Australian Journal of Teacher Education

Volume 43 | Issue 2 Article 6

2018

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Recommended Citation
Dobinson, T. J., & Bogachenko, T. (2018). Issues Arising from the Use of University Ilectures: A Case Study of One Australian Campus. *Australian Journal of Teacher Education, 43*(2).
http://dx.doi.org/10.14221/ajte.2018v43n2.6

Issues Arising from the Use of University Ilectures: A Case Study of One Australian Campus

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Abstract: Australian universities have moved towards greater reliance on technology as a learning tool. The use of podcasts or recorded lectures (sometimes called ilectures) is now common practice in both on-campus and online modes. Using a qualitative approach to data collection which included recorded interviews, an online survey of open-ended questions and the researcher's own reflections on using ilectures, this study investigated 1) the impact of ilectures on the teaching and learning practices of both academics and students 2) student attendance in recorded lectures and 3) the responses of lecturers and students to being recorded. Findings highlighted a mix of reactions to, and experiences with, the ilecture learning tool, underscoring the need for lecturers and students to receive guidance in its use and for those driving the use of this technology to be fully mindful of the impact such a tool can have on teaching and learning.

Introduction

Technology-enhanced learning has become almost ubiquitous for higher education students and teachers. Technological learning tools are no longer seen as novel or the domain of devotees alone. Factors driving this move include expectations that universities modernise their approaches to teaching and learning to remain competitive (Heilesen, 2010); both student and public demand for better services (Gourley, 2010; Tapscott & Williams, 2010); and the search for best practice in teaching and learning. One particular practice that has gained in popularity over the years is pod-casting or video recording of lectures. In some university settings these have come to be known as "ilectures". It is not unusual for students to rate this medium more highly than traditional print materials for usefulness, reporting that they rely on this format for revision, note-taking at a slower speed, catching up on missed lectures and having a complete record of their lectures (Copley, 2007; O'Callaghan et al., 2017).

In spite of the move towards technology-enhanced learning, however, the effectiveness of technology in adding to learning experiences is sometimes questioned (Guri-Rosenblit, 2009; Lonn & Teasley, 2009; Price & Kirkwood, 2014) and there is no consensus on what "enhancement of the student learning experience" actually means (Kirkwood & Price, 2014, p. 6). Some studies have found that, for various reasons, the use of ilectures (or podcasts) is less popular with students than traditional face to face lessons (Zeldenryk & Bradey, 2013).

This study probed the use of ilectures at a large university in Western Australia which has many online offerings for offshore and Open University students as well as on-campus students who are unable to attend every lecture due to work commitments. The project was designed to investigate the impact of ilectures on the teaching and learning practices of both

academics and students; student attendance in recorded lectures; and the responses of lecturers and students to being recorded.

Technological Teaching and Learning Tools and Pedagogy

Since the advent and spread of the internet, a variety of web-based technologies have been adapted or specifically developed for the purposes of higher education. With the growing use of on-campus computers and the internet, computer-based technologies have long been an integral part of students' study routine. It has been suggested that these technologies may offer unlimited possibilities in education by providing greater flexibility and increasing the scale of learning (Jowitt, 2008). Students now have a variety of tools and approaches at their disposal as well as ideas and theories of learning associated with the use of digital technology and some believe that e-learning has the potential to increase student motivation (Popova, Kirschner, & Joiner, 2014). In addition, a combination of asynchronous (not happening in real time) online learning with synchronous (real time) online learning is considered an effective way to develop a sense of community and social presence (Garrison, 2011).

Ilectures are perhaps one of the most popular and accessible digital learning tools. They consist of video or audio recordings of a university lecture that can be viewed or downloaded from the internet (Kardong-Edgren & Emerson, 2010). There is a range of ilectures used in higher education and they differ in purpose and length. For instance, ilectures may contain a recording of the whole lecture or provide a part of it (Kay, 2012). They may also be a vehicle for information transfer or more interactive in nature.

