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“But they won’t come to lectures …” The impact of recorded lectures on student experience and attendance.

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The move to provide increasingly flexible platforms for student learning and experience through provision of online lecture recordings, is often interpreted by students as meaning attendance at lectures is optional. The trend toward the use of such recordings is often met with resistance from some academic staff who cite anecdotal evidence that student attendance will reduce. This study aimed to explore students’ views of the use of online recorded lectures and to measure the impact of this technology on student attendance at lectures. A pre and post evaluation methodology was undertaken using a self-administered questionnaire that gathered both quantitative and qualitative data from students. Overall attendance was recorded at each lecture throughout the semester. Results indicated that attendance remained high throughout the semester and while only a minority of students used the recorded lectures, those who did found them to be helpful to their learning. Most students used the recordings to either supplement their learning or to make up a lecture that they had not been able to attend due to other circumstances. The study also provides evidence that contrary to popular belief, not all Generation Y students aspire to replace lectures with downloadable online versions. Many of the students in this study still valued the opportunity for interactive learning provided by face-to-face teaching. Finally, a model that outlines the attributes that contribute to quality teaching is used to describe how recording technology can contribute to positive student experiences and can enhance reflective teaching practices on the part of teachers.

Keywords: lectures, educational technology, student experience

Introduction

On-line, educational technologies have gained acceptance as an integral part of providing flexible education environments that address the diverse needs of students in higher education. The degree to which these technologies are embraced by both teaching staff and students varies across units, programs and universities. To a generation of students who reportedly: are multi-taskers managing multiple priorities of which study is only one; are said to be more technologically savvy than their teachers; have more difficulty communicating in traditional ways; and, have an expectation of 24 hour access to all services including educational services, on-line teaching is often promoted as the answer to this generations’ demands (Arhin & Cormier, 2007; Nimon, 2007; Pardue & Morgan, 2008; Skiba, 2005). Although a recent study in 2008 by Kennedy, Dalgarno, Bennett, Judd, Gray & Chang, indicates that competence in relation to technology specifically, cannot necessarily be explained through generational attributes alone.

Through on-line environments such as BlackBoard and WebCT, the capacity to download lectures is becoming common place, regardless of mode of study. However, anecdotaly at least, a common response by staff to demands or requests to incorporate this into their teaching, is a
Concern that if recordings are made available, students will not attend lectures. This view is consistent with a ‘Level 1’ theory of teaching where teaching is viewed purely as the transmission of knowledge (Biggs & Tang, 2007). This ‘sage on the stage’ perspective is described by Ramsden (2003) as “the belief that the fundamental problems in the quality of university education can be solved by transferring knowledge more efficiently, using some form of information technology” (p. 108). These views don’t recognise the interactive nature of teaching and learning with a focus on what the student does and needs to know that is consistent with contemporary views of teaching described by Biggs and Tang (2007).

This study aimed to explore students’ views of the use of on-line recorded lectures and to measure the impact of this technology on student attendance at lectures. The study was carried out with third year, undergraduate occupational therapy students who were undertaking a unit with a previously high level of student attendance at lectures. The study also aimed to further our understanding of how the provision of this teaching activity may contribute to quality teaching and learning more broadly. The question guiding this research was: ‘Does recording of lectures add value to the student experience, instead of merely being used as a panacea for what are often broader based issues such as lack of teaching space and increasingly demanding students with increasingly diverse needs?’

A model of teaching excellence

Kane, Sandretto and Heath (2004) discussed the general characteristics of excellent teachers as having a command of the subject matter, being enthusiastic, communicating their subject matter clearly and being well prepared and organised. However, issues in relation to student experience are also acknowledged by Kane et al. as being important. These include the need for teachers to have a respect for and interest in students, to regularly monitor student learning and gain regular formal and informal feedback from students.

Through their own research, Kane et al. (2004) developed a hub and spoke model describing the common attributes of excellent university teachers. The characteristics included the teacher’s subject knowledge, their skills in being able to make real world connections and relating what they know to what students know, their interpersonal relationships with students, the research / teaching nexus that they bring to the classroom, and finally, their personality. This latter characteristic discussed the need for teachers to “exhibit much of their own personality” (p. 298) and to display a sense of humour and a sense of enjoyment of the whole academic experience. The hub of this model is reflective practice where excellent teachers engage in regular reflection on their teaching practice and regularly adopt strategies to do this. This includes reflecting on the technical aspects of teaching (eg practical teaching skills) and critical reflection about the impact of one’s actions on the experience of students.

