

## You, me and iLecture

**Julie McElroy, Yvette Blount**

Department of Accounting and Finance  
Macquarie University

This paper explores the implementation of iLecture for a second year accounting unit at Macquarie University. The research found that students interacted with iLecture in ways that were not entirely expected. Students appear to want more control over their learning environment and technologies. An example of this is iLecture as it has the potential to provide students with choices about how and where they learn. The majority of students that used iLecture also attended face-to-face lectures. Teaching staff also used this technology to listen to lectures before tutorials. This assisted with the constructive alignment of lectures and tutorials for the large number of staff involved in the unit. We argue that understanding how students are using new technologies such as iLecture, and the lecturers' experience of iLecture, could provide useful insights into how academics can utilise these technologies to provide a more fulfilling interaction with students.

Keywords: teaching and learning strategies, emerging technologies, ICT policies and strategies, iLecture, ICT, teaching, higher education

### Introduction: Technology tensions

Academics have conflicting and, at times, contradictory roles. Academics are under pressure to have an active research program as universities strive to lift research performance (Dunkin, 1999). At the same time, academics are under pressure to provide high quality teaching. Academics must find ways to be more efficient and effective in how they approach the teaching component of their work to be able to provide a high quality product while, at the same time, build a credible research profile.

Students are demanding more value for money as they are expected to contribute more financially towards their education. Students expect a high quality education that will provide them with a satisfying career. Employers argue that graduates do not have the skills and competencies required for the workplace and there is considerable government pressure for greater returns for the education dollar (Coaldrake & Stedman, 1998; Dunkin, 1999). To stay viable, universities need to align their programs to the external world from the professions, from university management and society (McShane, 2004; Coaldrake & Stedman, 1998). Due to globalization, universities are increasingly part of an interconnected, educational network, with many Australian Universities relying heavily on finances from international students. This, in part, has been catalysed by the marketisation of higher education by Federal Government during the 1980's, where the predominating philosophy was economic rationalism, where education is a commodity rather than a social good. The consequence of international fee deregulation in 1985, resulted in an increase from 24,998 international students (predominantly from Chinese families) in 1990, to 83,047 in 1998. Australia is the third largest provider of international education in the world, behind the US and UK (Marginson, 2002). Fee paying students have many different expectations of university and what constitutes quality education. With the payment of university fees, they may be viewed as even more powerful and influential stakeholders than previously. Coaldrake (2002) notes that teaching in universities to-day is more a 'mass' activity rather than an 'elite' activity. The change in the student profile, the change in government demands for quality assurance and accountability, coupled with the changes in ICT, are transforming how students are taught. In particular it is decoupling the need for student and teacher to occupy the same time, space and place (Ahmad, Piccoli & Ives, 1998). To meet these demands, the quality of teaching has to be of a very high standard.

Students have mixed reactions to the implementation of ICT. Some students resist the use of technology if they believe it will reduce the amount of interpersonal contact with academic staff. Students also complain that they are overwhelmed by information (Sutherland & Badger, 2004). On the other hand, if students believe it enhances the learning experience, they are more likely to embrace it (Dunkin, 1999). We have limited understanding of how students are using new technologies as most studies are still taking place (Sutherland & Badger, 2004). Some academics see ICT as enhancing the student learning

experience. For example, ICT can provide academics with the tools to interact with students in a more flexible way and support a more student-centred approach (Bennet & Lockyer, 2004; Taylor, 1998; Collis & Moonen, 2001). Others believe that ICT, rather than enhancing the student and lecturer experience, is a poor substitute for face-to-face interaction (Dunkin, 1999). One consequence of using ICT is that the lecturer and the material that they teach become more visible and fixed (Coaldrake & Stedman, 1999; McShane, 2004) which could be an unsettling experience for the lecturer.

One way that academics have been attempting to address some of these tensions is by utilising online management software, such as WebCT or BlackBoard, that provide an online environment for academic staff to supply lecture notes, quizzes, discussion forums, assignment submission, student grades and related information for students to access twenty four hours a day, seven days a week. Another key development has been the recording of lectures which can be downloaded by students in formats such as MP3. The leading lecture capture system in Australia is iLecture (also known as Lectopia) (Williams & Fardon, 2005). We have little understanding of academics perceptions of ICT and how this changes the way they undertake their work (McShane, 2004) and this includes more recent innovations such as iLecture.