Research shows that these tools are associated with better access to, and flexibility of, education (McGrath, 2015; Sarker, 2013). They cater for the needs of various groups of students and thus have a potential to benefit students from different backgrounds and with various needs. For instance, studies report that podcasts may benefit students with disabilities (Popova, Kirschner, & Joiner, 2014) and learning difficulties (Kardong-Edgren & Emerson, 2010). Speakers of English as an Additional Language were also found to benefit from the availability of ilectures (Leadbeater et al. 2013 as cited in McGrath, 2015, p. 2).

Despite the popularity of recorded lectures, however, there are a number of problems and challenges associated with their use. While some of these issues are pragmatic and related to the application of educational technology (O'Bannon, Lubke, Beard, & Britt, 2011) or lack of experience with it (Middleton, 2009), others are related to pedagogy. Some researchers, for example, have raised concerns that the novelty value of ilectures is gained at the expense of deep learning and critical thinking (O'Callaghan et al., 2017; Sarker, 2013). This may be due to the often more scripted nature of lectures which are going to be recorded due to time constraints or issues of lecturer censorship with material that could be seen to be critical. Although Bos, Groeneveld, van Bruggen, and Brand-Gruwel (2016) did find that in case of their participants higher order thinking skills were not significantly impacted by the replacement of face-to-face learning with ilectures, the data are needed from more locations, disciplines, and across the university years, and longer-term studies are needed to provide a better understanding of this impact. There is also a lot of uncertainty about the actual use and impact of recorded lectures. Kay (2012) concludes that more research is needed on the qualities of recorded lectures and how they might influence the learning process as well as lecturers' perceptions of this teaching and learning tool. When given an opportunity to provide feedback, Kay (2012) maintains that both students and lecturers perceived the impact of the recorded lectures in different ways. Valenzuela, Fisher, and Whale (2013) investigated student' perceptions of differences in lecturers' interaction patterns when recorded or online

and compared them with their perceptions of interaction in face to face settings. The former included discussion boards, email, chat room, and lecture recordings (podcasts and vodcasts). They found that, overall, the perceived differences were not significant, with weaknesses and strengths of the lecturer identified by students in both face to face and online settings. Other studies have attempted to draw links between the use of recorded lectures and higher levels of procrastination amongst students (Griffin, Mitchell & Thompson, 2009; Gysbers, Johnston, Hancock, & Denyer, 2011). Some have also claimed that recording lectures can lead to lower grades (Fernandes, Maley, & Cruickshank, 2008), higher grades (Wieling & Hofman, 2010) or no difference in grades at all (Babb & Ross, 2009; Wieling & Hofman, 2010).

Lecturers worry that increased availability of recorded lectures will affect class attendance (Kay, 2012), however, studies which have looked at student attendance in recorded lectures have reported mixed findings. Many studies have found that students do not tend to replace attendance at face to face lectures with ilectures (Gorissen, Van Bruggen, & Jochems, 2012; Gupta & Saks, 2013; Karnad, 2013; Larkin, 2010; Mather, Caesar, Chin, & Fei, 2015) but instead prefer a blended learning approach where they mix a little of both modes together (e.g., Zeldenryk & Bradey, 2013). A study conducted by Saunders and Hutt (2015) in a British university revealed that only 10% of the participants (n=84) resorted to ilectures as a substitute for face-to-face instruction. Other studies have endorsed this and found that, generally speaking, the availability of recorded lectures has little to no effect on student attendance at live lectures (Holbrook & Dupont, 2009; Pursel & Fang, 2012; Saunders & Hutt, 2015; Von Konsky, Ivins, & Gribble, 2009). In Saunders and Hutt's (2015) study, for instance, students used recorded and face to face lectures for different purposes. The former were mainly utilised to address the gaps in students' knowledge, revise learning material and prepare for exams (which is consistent with the findings reported here), while they appreciated the latter for an opportunity to gain more comprehensive information and to ask questions. Any drop in attendance could be explained by natural decreases in student attendance over the duration of the study period, student age and maturity and numbers of students with disabilities who cannot attend on-campus. Among other reasons there might be work and family commitments, lifestyle and long commute times (as reported, for instance, in Zeldenryk & Bradey, 2013). Moreover, students who miss a lecture do not necessarily watch it online according to Hasegawa (2011). Neither do students who work long hours use recorded lectures more than their peers who work fewer hours (Kazlauskas & Robinson, 2012). One reason for this might be time constraints. Recorded lectures are often too long and it can be difficult for students to locate the important relevant bits (Gorissen, Van Bruggen, & Jochems, 2012).