This model reinforces the need to evaluate and reflect upon new teaching techniques as they are introduced. This study describes the formal evaluation of the first-time introduction of recorded lectures and the impact of this technology both on students’ experience and also on their attendance at lectures. The model by Kane et al. (2004) was used to reflect on the findings.
Study Aims

The overall aims of the study were to investigate the impact of recorded lectures on attendance at lectures and to explore the experience of students who used this technology. Specifically, the aims of the study were: to explore the students’ previous use of recorded lectures; to explore students’ uptake and use of on-line recorded lectures; and, to measure level of attendance at lectures throughout the semester.

Methodology

The study was undertaken in semester one at Deakin University, Geelong in 2008 and approved by the Human Ethics Office, Deakin University. The unit in question was a third year, undergraduate, occupational therapy unit with an on-campus enrolment at the beginning of semester of 64 students. The unit was conducted over the 13 week semester as a one-hour lecture followed by two-hour tutorial. The study collected quantitative and qualitative data through a questionnaire administered at the beginning of week one and a follow-up questionnaire administered in week 13. A head count of students was undertaken each week within the lecture. All lectures throughout the semester were recorded as they were being presented, using a digital, portable recorder. They were uploaded immediately at the end of the lecture onto BlackBoard; the university’s learning management system. Lectures only were recorded – no recordings of discussions within tutorials were made. Audio recordings were chosen as the technology of choice, as the available lecture facility did not have audio and video recording capacity.

In the first questionnaire, students were asked to provide information about their previous/typical patterns of attendance at lectures in the past, whether they had previously used recorded lectures and how useful they found them to be. At the conclusion of the semester, the second questionnaire asked students about their actual attendance, whether they had used the lecture recordings, for what purpose and how useful they considered them to be.

Results

Response rate

Of the 64 students who were enrolled in the unit at the beginning of semester, 58 (91%) students completed the first questionnaire. The majority of respondents were female with 6 students (10.3%) being male. Refer to Table 1 for details regarding age of respondents.

<table>
<thead>
<tr>
<th>Age Range</th>
<th>No. of students</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 years or less</td>
<td>32</td>
<td>55.2</td>
</tr>
<tr>
<td>21 years</td>
<td>11</td>
<td>19</td>
</tr>
<tr>
<td>22-25 years</td>
<td>11</td>
<td>19</td>
</tr>
<tr>
<td>26-29 years</td>
<td>3</td>
<td>5.1</td>
</tr>
<tr>
<td>30 years or more</td>
<td>1</td>
<td>1.7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>58</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>
Table 1 shows that 93% of those students who participated in the study fall into the category of Generation Y, as defined by Pendergast (2007), that is, they were born in the decades 1982-2002. The second questionnaire was completed by 49 (78%) of the 63 students (one student having withdrawn during the semester).

**Results of questionnaire one (beginning of semester)**
Students described themselves initially as the sort of student who:
- Attends lectures only if relevant to an assessment task (5%);
- Attends, dependent on social and work commitments (12%);
- Attends most lectures unless sick or urgent family needs arise (66%);
- Attends based on their view of the quality of the teacher / lecturer concerned (15%); or,
- Attends if the gap between the lecture and the tutorial is not too great (2%)

This was, therefore, a group of students who perceived themselves as attending most lectures. When asked how often they had previously used recorded lectures, 83% of students reported they had used this technology previously. Of this group, 58% reported they used recordings when they had been unable to attend a lecture, while 35% of students used them to supplement their learning. Qualitative comments from students, collected as part of the first questionnaire, confirm these findings.

> It was great when you missed the lecture as sometimes only reading lecture notes doesn’t give much insight into what was discussed.

> Can go back over the details that I may have missed or if I wasn’t able to attend lectures to see if there was anything not on the notes.

Another 4% of students used lecture recordings due to a specific health condition or disability while 6% reported that they always intended to use them but never quite got around to it.

Of those students with previous experience, 85% listened to them through BlackBoard, while 15% downloaded them onto a personal, audio device. More than half (57%) of students reported that they preferred recordings to be made of real-time lectures; 14% of students preferred recordings to be made separately and in isolation of the actual lecture, while 29% were not concerned one way or the other.

Despite the age profile of the student group, a number of students expressed views contrary to those commonly attributed to this generation. Many students expressed a preference for not using recorded lectures to replace face-to-face teaching and were not always comfortable with technology.

> I find if the lecturer is interesting and has a passion for the content, I am more likely to attend and put in the hard yards.