Understanding how students are using iLecture and the lecturers' experience of using this technology could provide useful insights as to how academics can utilise ICT to provide a more fulfilling interaction with students. This understanding may enhance our understanding as to how lecturers' roles are changing and how this technology could be used to create a more effective work environment for academics while providing enhanced learning opportunities for students. This paper explores the implementation of iLecture for a second year accounting unit at Macquarie University and addresses two research questions. The first was to examine how user-friendly the students are finding iLecture by asking them about their perceptions when using the technology. The second was to explore the lecturers' experience while using iLecture by using the lecturers' reflective journals throughout the semester. Both perspectives are important when assessing the overall effectiveness of this technology and how it can be better integrated into teaching and learning strategies.

## Teaching and learning context

The iLecture system was developed by the University of Western Australia (UWA) in 1998. The overall aim was to develop and implement an automated lecture recording system that a student could make use of at any time, and from anywhere. At UWA, iLecture is mostly accessed through WebCT (Williams & Fardon, 2005; Fardon & Ludewig, 2000). The use of iLecture at UWA has increased significantly since it was implemented. In 2004, over 200 lecturers had their lectures recorded and this was expected to increase in 2005 (Williams & Fardon, 2005).

Macquarie University implemented iLecture at the beginning of semester 1, 2005 to replace the reel-to-reel analogue recordings that the University used for many years. For this first phase, the University implemented the audio digital capture and delivery components of the system. This phase provided the ability to upload lecture notes such as PowerPoint slides that were available when the student downloaded or streamed the lectures. The University plans to implement video and other projected material in the future. Lecturers choose whether or not they implement iLecture. There is no pressure by the university or management to use iLecture.

The findings in this paper relate to a second year compulsory unit, ACCG250 Accounting Systems Design that introduces students to accounting information systems using social and organisational perspectives of information systems. The unit also builds competency based vocational skills. It is an issues-based as opposed to technical-based unit. The main topics included:

- introduction to accounting information systems, the technology of information systems, and some of the formal ways to document systems;
- a consideration of transaction processing systems, with a particular focus on the accounting software package MYOB; and databases and data modelling;
- an examination of controls used in accounting information systems;
- a discussion of computer crime, and ethics, as they pertain to information systems;

- an exploration of the processes of systems planning and development;
- an introduction to information and knowledge processing systems (including decision support systems), and electronic commerce.

The unit was presented face-to-face via the traditional lecture (two hours) and a one hour tutorial. In comparison to the previous semester, the prescribed text and the unit outline were the same and assessment tasks were similar in format (two online multiple choice review quizzes, two MYOB assignments and an attendance/participation mark).

There were several changes made to the unit in Semester 2, 2005, one of which was the introduction of iLecture which was available via the unit WebCT site. Other changes included the activation of the WebCT discussion board, release of guideline solutions for tutorial questions and a mock exam. WebCT was used in ACCG250 for discussion forums including announcements, uploading of assignments, uploading of lecture notes, and tutorial questions and answers (delayed), resources such as eReserve in the library, access to a mock exam and answers (delayed) and iLecture. The main reason for implementing iLecture in ACCG250 for semester 1, 2005 was so that students could have the flexibility of listening to lectures anytime they chose. It was not intended to replace the face-to-face lecture per se but to provide a way of obtaining access to the lecture if the student was unable to make the face-to-face times. That is, iLecture was seen by the lecturers in the unit as providing an enhanced learning experience by providing additional options to students.

The lecturers assumed that providing iLecture in ACCG250 would improve the student's learning experience by providing multi-media resources for learning. The student cohort was 828 students for semester 2, 2005. Ensuring quality of learning experience across a large student cohort with limited resources lends itself to the use of ICT (Freeman, 1996), particularly when communicating consistently across such a large number of students. The delivery of this unit changed from providing only face-to-face lectures and tutorials, to include recording of the lecture through iLecture, and use of the discussion board. This placed ACCG250 on the learning continuum towards a flexible, hybrid model of delivery. This type of delivery is a blended mode of face-to-face and distance education. This mode of delivery opens opportunities for student-focus learning in contrast to a teacher-focus, where the constructivist paradigm of increased student control over what and how they choose to learn is possible.