More research is needed, therefore, to better understand the way this technological tool is being used, its effects on classroom attendance, and students' and lecturers' experiences of being recorded on a daily basis. There is also a need to triangulate studies to get a more rounded picture of the issues involved (Gorissen, Van Bruggen, & Jochems, 2012).

Methodology for the Study

This study utilised qualitative approaches to gather participants' experiences of using recorded lectures. These approaches included the researcher's own reflections on ilecture use; semi-structured, one on one, face to face interviews; and open-ended survey questions. Although the survey questionnaire included some closed questions (e.g., whether students use ilectures or not; see Appendix 1), its main purpose was to capture student experiences

through qualitative enquiry. The study was approved by the university Human Research Ethics Committee.

Participants

In total, 17 university lecturers (including the principal researcher) and 282 undergraduate students participated in this study. Initially, the participants were invited based on the purposeful sampling (Merkens, 2004) so they represented different Faculties and Schools. These included Humanities, Science and Engineering, Health Sciences, and the Business School. Thirty-eight lecturers were contacted through the emails provided on the university website and twelve provided their consent to participate. Following the interviews, four more lecturers were contacted using the snowball sampling method (Merkens, 2004) whereby they were recommended by their colleagues as either someone who uses ilectures in a creative way or chooses not to use them at all. Hence, the final sample represented different discipline areas, length of teaching experience, attitudes towards ilectures, and the ways this tool is utilised (or not) in the classroom.

Out of 500 questionnaires distributed in the faculties and schools through the participating lecturers, 282 were filled in and returned by students. Of these, 207 were from on-campus students and 75 were from online students. Lecturers and on-campus students provided their consent to participate by signing the Consent Form, while on-line students provided their consent by filling in the Survey Monkey instrument and submitting their response.

Although neither lecturers nor students at the university are obliged to use ilectures, a number of resources and training opportunities are available for them through the university website. In addition, the Teaching and Learning team run iLecture Overview sessions during the O-Week, which explain the use of the university's preferred platform Blackboard and the Echocentre which records and houses all recordings of lectures alongside ad-hoc, school specific training sessions on demand throughout the year. While attendance is voluntary, some training sessions have been mandated by individual departments or schools over the years. This means that the majority of the lecturers and students at the university have exposure to ilecture technology either directly or indirectly.

Data Collection and Analysis

The process of data collection comprised four steps (sometimes performed simultaneously). First, the principal researcher, as a lecturer at the university, kept a journal and reflected on her own first hand experiences of using ilectures. It included impressions or experiences of using the ilecture equipment during the semester and comments made by students present in lectures which were being recorded.

Second, lecturers were interviewed about their practices with, and attitudes towards, the use of ilectures at the university. They were asked to explain their answers and give examples (e.g., why they choose to use or not to use ilectures, what other teaching and learning tools they use, how ilectures can be improved). An interview lasted for twenty to thirty minutes on average, providing the participants with enough time to fully express their opinions and describe their practices while fitting in with their busy schedules.