> I didn’t make use of them because I wasn’t sure how to (I’m not really good with computers) and not sure what equipment I needed.
Please stop trying to replace student/lecturer contact. Besides struggling away at home, it makes social stuff a struggle.

There is a significant decrease in attendance when lectures are recorded and therefore less questions were asked so learning opportunities and student interaction was decreased.

iLectures are helpful but not my preference for learning as they do not suit my learning style.

As a result of these concerns, the unit coordinator reassured students in week one, that face-to-face teaching time would not be lost or reduced as a result of lectures being recorded and available for download.

Student Attendance
The actual recorded student attendance (as measured by a simple head count) at lectures over a 13 week semester, ranged from a low of 75% attendance to a high of 95% attendance with an overall mean attendance of 84%.

Result of questionnaire two (end of semester)
At the end of semester, 46 (94%) students reported that they had “attended most if not all lectures except in cases of sickness or urgent family need”. This is consistent with the actual attendance as measured by head count, given a certain percentage of students who experience sickness / family hardship over the course of a semester.

Students were asked on a scale of 1-5 with 1 being Never to 5 being All the Time, how often they used the audio recordings in this particular unit. Students were advised that this frequency related to the number of recordings downloaded over the course of the semester and not the number of times they may listen to a specific lecture recording. Results are contained in Table 2.

<table>
<thead>
<tr>
<th>Frequency of Use</th>
<th>No. of students</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (Never)</td>
<td>27</td>
<td>55.1</td>
</tr>
<tr>
<td>2</td>
<td>16</td>
<td>32.7</td>
</tr>
<tr>
<td>3</td>
<td>6</td>
<td>12.2</td>
</tr>
<tr>
<td>4</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>5 (All the time)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>49</td>
<td>100</td>
</tr>
</tbody>
</table>

With a mean frequency of use of 1.6, the figures in Table 2 show that less than half the student group downloaded the lecture recordings infrequently, at most. Of those students who did, 36% reported that they did so when unable to attend a lecture while 50% used them to supplement their learning. Table 3 presents the data in relation to how useful the 22 students who had used them found them to be; on a scale of 1-5 with 1 being Not at All Helpful to 5 being Extremely Helpful.
Table 3: Reported helpfulness of recorded lectures

<table>
<thead>
<tr>
<th>Helpfulness of recorded lectures</th>
<th>No. of students</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (Not at all helpful)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>9.1</td>
</tr>
<tr>
<td>3</td>
<td>5</td>
<td>22.7</td>
</tr>
<tr>
<td>4</td>
<td>13</td>
<td>59.1</td>
</tr>
<tr>
<td>5 (Extremely helpful)</td>
<td>2</td>
<td>9.1</td>
</tr>
<tr>
<td>Total</td>
<td>22</td>
<td>100</td>
</tr>
</tbody>
</table>

The mean score in relation to the perceived helpfulness of this technology was 3.7. Clearly, although students did not frequently download the audio recordings of lectures, those who did found it to be very helpful on the whole. Of those students who did access them, an overwhelming 95% of students listened to them from their home computer while only 5% listened to them while using a computer at their university campus.

The following comments, collected as part of the second questionnaire, were typical of the student experience in relation to the lecture recordings.

As I attended all lectures and tutorials I didn’t feel the need to use the recordings as much as I would have if I was unable to attend. I think it’s a great resource and for revision purposes, it’s a really good idea.

I feel they would have been worthwhile had I not been able to make a lecture but this was not relevant to me.

Recordings are very good, as if I missed a lecture or had missed anything important in class it was great to have the opportunity to listen to it if I wanted to.

I have attended all the lectures and if I need to go back to the lecture I will read the lecture notes. I am more of a visual than an audio learner.

Although most students reported that the recordings were easy to download and simple to use, not all students had the same experience.

My computer is incredibly slow so I find it frustrating trying to upload the recordings.

I find it a time consuming process to download the audio at home, however, the computers at university seem to be a lot more efficient so I will endeavour to use them in the future.

If we could have had them in mp3 downloadable format it would be great.

I tried to but it was taking ages to download on my computer.
Although they didn’t feel the need to download the recorded lectures, some students, commented on the value of having them available just in case.

*Because I attended all lectures in the semester, however, if I was unable to attend I would definitely have used the audio recordings.*

*I would have listened to them if for some reason I had been unable to attend a lecture. I think it is a great idea.*

**Discussion**

This study does not support anecdotal assumptions that Generation Y students will not attend lectures if they are provided on-line. The results would appear to indicate that this generation are indeed discriminatory about the quality of teaching on offer and that they do value the interactive nature of learning that should arise out of face-to-face teaching.