According to Coaldrake (2002) an important student expectation is the concept of flexibility and convenience through a 'telepresence' where students can access information 24/7. Investigation into whether iLecture delivered on these expectations was examined in this research. Factors impinging on why students chose to use iLecture were also investigated. As many students within this unit came from a non-English speaking background, we felt that this may be a contributing factor to the use of iLecture. The purpose of use was also analysed, including the use within a learning context. Traditional face-to-face lectures tend to be teacher focused, where the locus of control is with the teacher (Jones & Paolucci, 1999) and there is debate as to whether the traditional lecture is an effective teaching mode of delivery. There are a wide range of views as to what lecturers believe lectures are meant to achieve and how they should be delivered (Sutherland & Badger, 2004).

iLecture is the audio and visual (PowerPoint slides) of a lecture. Due to its flexibility in delivery, where the student has control over the material, there is shift in emphasis from the teacher to student learning (Nunan et al., 2000) if students use this technology. According to Alexander (1999), the educational goal of most flexible delivery and learning is to increase student learning outcomes by increasing student engagement (Dowling et al., 2003). Students now have the option to revisit difficult concepts, the convenience and flexibility of ICT provides them with the opportunity to take responsibility for their own learning. The possible implications for lecturers include whether they need to reconsider their teaching style so as to incorporate iLecture listeners, and whether attendance to lectures will be considerably lower, as students may opt to substitute the lecture with iLecture.

The students' perception of their learning experience with iLecture was the second main objective for this research. There is extensive literature on the perceptions of teachers however there is scant information from the perspective of the learner. As learning and teaching cannot take place without the learner, and given the increasing importance of student's expectations, understanding their attitude towards this technology, given the large capital expenditure, should be deemed as important and relevant when

considering future ICT educational projects. In particular, there was a comparison made to the traditional face-to-face lectures and the use of iLecture in learning. Understanding students' preferences given the different models of delivery is important to understand so that lecturers can change their teaching style to include these students. Students were asked if they felt that face-to-face lectures offered a better learning experience than iLecture and if they felt that this subject was better with iLecture when compared to subjects without this technology.

## Methodology

A multi-method approach was taken to investigate the different perspectives of teachers and students. Students were administered a questionnaire based on the usage and perceptions of learning experience with iLecture. The questionnaires were distributed in week 12 by the tutors in tutorials. Reflection journals were the information source from teaching staff on their assumptions and experience with iLecture throughout the semester.

## Student questionnaires

There were 828 students enrolled in this unit, with Table 1 indicating the apportionment of unit enrolment by domicile. As can be seen, 24% of students were domestic and 76% were international.

**Table 1: Total students by domicile**

Domicile	Number	%
Domestic	202	24%
International	626	76%
Total	828	100%

A pilot questionnaire was administered to 62 students to test the reliability of the questions, and to amend and refine any questions that were perceived to be ambiguous. After the initial pilot and the appropriate amendments were made, the questionnaire was given to tutors for students to fill-in during the tutorial time. The number of respondents from 828 students was 411 (49.6%). Initially students were asked if they had used iLecture. If they had never used iLecture they were subsequently asked why not and then these students were not included in further analysis on students' perceptions of iLecture, as this analysis was based on the premise that students had at least experienced iLecture.

Questions were asked in regard to usage of iLecture. Intentions behind these questions were to understand if students were utilising iLecture as a means to replace lectures, in concordance with how a distance education student would use this material, or if they were using iLecture conjointly or in tandem with face-to-face lectures. Implications for use of ICT may impact future delivery of teaching. Learning styles and teaching pedagogy may need to be reconsidered if a substantive portion of students are using iLecture as a means to conduct distance education.

## Lecturers' reflection journals

Although we live in a knowledge economy, acquisition of knowledge is in itself a shallow pursuit, if engagement, understanding and critical evaluation on a deeper level of our teaching is not constantly reflected on. Reflection can be very productive and aids teachers to gain insight through self-directed evaluation (Calderhead, 1989). Dewey (1933) defined reflection as:

Active, persistent and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it and the further conclusions to which it tends (p.9).

