

# Diverse students and lecture recording technology: can lecture recording replace lectures?

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## STRUCTURED ABSTRACT

### CONTEXT

Higher education students are increasingly coming from diverse backgrounds – e.g. mature aged professionals studying to further develop their career and/or students who live farther away from the campus. As a result, universities are moving away from the traditional teaching methods and introducing different technology and teaching approaches to accommodate the needs of diverse students. Lecture recording (LR) technology is one such technology that has been widely accepted by universities in Australia in the recent years. While LR serves various purpose, one of the main reasons universities have been using this technology is to accommodate students who can't attend the lectures. However, whether lecture recording technology is actually beneficial for students is a widely debated topic.

### PURPOSE

This paper is part of a wider research which investigates the enablers and barriers to the acceptance of educational technology by academics in Australian Higher Education Context. This paper summarises the findings from this research on lecture recording and its impact on various aspects of students.

### APPROACH

A qualitative approach was taken to undertake this research. The research was conducted using focus groups with academics at Swinburne University of Technology in April to June 2014 – during the first semester of automated LR at the university. Academics were invited to participate in the focus groups and four focus groups were conducted with eleven participants in total. The focus groups were then transcribed, and the transcriptions were analysed using a thematic analysis approach with the help of NVivo.

### RESULTS

Although literature suggest that lecture recording impacts student attendance negatively, findings from this research show that there is little evidence behind it. The majority opinion is that student attendance can be low for a number of reasons and it can not be linked directly to one factor like the LR.

### CONCLUSIONS

Students with diverse needs often are faced with limited options regarding lecture attendance and LR is an important tool that allows them to review lecture materials without attending the lectures. Although LR is here to stay, and students from diverse backgrounds continue to benefit from LR technology, not all lecturers are convinced that it provides sufficient benefit to the student and/or lecturers.

### KEYWORDS

Lecture Recording, student attendance, technology and diversity

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## Introduction

Lecture recordings (LR) have been perceived as useful resources for students (McElroy & Blount, 2006; Phillips et al., 2007) (and in some cases, students have even demanded this technology be used [e.g. University of Melbourne Student Union [UMSU] (2012)], even though research has shown that it is not necessarily helpful for improving their grades (Drouin, 2014; A. Williams, Birch, & Hancock, 2012).

LR has been around for quite some time now in Australia and elsewhere and a report in 2013 (Sankey, 2013) mentioned that 57% of the Australasian universities were using Echo360, the primary or its predecessor Lectopia, the primary lecture recording technology.

Altogether, there is little evidence to suggest whether it is helpful or harmful for student learning. Research shows that higher-performing students benefit more from lecture recordings because they use it as a supplementary tool, but LR may be detrimental to weaker students who do not attend live lectures and use the recordings as a substitute to lectures (A. Williams et al., 2012; B. Williams, Pfeifer, & Waller, 2013). However, the literature suggests that positive and negative impact largely depends on context and there are no universal generalisations.

Some researchers “fear” that lecture recording may have negative impact on attendance (Drouin, 2014) whereas other research suggests that attendance largely depends on students’ personal preference, and lectures or lecture recordings plays little role in influencing student attendance (Yoon, Oates, & Sneddon, 2014). However, whether attendance itself is valuable is another question altogether.

The impact of LR on student performance has been the focus of some research publications, but there seems to be no agreement: while some research shows that lecture recording has positive impact on student performance (McElroy & Blount, 2006; Phillips et al., 2007), others find no direct correlation between LR usage and final marks of exams (von Kinsky, Ivins, & Gribble, 2009) or even discovered worse student outcomes in some cases (But & Shobbrook, 2012).

Over the past few years, Australian universities have continued to grow the numbers of Echo360 users – with more than 600,000 Australian students using Echo360 (as of 2017) (EINPresswire, 2017). To further improve the lecturer and student experience of Echo360, a new platform called the Active Learning Platform (ALP) technology has been introduced and adopted by some universities. This new platform, designed to actively engage students through a range of interactive tools, is still in the pilot stage at most early adopting universities. Early research (Duffy, James, & Campbell, 2017) into ALP shows that this new platform resulted in higher engagement of students – with right amount of support from the relevant lecturers and professional support staff themselves.

On the other hand, today’s students are increasingly coming from diverse backgrounds – students from international, remote and/or regional backgrounds, mature aged and/or working – and lecture recordings are designed to accommodate the needs of these students. However, are lecture recordings enough to replace live lectures?

## Background

This paper is part of a wider research which investigates the enablers and barriers to the acceptance of educational technology by academics in Australian Higher Education Context. In 2014, Semester 1 Swinburne University of Technology joined other universities in making lecture recording opt-out rather than opt-in, in the name of SwinEcho. This provided with an opportunity to conduct research on how academics perceived the change.

During this semester, multiple focus groups were conducted with Swinburne University lecturers from various disciplines to identify their opinion regarding lecture recording. Although there were multiple focus groups involving lecturers from other disciplines, this paper summarises the findings from the lecturers specifically from Engineering background.