Although only a minority of students actually used the lecture recordings, those who did found them to be of value. Flexible learning has many aspects of which pace, place and time are only some elements (Deakin University, 2008). The integration of this type of technology contributes in part to flexibility and recognises the diverse learning and personal needs of students without sacrificing other teaching and learning activities. Even those students who didn’t access the recordings appeared to value their availability on a ‘just in case’ basis. Knowing that they were available if it became necessary appeared to contribute to students’ confidence in their ability to undertake their study thus adding value to their overall student experience.

The technology platforms used by universities to launch the latest in technological teaching advances needs to take into account that not all students have high speed internet access or the latest in hardware systems. It is not appropriate to argue that universities can rely on students accessing these packages from university campuses. As discussed by Kennedy et al. (2008) if the commitment to flexible learning environments is genuine, access needs to be equitable and issues related to technical infrastructure outside of the university environment need to be considered.

Beyond the outcomes for students, there were other outcomes for the teaching staff that were not initially envisaged. An unintended outcome was the opportunity for the lecturer to listen to the recordings and reflect on lecturing style, points of emphasis and content. This provided a valuable opportunity to reflect on teaching practice as described by Kane et al. (2004). As the teaching staff became more confident over time that lecture attendance was not at risk, the unit coordinator became more confident with expanding the use of audio recordings and was able to be more responsive to the needs/requests of students for other information packages in audio format, for example, assessment task information. This unintended outcome suggests that audio recordings could actually enhance the *interpersonal relationship* between teaching staff and students as described by Kane et al. (2004).

One question that a study of this kind raises is, was there greater attendance than in previous semesters due to the availability of recordings? Is it possible that students, who may otherwise
have been predisposed to rely on recordings and not come to lectures, could actually be encouraged to attend after listening to the recordings and developing confidence in the subject knowledge and skills and personality of the teaching staff as per the ideas of Kane et al. (2004)? Further research that explores these sorts of questions would be valuable.

This study had a number of limitations. The class size was small and focused in one discipline. Research with larger groups and in various disciplines is necessary to further explore the role of audio recordings on students’ experiences of learning and on attendance. It is also possible that the act of doing a head count in a relatively small class each week artificially raised the attendance levels.

The student feedback scores on the Student Evaluation of Teaching and Units questionnaire at the completion of this unit were higher than previously recorded for the same subject. This feedback on its own, does not capture the effectiveness of the teaching or the impact of lecture recordings on student learning outcomes (Biggs & Tang, 2007). However, it does support the findings of this research that the overall student experience was enhanced as a result of making lecture material available on-line.

Student attendance is not a learning outcome. Therefore, in one sense it doesn’t matter whether students attend lectures. What is important is whether their learning is transformative and they achieve the intended learning outcomes determined for that unit of study. However, face-to-face teaching via lectures still remains a valued vehicle for interactive teaching and learning by both staff and students. It is, therefore, not inconsistent to value student attendance while at the same time providing on-line lecture recordings. Dillenbourg (2008) argues that “the borders between classroom/campus activities and distance activities are fading away” (p.127). In this context, technology enhanced learning is only one component of pedagogical interventions undertaken by academic staff. It adds value as a whole to the teaching and learning and student experience and allows teaching staff to further develop those attributes that promote excellent teaching as defined by Kane et al (2004).

Conclusion

This research indicates that providing on-line recordings of lectures, does not in itself, lead to reduced attendance at lectures. It has provided evidence, as called for by Kennedy et al. (2008), that shows how pedagogically driven implementation of new technology can contribute to positive student outcomes and experience. Student attendance is more likely to be attributed to the interaction of teaching factors as described by Kane et al. (2004) that engage students and contribute to their learning experience within that unit of study. Although only used by a minority of students in this study, providing this type of teaching technology can contribute to overall flexibility in educational environments that are inclusive and can better meet the needs of a diverse group of students. Recorded lectures, available on-line, should not replace face-to-face teaching but can be seen as an opportunity to add value to existing teaching and educational strategies, both face-to-face and on-line. Educational technology needs to ensure that a broad cross section of students is able to use the technology at their place of choice in a way that is
simple and easy to use. Downloading also needs to be as flexible as possible so that downloading to portable audio devices is easily performed.

The provision of recorded lectures can enhance teaching and learning opportunities beyond mere convenience for those students who are otherwise unable to attend lectures. This study supports the view that they have the potential to enhance student/teacher relationships and contribute positively to overall student experience.

References


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