A reflection journal is a tool for improvement, where assumptions and issues can be explored in detail. It is a communicative medium, which will hopefully enhance and contribute to personal understanding and skill development by focussing on what the strengths and weaknesses are of different teaching approaches and, hence, where there are opportunities for growth or change. It is also a means to anticipate personal, institutional, and environmental changes and identify ways in which these changes will impact students

and teachers. Reflective journals communicate workplace learning. Workplace learning is about being willing to extend yourself, re-adapt yourself, and constantly challenge yourself by being open to new ideas and experiences. Through this process, it is hoped that the reflection journal improves teaching and hence will result in quality outcomes for the students. A reflective journal was kept by the main teaching staff of this unit and extracts were taken to highlight the expected and unexpected issues of the iLecture application.

## Results

### Student questionnaires

Although face-to-face attendance was not compulsory, it appeared that the majority of students were not replacing the traditional lecture with iLecture. The attendance of students at face-to-face lectures remained relatively high and constant throughout the semester. Tables 2 and 3 show comparison of iLectures to traditional face-to-face lectures.

**Table 2: The traditional face-to-face approach offers a better learning experience than iLecture**

Stance	Count	%	Cum %
Strongly Agree	72	22.22%	22.22%
Agree	96	29.63%	51.85%
Neither	132	40.74%	92.59%
Disagree	20	6.17%	98.76%
Strongly Disagree	2	0.62%	99.38%
No Response	2	0.62%	100.00%

**Table 3: iLecture enhanced this course compared to other subjects that do not include iLecture**

Stance	Count	%	Cum %
Strongly Agree	97	29.94%	29.94%
Agree	148	45.68%	75.62%
Neither	58	17.90%	93.52%
Disagree	19	5.86%	99.38%
Strongly Disagree	1	0.31%	99.69%
No Response	1	0.31%	100.00%

Students either agreed or strongly agreed that traditional face-to-face lectures were a better learning experience than iLecture (51.85%). Students also agreed or strongly agreed that iLecture was an important component of the unit (75.62%). Students are, therefore, not replacing face-to-face lectures with iLecture for all of the lectures throughout the semester. It is interesting to note that 40.74% believed that *neither* provided a better learning experience – an area that will need further clarification in future research.

**Table 4: Factors contributing to usage**

Factor	Count	%
Disability	5	1.28
N.E.S.B*	137	34.95
Carer	20	5.1
Work commitments	56	14.29
Sickness	76	19.39
Enrolled part-time	12	3.06
Extended travel time	86	21.94

Note. \*Non-English Speaking Background

The majority of students who used iLecture came from non-English speaking backgrounds (34.95%), which was expected (Table 4). Some had a long time to travel to get to the campus (21.94%), which can be difficult with public transport in non-peak times. Rising petrol prices may increase this factor in future semesters, with some students opting to stop using their cars. Illness and work commitments were other reasons (19.39% and 14.29% respectively) that students reported for using iLecture. As more students have to contribute financially to their education, many are in a position that they will have conflicting demands and responsibilities such as work. The Federal Government’s WorkChoices Legislation (Workplace Relations Amendment (Work Choices) Act 2005) may also have an impact on this aspect of students’ lives. If, as predicted by some commentators, unskilled workers will have less choice about hours and conditions, then students working in casual positions may not have the flexibility to attend lectures even if they would like to (Costello, 2005).

**Table 5: Reasons for usage**

Reason	Count	%
To Check over notes	116	17.76
To playback hard concepts	127	19.45
To revise for exams	81	12.4
Listen to other lecture for same subject	21	3.22
Alternative to face-to-face	119	18.22
Make-up for missed lecture	189	28.94

The students used iLecture predominantly to catch up on occasional missed lectures (Table 5). Many students have work and other commitments which potentially impinge on being able to attend a face-to-face lecture (28.94%). Some students used iLecture instead of attending a face-to-face lecture (18.22%). Students attended face-to-face lectures and also used this technology to check over notes (17.76%), playback hard concepts (19.45%), revise for exams (12.4%) and catch up on an occasional missed lecture (28.94%).