## Research Methods

This is a qualitative research, based on the data provided by the academics who participated in the focus groups. There were five participants from the Faculty of Science, Engineering and Technology and they were asked about their opinion regarding impact of LR on student attendance, student engagement and overall student learning.

## Findings

The themes that emerged from the discussion provided the following outcome:

- **Impact of LR on student attendance:**

Some of the participants were worried that students may not turn up because the recordings are available for them to watch. Most of the participants thought that even though there may be a decline in student attendance, it can't be blamed on lecture recording.

Some of the quotes of the participants are as follows:

*"Now my colleagues said, 'Oh, they won't come to the lecture', and I decided that was a different issue, and if the lectures were engaging and worth coming to, the students would come. And the fact that it's available online... yeah there will be a few students who'll think oh I'll stay at home and listen to it, but they quickly learn that they don't get around to it, or they drop out. So, I've never worried about that as being an issue – that's a different argument that."*

*"I am slightly worried that students would not come if they think they can get online, but the same can be said to having lecture notes beforehand. My experience in lecturing suggests that the students that come will come, and the students that won't come won't come..."*

*"I would say it's a very hard thing to determine because there are all kinds of reasons why students don't come to the lectures, and I think even if we saw this semester larger drop offs, it would be really hard to say it was because of SwinEcho, but it may be that it could be lots of things."*

- **Impact of LR on student performance**

Some of the lecturers expressed concern that LR may encourage negative behaviour among students, like cramming:

As expressed by one participant:

*"I'll sort of be able to infer that if there's a whole lot of downloads at the end of semester, I'll assume those are the people who suddenly go – 'oh, I guess there's an exam coming, I better find out what I'm supposed to do.'"*

Another participant was fearful that LR does not generate clever behaviour in students:

*"But again, that's part of my fear again is that I think we're not putting things up there that necessarily generate clever behaviour in students. I think they say, 'well look I can go to class or I can go to necessarily review my lecture notes after each class – there's recordings there and I'll watch them all the week before exams.'"*

However, some other participants thought LR cannot change student behaviour:

*"No, I think the students that come will do whatever they had done before. They will make their own lecture notes. They will attempt questions based on their own lecture notes. if they get stuck, they will probably end up looking at the lecture recordings the same way they would look at their textbooks. They might end up coming to me – which is what I want. Those who don't engage, the reasons that they are not engaged will be relatively unaffected by the availability of online lectures."*

*"Technically speaking, THE recording or DOES recording actually make a difference is the question. And I have to say that NOT really. The students that are engaging come to classes, come to lectures, irrespective of the lecture materials being published in advance or not. The students that are not engaged couldn't be bothered"*

*if the lecture materials or the online availability....if they can't figure out on paper, they can't read or can't understand the recording, it won't make a difference there."*

- **LR as a replacement of lectures:**

Most lecturers thought that LR cannot be a replacement of lectures. The main reasons given behind are:

- User behaviour of online videos: one participant mentioned that his/her understanding of user behaviour when it comes to online videos suggest that students may not finish watching the entire lecture.

*"The idea of students actually sitting down and listening to an entire lecture – that doesn't match my understanding of user behaviour with online videos, and I've watched people, I've done it myself where even the highly polished things like TedTalks... you know you start listening to it, you wander off and get... oh no, I'm terribly interested in it, and I go and get a cup of coffee, and by the time I've come back I've forgotten what I was doing, and I turn it off... My statement about the product captured via Lectopia or Echo is – this is not the equivalent of a lecture, it's not intended to be, it's not designed for you, I'm actually talking to people in the class... deal with it"*

- LRs only capture the screen and not the lecturer's gesture or other activities. This is the reason some lecturers thought that it could not replace actual lectures:

*"...[LR is not] a substitute for lectures, but there's a level of expectation that they should be... or that it should be a, if you like, something that's equivalent to coming to the lecture. Nah! If you want that, go to a TV service."*

- LR does not capture the student discussions, and that is an integral part of the lectures of some lecturers:

*"I don't want to write lectures that are good for watching recorded... I want to write lectures that are good for being in, so the students can learn from each other in the classroom, and then we have other resources that are useful online, but not recorded versions of a learning activity that's not designed for learning whilst watching recordings."*

## **Summary and conclusion**

Based on the findings from the discussion, it can be summarised that:

- Although lecture recordings are here to stay, it is not a complete replacement for most lectures. It is to be noted that the comments included in this study are of lecturers from Engineering disciplines, and these lectures usually comprise a lot of problem solving through discussions. That could be the main reason why these lecturers thought it could not be a replacement for actual face-to-face lectures.
- Although some researchers suggested that LR leads to lower attendance, the consensus among the participants in this research was that low attendance cannot be solely attributed to LR. All participants agreed that even if there is lower attendance, there could be other factors that contributed to it.
- This research was conducted in the early stage of university-wide adoption of lecture recordings. At that time, ALP was not introduced at any university. At Swinburne, ALP was introduced in 2018 and according to a recent video published on Swinburne Commons, it removed many of the issues noted by the participants in this study. There is still limited research on the effectiveness of ALP, but early trials by lecturers show that ALP has huge potential to improve student engagement, specially for students from diverse backgrounds like international students and students with disability, anxiety, etc.

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