The third step of data collection included a qualitative survey for students based on the interview questions. This tool allowed collection of data from a large number of participants. In addition, a qualitative survey provided students with an opportunity to express

their ideas in writing without the time pressure of the interview (e.g., Bourque & Fielder, 2002; Mangione, 1995). The paper surveys were distributed to participating lecturers for their students and/or a link was sent to an on-line survey. A survey tool can have drawbacks (answers may not be clarified and responses are de-contextualised) (De Vaus, 1991), so students were then asked to indicate if they would be interested in being interviewed. Six students were invited for follow-up interviews which, along with lecturers' interviews, allowed for holistic responses, various interpretations of the participants' responses (Miles, Huberman, & Saldana, 2002) and more in depth exploration of individuals' understandings and explanations (Merriam, 2009).

Interviews were transcribed and content organized thematically using a Miles, Huberman, and Saldana's (2002) qualitative approach to analysis (i.e., data reduction through coding, data display, and conclusion verification). Data from the surveys were also collated and categorised thematically alongside interview data. This allowed for data triangulation and representation of a variety of perspectives from different stakeholders – lecturers, researchers and students, which in turn increased validity and trustworthiness of the study (Brown, 2009).

Student Uptake of the Ilecture Facility

The majority of students in the study, both online and on-campus, indicated that watching recorded lectures was a large part of their study routine although the reasons for this differed amongst on-campus and online students. On-campus students reported using ilectures to catch up on missed lectures if they stayed at home and for remediation of difficult parts of the lecture. They also used them for note-taking, preparation for classes (i.e. the ilecture was provided before the lecture by the lecturer and was not a recording of the class but only of the lecturer talking to the PowerPoint slides) and for revision purposes for exams. One physics degree student commented that he just could not concentrate in the large face to face lectures with many people around him and the lecturer "a speck in the distance". He "zoned out" he said. In the quiet of his bedroom he was able to be more attentive to what was being said.

For the on-line students ilectures were used mainly to receive all their materials but especially as vehicles to learn about guidelines for the assignments, to get additional information about the unit of study and to get a summary of the study material. One on-line student mentioned that she watches ilectures "When I'm feeling lost." Another student reported the main reason for accessing ilectures was "for the experience of observing the tutors teaching approach mainly" while learning the content from the "topic weekly videos" provided in the unit. Some other students felt that being able to see many ilectures gave them multiple perspectives on the same topic while many online students said watching ilectures gave them a sense of belonging to the university.

At the same time, 26 out of 207 on-campus and 30 out of 75 on-line students reported that they did not use ilectures. These non-users felt that recorded lectures were unnecessary because they were physically present in the lectures. In contrast to the physics student mentioned earlier, they found ilectures hard to listen to at home because there were too many distractions. Some said the recorded lectures were boring, irrelevant, or time consuming and not worth the effort involved in sorting out the technical problems they invariably encountered. Online students complained that they had not known about the ilecture availability in their units of study and in any case recorded lectures were pretty much redundant because there was so much other material and reading provided. Some felt that their approach to learning did not match watching lectures on a screen and they preferred other modes of online interaction such as Blackboard Collaborate. One on-line student in a

TESOL (Teaching English to Speakers of Languages) unit commented, “There is enough reading and writing to do without also having to sit and watch the same information. Most of the time it is a bit superfluous when I can research myself.” All students admitted to being put off the use of recorded lectures by the frequency of technological problems they experienced. For instance, an on-line student said, “They use too much bandwidth and downloads for my rural, limited internet connection.”

Student Attendance at Lectures which were Being Recorded

With regard to on-campus student attendance at recorded lectures and workshops it was difficult to separate all the different contributing factors involved. Student face to face attendance at classes is obviously dictated by many more factors than whether or not there is a recording available afterwards. Aspects such as the subject of the lecture; whether the lecture is aimed at developing skills or is just content-based; whether the lecture is interactive or monologue; whether the lecture is more like a workshop requiring students to participate or just an opportunity for information transfer and note-taking. Pinning attendance down to only one factor would be too simplistic. Many students in the study indicated that they attend lectures or workshops despite the availability of recorded lectures. One student said, “[I try] to attend all lectures especially for Japanese as it is way more helpful…. It's language”. Another added, “I do like to go because I am paying for my degree and I have a very poor work ethics”.