**Table 6: Duration and class matrix of usage**

					Entire lecture		Total		
	<5mins	5-10mins	10-30mins	>30mins	5	NR			
	1	2	3	4	5	NR			
1-2classes		3	19	29	23	31	1	106	<b>32.72%</b>
3-5classes			9	19	25	52	1	106	<b>32.72%</b>
5-7classes				8	13	20	1	42	<b>12.96%</b>
7-9classes				3	10	19		32	<b>9.88%</b>
9-11classes			1		6	30	1	38	<b>11.73%</b>
<b>Total</b>		3	29	59	77	152	4	324	
		<b>0.93%</b>	<b>8.95%</b>	<b>18.21%</b>	<b>23.77%</b>	<b>46.91%</b>	<b>1.23%</b>		

Note. n = 324; 78.83% used i-lecture at least once or more.

If students used iLecture, they listened to between 1 and 5 lectures (65.44%) (Table 6). Those that listened to 1 or 2 lectures listened to between 5 minutes and 30 minutes (69.8%) while 29.2% listened to the whole lecture. Those that listened to between 3 and 5 classes, half listened to the whole lecture and the other half listened to between 5 minutes and 30 minutes. Those that listened to more lectures tended to listen to more of the lecture which indicates that these were the students that did use iLecture as an alternative to attending face-to-face lectures. This suggests that the students that only listened to a partial lecture were checking over notes or playing back hard concepts.

We found that 21.17% did not use iLecture at all (Figure 1). For those students that did not use iLecture, 16.67% were adverse to using technology. This was a surprising finding as the students in this unit are future professionals that will be expected to interact with technology in the business world.

Table 7-10 show students’ perceived qualitative learning outcomes. Overwhelmingly, students perceived using iLecture as improving the quality of their education – 73.15% either agreed or strongly agreed. Students clearly perceived that the learning experience was enhanced by having iLecture available (agree or strongly agree 78.39%). Students perceived that iLecture provided them with a better understanding of the topics in the unit (agree or strongly agree 70.37%) and that it was an effective learning tool (agree or

strongly agree 84.26%). For these questions, a very small number of students disagreed that the quality was not enhanced. This indicates that students value having iLecture available to them to use if they choose to use it. Students perceive that iLecture provides them with an enhanced learning experience. It may be that by offering students a choice - they can use iLecture rather than attend a face-to-face lecture - they feel more in control of their learning environment and more likely to engage in their education.

