefore comparisons are difficult. Unitec instructors consider quiz format inappropriate for post graduate study and therefore this tool is not used in the MComp. But, having experienced this format in other courses, some students reported that they found the strategy of some value. The availability of online quizzes features tenth in the American study and somewhat lower at seventeenth in the New Zealand pilot.

Common denominators

There are areas of commonality in both groups of students (see course information strategies above). Tests, chat (with peers) and homepages do not feature as important to both sets of students. Once again the reader is reminded that the pilot group in New Zealand are usually in some kind of full time work and as such have limited time for these time expensive strategies.

Student perception of the most valuable strategies actually used by instructors

Of the top six strategies found most valuable by New Zealand students and actually used by instructors **according to the participants**, the highest ranking for instructor usage was email communication with the students. But even then, **in the experience of the respondents**, only 71% of the instructors used this facility. This difference is noteworthy since all instructors claim that they use email. Furthermore, **in the experience of the respondents**, only 57% of instructors posted what students considered detailed assignment instructions and facilitated email contact between all members of the class. Respondents reported that 64% of the instructors posted an online course prescription (syllabus) and 57% of the instructors posted their lecture notes online. Student responses claim that a mere 43% of instructors used online announcements.

Conclusions

The results of the New Zealand pilot study suggest that the most important aspects of the flexible online teaching strategies as far as students are concerned are that:

- Clear detailed assignment instructions are vital
- Course information and communication strategies such as communicating with the instructors are important to the American and New Zealand groups
- The American cohort value posting of grades online higher than the MComp students who ranked this group lower
- Peripheral extras such as chat and quizzes have a lower perceived value
- Students do not value student 'homepages' within an online course

Many New Zealand students study part time and find flexible web assisted courses useful when organising a busy life style. The pattern of increased part time life long learning is also noted in Australia, (McNaught 2002). The need for flexibility is exacerbated by recent immigrants as they strive to increase their employability. The New Zealand government encourages online learning as an 'export education industry' (Maharey, 2002). Online delivery is new to many New Zealand students therefore they, like the instructors, have to extend their comfort zones by taking responsibility for their own online learning. As instructors move beyond 'resource based' online learning and experiment with different online pedagogical strategies, students, for their part, must also learn to adapt.

By examining the strategies some MComp students perceived as valuable, convenient and useful to them, instructors should be able to focus on the organisation of their arsenal of teaching and e-learning strategies. Instructors should provide students with what the students perceive as valuable in the first instance. When this first stage is established, instructors must concentrate on the development of student use of more advanced strategies as they, and students, grow and mature within the online teaching and learning environment. If, for instance, students rank clear detailed written assignment instruction then we must learn to communicate online as clearly as we do in class. In Face to Face (f2f) communication with a student, visual clues or verbal queries are used to identify that both parties understand exactly what is meant. In written communication it is easy to misconstrue ambiguous instructions resulting in students taking the wrong path. Clearly written instructions may take longer to prepare but the effort is worth it and saves time in the long term. Communication is the key according to Rossett, Douglass and Frazee (2003) who claim that we, as instructors, focus more on what resources to provide when learners really want clear just in time guidance (2003 p.5). In some instances online management, technical and or pedagogical experts are available to provide appropriate guidance for instructors. However, instructors must begin with what their students will appreciate most and, more importantly, use.

Future research

The writer intends surveying the Bachelor of Computing (BCS) undergraduate student group in Semester 2 2004 using the same questionnaire. It will be interesting as well as informative to note if the findings regarding an undergraduate group echo the American study more closely or, reflect the same preferences as the New Zealand MComp cohort.

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Mae McSporran can be contacted on mmcsporrان@unitec.ac.nz

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