Students recognised that language skills need to be practised and therefore they need to be in an interactive environment for this to happen; something which cannot be provided by a recorded lecture or workshop. Others were happy to take everything the university has to offer as they said they were paying large sums of money for this privilege. However, some students did feel that attendance at lectures and workshops was negatively impacted by the availability of ilectures and they had empathy for lecturers who were left trying to operate with small class numbers. One student said, “I feel they [ilectures] discourage regular attendance and discussion. It's harder on the lecturers, seeing an empty class”.

Comments from lecturers also fell equally into those that reported ilectures not impacting student attendance in their classes e.g. “Student attendance is not a problem, [but] I cannot compare as there is no control group” and those that reported a negative impact:

> *I've got a room booking that would hold 60-70 people and only 12 people are using it. That's bad in terms of the cost and effort, my effort to stand up and teach and interact, cos I tend to be a bit interactive, I'll ask questions and expect students to respond a bit. I like a live audience. It is very disappointing*.

Even those lecturers who reported diminished numbers in their classes were keen to extol the benefits of recorded lectures for their students, however:

> *I wouldn't go back to not recording because that gives students more flexibility. I have an 8am-10am lecture and the attendance is the third of a class, I am sure there would be more if ilectures weren't available but I am not sure the value for the students would be greater because so many of them would be blurry eyed, if they are not morning people.*

Such comments reveal the extent to which academics faced with situations which may not be ideal for them put the learning experience of their students ahead of their own teaching experience.

Students' and Lecturers' Experiences of Being Recorded in Lectures

This study was especially focused on uncovering the feelings of students and lecturers when confronted with being recorded in lectures and workshops on a regular basis. Overall, the students in this study reported that they did not mind being recorded in lectures. They said, "It helps me concentrate more". I am happy "that I have the ability to review it if I wish" and I feel "reassured I can go over content I don't fully understand". Interestingly though, one student was quite candid in her admission that she was happy to make use of ilectures so long as she was not "the one getting recorded".

It became apparent that ilectures were not the same entity for all courses and units across campus, however. In the Humanities faculty lectures tended to be more interactive, especially in the School of Education where they were more like workshops and numbers of students attending were often smaller. Students attending the large impersonal lectures in tiered lecture halls tended to say they were unaffected by the recording while those in the smaller more interactive workshops of only 30 students, usually held in classroom type settings, said they were "reluctant to ask questions" or they felt "uncomfortable, very uncomfortable" knowing their performance was going to be captured for posterity. One student admitted she did not like being "monitored" without her permission, feeling it was an invasion of her privacy. Others felt self-conscious about what they looked like or what they might say or even how they might sound especially if they said something "stupid" or got "the answer wrong".

Lecturers' Observations of Students

Lecturers felt that their students remained unaffected, on the whole, by the recording of lectures and workshops. They commented that "students don't mind", they "forget" or "don't care". In fact some felt that students would be more stressed if they knew the lecture was not being recorded and would not attend to what was being said as a result. There was some acknowledgement, however, that some students feel a little less than comfortable with being recorded and may speak differently knowing they are being captured on video. Sometimes it appeared it was less the recording that made students fell ill at ease and more the task itself as seen in the comment, "When passing the microphone around for discussion, some students get very nervous as soon as they get the microphone in their hands". Of course, students may feel even more uneasy holding a microphone and being recorded

Lecturers' Reflections on Their Own Experiences

Lecturers' reflections on their own responses to being recorded during ilectures included concerns about "Keeping the online audience in mind" while teaching to the face to face audience at the same time. As one lecturer said:

> *It's something I have to be aware of… keeping in touch with the external students on the BlackBoard discussion board. I am often checking with them how it is coming through, if the audio is coming through.*

Other lecturers described how they would overcome the dilemma of teaching two different audiences at once (face to face and ultimately the online audience) by repeating the question that students asked from the back of the room for the benefit of the online audience and keeping to a minimum any tendencies to flick backwards and forwards between slides.