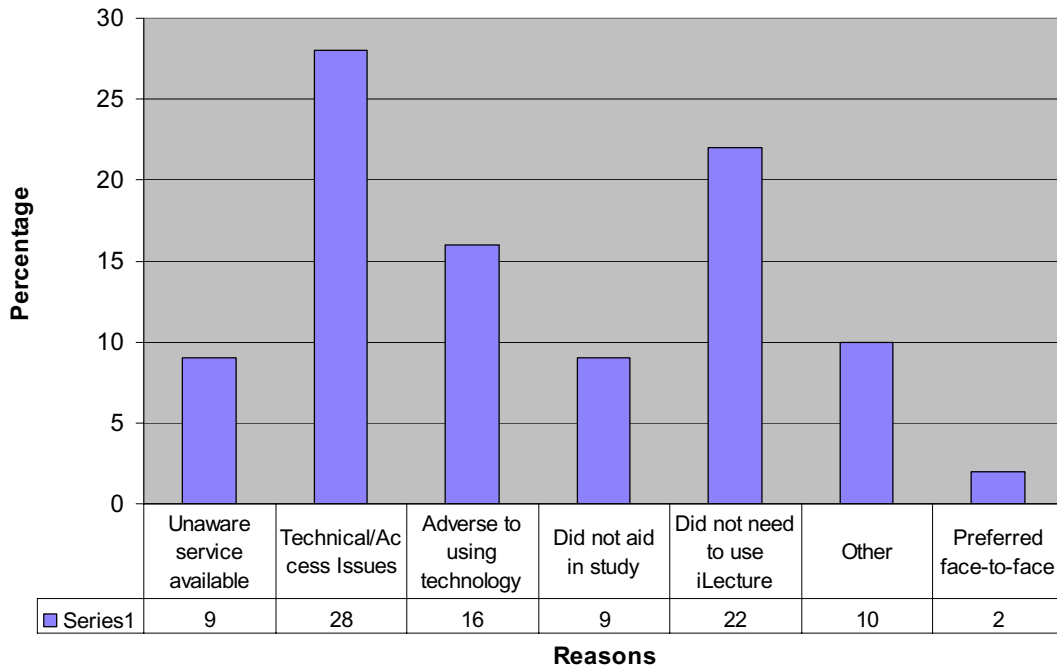


Figure 1: Reasons for not using iLecture

Table 7: Using iLecture increases the quality of your education

Stance	Count	%	Cum %
Strongly Agree	61	18.83%	18.83%
Agree	176	54.32%	73.15%
Neither	74	22.84%	95.99%
Disagree	13	4.01%	100.00%
Strongly Disagree	0	0.00%	100.00%

Table 8: iLecture improves the learning experience

Stance	Count	%	Cum %
Strongly Agree	57	17.59%	17.59%
Agree	197	60.80%	78.40%
Neither	56	17.28%	95.68%
Disagree	14	4.32%	100.00%
Strongly Disagree	0	0.00%	100.00%

Table 9: iLecture has provided a better understanding of the subject

Stance	Count	%	Cum %
Strongly Agree	49	15.12%	15.12%
Agree	179	55.25%	70.37%
Neither	79	24.38%	94.75%
Disagree	15	4.63%	99.38%
Strongly Disagree	1	0.31%	99.69%
No response	1	0.31%	100.00%

Table 10: iLecture is an effective learning tool

Stance	Count	%	Cum %
Strongly Agree	57	17.59%	17.59%
Agree	197	60.80%	78.40%
Neither	56	17.28%	95.68%
Disagree	14	4.32%	100.00%
Strongly Disagree	0	0.00%	100.00%

Students thought that iLecture is more convenient than attending a face-to-face lecture – 53.09% agreed or strongly agreed (Table 11). This does not necessarily mean that students used iLecture rather than attend a face-to-face lecture, rather that they believed it to be more convenient. Students overwhelmingly believed that flexibility was an important factor when using iLecture to learn effectively – 89.81% agreed or strongly agreed (Table 12). This is consistent with students wanting to have more choice over their learning environment.

**Table 11: Listening to iLecture is more convenient than attending a face-to-face lecture**

Stance	Count	%	Cum %
Strongly Agree	66	20.37%	20.37%
Agree	106	32.72%	53.09%
Neither	93	28.70%	81.79%
Disagree	54	16.67%	98.46%
Strongly Disagree	5	1.54%	100.00%

**Table 12: i-lecture provides the flexibility you need to learn effectively**

Stance	Count	%	Cum %
Strongly Agree	101	31.17%	31.17%
Agree	190	58.64%	89.81%
Neither	27	8.33%	98.14%
Disagree	6	1.85%	99.99%
Strongly Disagree	0	0.00%	99.99%

### Lecturers' reflection journals

Teaching staff for ACCG250 included 3 full-time staff members and 10 part-time tutors. The Lecturer-in-Charge kept a reflective journal throughout the semester and as part of that journal reflected on the use of iLecture. In the first two lectures, it was noted that the lectures appeared to be full. After week 2 there were 238 hits for lecture 1 and 108 hits for lecture 2. This indicates that a number of students may have missed the first lecture. Anecdotally, students from overseas tend to start university in the second week of the semester as tutorials do not start until the second week. This may account for the large hit rate for lecture 1 after week 2.

After five weeks of teaching we undertook an independent teaching survey. The initial student feedback report (received without student comments in week 10) showed that the higher averages were in response to being able to access lectures online and use of discussion forums. This supports the questionnaire responses from students that iLecture was considered a valuable learning tool.

At the beginning of week 7, there were more hits for lecture 1 than the other five lectures. There were 499 hits for lecture 1, 386 hits for lecture 2, 390 hits for lecture 3, 270 hits for lecture 4, 252 for lecture 5 and 130 hits for lecture 6. The large number of hits for lecture 1 may have been due to a number of students not attending classes in the first week.

An unexpected benefit of using iLecture noted in the reflective journal was the teaching staff listening to iLecture. One tutor downloaded the lecture and listened to it on his iPod on the train going to work. Other tutors also reported that they also listen to the lectures before undertaking their tutorials. This is very useful as it ensures constructive alignment with the lectures and the tutorials and assists with consistency.

In week 10, there were a large number of hits for the earlier lectures. For lecture 1 (567 hits), lecture 2 (467 hits), lecture 3 (473 hits), lecture 4 (391 hits), lecture 5 (392), lecture 6 (359 hits), lecture 7 (350 hits), lecture 8 (215 hits), lecture 9 (190 hits), lecture 10 (173 hits). This indicates that the students are listening to the lectures using this technology, in particular the earlier lectures. We were unable to do the final lecture in week 10 due to a power outage in a lecture theatre – we referred students to iLecture which meant the students did not miss out on any content if they chose to listen to the lectures.



In the last week of the semester there were a large number of hits particularly for the earlier lectures. For lecture 1 (612 hits), lecture 2 (510 hits), lecture 3 (536 hits), lecture 4 (493 hits), lecture 5 (448 hits), lecture 6 (469 hits), lecture 7 (473 hits), lecture 8 (339 hits), lecture 9 (331 hits), lecture 10 (493 hits), lecture 11 (323 Hits), lecture 12 (330 Hits), lecture 13 (227 Hits). This number of hits indicates that a large number of students downloaded the lecture. It does not, however, guarantee that the student listened to the lecture, it is only an indication of how many downloaded it. The number of hits does give us some indication that a large number of students enrolled in the unit are able to download the lecture and listen to it if they choose. It also does not show us if the students listened to the lecture in its entirety or if they only listened to part of it.

On reflection it appears that iLecture is a technology that is perceived by students as useful and valuable. It also provides additional benefits by our large number of staff being able to access lectures if they chose to. Students that were unable to attend a lecture were still able to access the lecture in their own time (as well as the lecture notes).

## Conclusions and future research

Academics have to find ways to develop better processes to improve the quality of teaching and learning as students, universities, government and industry demand value for money. ICT can assist lecturers in streamlining processes and assist in providing a quality learning environment. We need to understand how new technologies are being used and how they add value from both a student's perspective and a lecturer's perspective. It is important to understand both how students are using iLecture and how lecturers utilise it to achieve the most appropriate learning outcomes and provide more fulfilling interactions with students.

The way students use iLecture may not be in the ways we expect. Students have complex lives and need to make choices about is the most appropriate use of their time. Both international and domestic students have to make choices about the work that they undertake and balance other responsibilities. This becomes more complex for those students with careers and families. Students should be able to choose the most appropriate mode of learning for them and sometimes this will be face-to-face lectures and at other times it may be listening to a lecture on an iPod while doing something else. We found that many students attended the face-to-face lectures as well as used iLecture for varying reasons.

It will be important to monitor the use of iLecture and how lecturers use it. It is very likely that the way iLecture is used by students and lecturers will change as both become more familiar with its capabilities. If there is new functionality such as webcams for students to see the lecturer and/or lecture materials this may also change the way it is used.

Different units may have different experiences. It will depend on the type of material being taught, differing lecturing styles, the type of visual aids being used and the lecturer's personality amongst other things. It may also depend on the context with which iLecture is being used. In ACCG250 it was WebCT based – other units may not be taught in the same context. We also did not use iLecture to reduce any face-to-face teaching. Implementing iLecture was in addition to the face-to-face lectures and tutorials.

This research was exploratory and raised more questions rather than providing definitive answers. Further research will include monitoring how students are using iLecture in ACCG250 in subsequent semesters to ascertain if students are finding some value and if does change the way lecturers need to think about delivering their units.

## References

- Ahmad, R., Piccoli, G., & Ives, B. (1998). Effectiveness of virtual learning environments in basic skills business education: A field study in progress. *Proceedings of the international conference on Information Systems*, Helsinki, Finland.
- Alexander, S. (1999). An evaluation of innovative projects involving communication and information technology in higher education. *Higher Education Research and Development*, 18(2), 173-183.
- Bennett, S., & Lockyer, L. (2004). Becoming an Online Teacher: Adapting to a Changed Environment for Teaching and Learning in Higher Education. *Educational Media International* 41(3), 231-244.