One lecturer commented that she was in the habit of "turning the recording on and off", while another said this was also a technique to be used in the event of sensitive issues arising.

The researcher and writer of this article also diarised her experiences of using ilectures for the first time and summarises this experience below:

> *In the beginning mastering the technology was certainly an issue. I found myself talking to the camera, fiddling with the technology (pausing and unpausing for discussions) instead of listening to students. Moreover, I felt I was behaving differently. I was more conscious of finishing 'on time' and 'covering' everything so that ilectures were slick and self- contained but more 'surface' and lacking in response to my students' needs. Students who present in lectures of mine which were being recorded as well as those which were not observed a difference in my delivery they said. I was more clipped, less willing to entertain questions, less honest or personal in ilectures and less critical of content. I also felt concerned about student privacy issues so I would refrain from using students' names when nominating them to speak, making the teacher –student interaction somewhat stilted and impersonal. Of course there was also the added burden of what to wear each time I was being recorded and how to do my hair.*
>
> *(Researcher's personal reflections on being recorded in ilectures)*

While the recording of lectures obviously has great benefits for both students and lecturers, particularly where lectures have to be repeated many times in large units, the previous comments point to the need for some professional development for lecturers who are teaching to two audiences in different contexts simultaneously; concerned with privacy issues and worried that their rapport and the dynamics of the room might be affected by being recorded.

Students' Observations of Lecturers

Students' observations of lecturers being recorded in ilectures were mixed. Many espoused the positives of the ilecture as a teaching and learning tool, feeling that lecturers actually worked on improving their "performance" if they knew they were being recorded. Others were less convinced and pointed to the fact that recording of the lecture limited the naturalness and spontaneity of the content as well as the movements of the lecturer around the room. Sessions were more scripted and less spontaneous as seen in these comments: "[The lecturer was] restricted as to digressions or elaborating on topics"; "Discussion in a recorded lecture is more limited… more teacher directed"; "[The lecturer had] less movement or use of physical objects, confined to certain parts of the room, stayed near the microphone".

In terms of the techniques used by lecturers in ilectures, some students were quite scathing but quick to point out that performance with ilectures across the board was varied:

> *Sometimes a lecturer will speak louder and more clearly and others will trip-up more and be more difficult to understand. It depends on the lecturer.*
>
> *Lecturer needs to be conscious of recording e.g. stop and start for watching videos and also making sure they repeat questions from class before answering.*
>
> *Does not affect the quality of lecture.*

It seems the camera was also a distraction for some lecturers as noticed by one student who commented, "One lecturer started looking at the camera for the benefit of online students. So he looked like he was presenting to the camera instead of the class". Some students also felt that the recording of the lecture really affected the atmosphere in the class.

One student recalled feeling “awkward” because her “lecturer wasn't as relaxed” resulting in “a more formal atmosphere”.

Discussion and Conclusions

This study sought to shed light on 1) the impact of ilectures on the teaching and learning practices of both academics and students 2) student attendance in recorded lectures and 3) the responses of lecturers and students to being recorded. Findings were both predictable and surprising. What was predictable was that most of the students reported utilising the ilecture tool in their units. What was surprising was that a greater proportion of face to face, on campus students reported using them than online, off campus students. This seems to give credence to Hasagawa’s (2011) ideas that it is not necessarily those students who miss the face to face lectures or who do not have access to face to face lectures who watch them online. As Kazlauskas and Robinson (2012) pointed out, some students in universities often work long hours while studying and so they may not have the time to access missed lectures online. Ironically, it can often be those students who have ample time to attend face to face lectures who also access the online lectures.

A large factor in the amount of ilecture use was knowledge of the very existence of such a tool. With Blackboard pages crowded with resources, students in this study claimed they often did not know about the availability of this resource or had difficulty finding where the recordings were housed. The style of the delivery of the lecture, its relevance to the student and the length of the lecture were also factors influencing utilisation of the ilecture facility. Moreover, as with all tasks in life, students had to weigh up the advantages of investing significant amounts of time and effort sorting out technical problems that invariably arose with the accessing of ilectures against the perceived benefits of listening to lectures after the event. This effort was often deemed wasted if the recorded lectures they accessed were boring and irrelevant. As Cilesiz (2015) has observed, however, the quality and type of encounter that students experience with ilectures can change over time (Cilesiz, 2015) as they go through a slow process of “ignorance, disillusionment, crisis, and coping” (p. 471). The same might also be said of the lecturers. If students and lecturers come to know only the ilecture mode, no doubt they will adapt to this medium and in some cases see little difference between this mode and their face to face encounters in certain disciplines. In some faculties, lectures involve such large numbers of students that watching the lecturer online and watching him or her face to face is not any different in terms of teaching style. As one student in Cilesiz’s study (2015) remarked, “lot of the business classes are big. So even if they are not [recorded], it’s still like the TV class, because there’s no student participation, it’s just the professor lecturing, students just take notes” (p. 484).

In terms of the popularity of ilectures as a teaching and learning tool, students were overwhelmingly more positive than negative in this study. On-campus students acknowledged the usefulness of ilectures for ‘catch up’, remediation work, revision or even preparation for lectures and workshops if ilectures were recorded and distributed to students prior to the face to face event. For students who find it difficult to concentrate in large forums or even to stay awake, recorded lectures allow a self-paced approach it would seem. Online students reported the main use of ilectures for them to be the inclusion of extra guidance for assessments or to have administrative tasks explained or even just to make them feel less ‘lost’ and experience a sense of ‘belonging’ to the university. This feedback highlights the need for something more than just discipline content to be conveyed to students studying in online mode and might explain why some studies have found that the use of ilectures (or

podcasts) is less popular with students than traditional face to face lessons (Zeldenryk & Bradey, 2013).

Where some studies have raised questions about the novelty value of recorded lectures and warned of surface approaches to delivery which compromise deep learning and critical thinking (e.g., Sarker, 2013), neither students nor lecturers in this current study explicitly stated such concerns. Some were, however, critical of the transmission mode of ilectures and the tendency for lecturers to be less spontaneous, critical or controversial and more self-conscious with their content and delivery. One solution to this, they suggested, might be the use of other more synchronous, interactive tools instead (although these tools often include a recorded element as well). Some felt that their particular approach to learning did not match passive engagement with lectures on a screen and they preferred other modes of online interaction such as Blackboard Collaborate. Of course, large face to face lectures can be equally as passive and so the criticism here is not so much of the technological mode of delivery but of the expertise of the lecturer in designing a unit of study, including the individual lectures within it, and delivering this input in an engaging and thought provoking way. As already discussed, Valenzuela, Fisher, and Whale's (2013) study reported students finding weaknesses and strengths in lecturer performance in both face to face and online mode. Some students in this current study felt that recording a lecture forced lecturers to improve their performance and make it more polished, although, it was felt that lecturers may need to acquire skills required for communication in on-line settings in order to develop a more effective style in recorded lectures.

Attendance issues in recorded face to face classes were not definitive in this study. As in Kardong-Edgren and Emerson's (2010) study, students and lecturers disagreed about the impact of recorded lectures on student motivation to attend classes. Some said they felt students attended face to face sessions despite the availability of the recorded version while others felt that the recordings did impact on classroom numbers and make it difficult for the lecturer to feel their efforts were appreciated. Links between classroom attendance and the use of the ilecture tool are hard to establish, however, because student behavior, student availability, the dynamics of classroom interaction and teacher/student relationships cannot be ruled out as factors affecting face to face attendance in lectures or workshops. The number of possible reasons why students do not attend makes the issue too complex to be able to draw connections between the availability of lectures online and reductions in attendance. It would seem that as Zeldenryk & Bradey (2013) found, students may just prefer a blended learning approach where they mix a little of both modes together.