- Calderhead, J. (1989). Reflective Teaching and Teacher Education. *Teaching and Teacher Education*, 5(1), 43-51.
- Coaldrake, P., & Stedman, L. (1998). *On the Brink: Australia's Universities confronting their future*. St Lucia: University of Queensland Press.
- Coaldrake, P., & Stedman, L. (1999). *Academic Work in the Twenty-First Century: Changing Roles and Policies*. Canberra: Commonwealth of Australia, DETYA Higher Education Division.
- Coaldrake, P. (2002). *Responding to Student Expectations*. Paris: OECD.
- Collis, B. & Moonen, J. (2001). *Flexible learning in a digital world: Experiences and expectations*. London: Kogan Page.
- Costello, M. (2005). The Industrial Relations Bill is a Declaration of Class War. *The Australian*, November 4.
- Dewey, J. (1933). *How we think: a restatement of the reflection of reflective thinking to the educative process*. Boston: D.C. Heath and company.
- Dowling, G., Tickle, A., et al. (2003). More=Better: the communications broadband revolution may not necessarily deliver improved university educational outcomes. *Effective Learning and Teaching Conference*, Brisbane, Griffith University.
- Dunkin, R. (1999). Teaching and Learning Reinvigorated: A Case Study. *Tertiary Education and Management*, 5(4), 357-370.
- Fardon, M. & Ludewig, A. (2000). iLectures: A Catalyst for Teaching and Learning. Learning to Choose ~ Choosing to Learn. *Proceedings of ascilite 2000*, Coffs Harbour, Southern Cross University, 45-56.
- Freeman, M. (1996). Convergence of off-campus and on-campus studies through communication technologies: evidence from tertiary business education. *Open Learning '96: Proceedings of the 2nd international conference on open learning*, Brisbane, Australia.
- Marginson, S. (2002). Nation-building universities in a global environment: The case of Australia. *Higher Education*, 43(3), 409-428.
- McShane, K. (2004). Integrating Face-to-face and Online Teaching: academics' role concept and teaching choices. *Teaching in Higher Education*, 9(1), 3-16.
- Nunan, T., George, R., et al. (2000). Rethinking the ways in which teaching and learning are supported: the Flexible Learning Centre at the University of South Australia. *Journal of Higher Education Policy and Management*, 22(1), 85-98.
- Paolucci, R. & Jones, T.H. (1999). Research Framework and Dimensions for Evaluating the Effectiveness of Educational Technology Systems in Learning Outcomes. *Journal of Research on Computing in Education*, 32(1), 17-27.
- Sutherland, P. & Badger, R. (2004). Lecturers' Perceptions of Lectures. *Journal of Further and Higher Education*, 28(3), 277-289.
- Taylor, P. (1998). Institutional change in uncertain times: lone ranging is not enough. *Studies in Higher Education*, 23(3), 269-279.
- Williams, J. & Fardon, M. (2005). On-Demand Internet-Transmitted Lecture Recordings: Attempting to Enhance and Support the Lecture Experience. *12th International Conference of the Association for Learning Technology*, University of Manchester, England.

## Author contact details

**Julie McElroy**, Department of Accounting and Finance, Division of Economic and Financial Studies, Macquarie University, NSW 2109, Australia. Email: [jmcelroy@efs.mq.edu.au](mailto:jmcelroy@efs.mq.edu.au).

**Yvette Blount**, Department of Accounting and Finance Division of Economic and Financial Studies Macquarie University, NSW 2109, Australia. Email: [yblount@efs.mq.edu.au](mailto:yblount@efs.mq.edu.au).

Copyright © 2006 McElroy, J., Blount, Y.

The author(s) assign to ascilite and educational non-profit institutions a non-exclusive licence to use this document for personal use and in courses of instruction provided that the article is used in full and this copyright statement is reproduced. The author(s) also grant a non-exclusive licence to ascilite to publish this document on the ascilite web site (including any mirror or archival sites that may be developed) and in electronic and printed form within the ascilite *Conference Proceedings*. Any other usage is prohibited without the express permission of the author(s). For the appropriate way of citing this article, please see the frontmatter of the *Conference Proceedings*.