Students and lecturers' responses to being recorded again were very varied. Some students admitted to feeling ill at ease or gauche knowing that they were being recorded but these students were mostly those who were being recorded in sessions with small numbers that were more akin to workshops than lectures and involved audience participation to varying extents. Privacy issues also arose and the extent to which student permission had been gained for the recordings (a topic for another paper). Students used to large impersonal lectures in tiered lecture halls, however, claimed to be unaffected by the recordings.

Lecturers' reflections included both positive and negative comments, which is in line with previous research on lecturer perceptions about ilectures (see an overview in O'Callaghan et al., 2017). In the current study, their comments were mostly focused on anxieties related to teaching two different audiences simultaneously. They admitted having to develop techniques to get around this such as constant repetition and making sure the lecture or PowerPoint slides remained linear in progression. This compulsion to remain on track often meant that lectures became overly scripted with little digression, something which both lecturers and students found to be a negative trait of recorded lectures. Unwillingness to stray from the scripted content and PowerPoint notes, lack of spontaneity and guardedness about

critique and personal comment were also issues raised by both students and lecturers and viewed as a drawback to the use of recorded lectures.

Recommendations

It would appear from the discussion above that there needs to be a two-pronged approach to dealing with issues raised by the use of ilecture technology. As suggested by Englund, Olofsson, and Price (2016), professional development for lecturers is needed if this medium of instruction is to be effective. Issues of pedagogy should be dealt with in professional learning sessions organised by tertiary providers. As many institutions already do, lecturers can be equipped with cross cultural knowledge about content matter, social etiquettes and rules for what can or cannot be said as well as tips for delivering lectures to two audiences simultaneously: the face to face audience and the online audience. In addition, workshops and "crash courses" on the use of this technology for students and lecturers were found to be a desirable measure, and recommendations to the technical team for further improvement of the quality of ilectures were made by the participants of the current study. These included video and audio quality, bandwidth, interactivity from the technical viewpoint, and other aspects that will be discussed in another publication.

Added to this can be workshops and information sessions for both lecturers and students during orientation, explaining the use of ilecture technology and alerting students to issues connected with their use. There needs to be an investment of time in setting up webpages for FAQs for both students and staff and forums for interactive feedback on the use of ilectures. There may also need to be a move towards clearer guidelines recommending that the ilecture tool be restricted to lectures which are conducted in transmission mode rather than workshop style sessions if the feelings of students who are reluctant to be captured on camera are to be respected. A more workshop style of delivery could utilise another online tool such as Blackboard Collaborate in which students voluntarily join the chat room knowing that they will be recorded. Issues of privacy which are present in every instance of "capture and gaze" (Ibrahim, 2010, p. 60) need to be further deconstructed and are too complex to be addressed here. They form the subject of another paper.

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Appendix 1
Survey Instrument for On-campus Students

Dear Student,
Please answer the questions below and send the completed survey to (contact details).

1. Do you ever use the ilectures provided in your units of study (please highlight the right option)? □ Yes □ No
   If yes, how often? _____
   In which units? _____

2. If so, what do you use the ilectures for?
   _____

3. If not, why not?
   _____

4. In your opinion, are there any benefits of ilectures? If so, what are they?
   _____

5. In your opinion, are there any drawbacks to ilectures? If so, what are they?
   _____

6. How do you feel when you are in a lecture that is being recorded?
   _____

7. If you were in a unit that was recorded and a unit that was not recorded with the same lecturer, did you notice any differences in lecturer delivery?
   □ Yes □ No

8. If yes, what were the differences?
   _____

9. How do you think ilectures for your units could be improved?
   _____

10. Do you have any further comments about the use of recorded ilectures in units?
    _____

11. Have you got any ideas about alternatives to ilectures for your units?
    _____

Please add here any other information you think is relevant or that you did not have room for above:

_____
_____
_____
_____
_____
_____
_____
_____
_____

Would you agree to be interviewed about this topic? □ Yes □ No

If so, please provide your email address here: _____