Key success factors to implementing an active learning platform

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This study reports on the key success factors when introducing a new lecture capture platform, Echo360 Active Learning Platform (ALP), at an Australian University. This is an interactive platform, designed to actively engage students in their courses including in lectures (online and/or face to face) through a range of interactive tools. A trial of ALP, which is known within the University as the *Echo360 ALP Early Adopter Program*, was conducted in Semester 2, 2016. The purpose of the Echo360 ALP Early Adopter Program was to identify the key success factors required for implementation of Echo360 ALP at the enterprise level. The study reports data on students' experience of the interactive tools in Echo360 ALP. In total, over 1250 students, seven academics from across seven courses, Blended Learning Advisors from within each of the University's four academic groups, and support staff participated in the Echo360 ALP Early Adopter Program. The results of the study show that students were engaged when using Echo360 ALP and with support from professional staff this program can be successfully implemented by academics. Thus, the key success factors to this implementation include the academics themselves and the support staff involved in the implementation. A further success factor was the vendor themselves.

Introduction

Griffith University, like many universities in Australia, has used Echo360 lecture capture in face-to-face teaching for some time. Lecture capture enables students who are unable or unwilling to physically attend the lecture, to engage with the course lectures after the physical lecture has taken place. In 2016, when Echo360 was coming to end-of-life, the University considered an updated version, called Echo360 Active Learning Platform (ALP). This newer version, includes more interactive tools than its predecessor. It allows students to engage in questions and polls, participate in Q&A discussions, flag course materials that need clarification, and take notes corresponding to presentation slides or videos. It also provides academic staff with the opportunity to review analytics data informing them of the level of student engagement. In Semester 2, 2016, the University undertook a trial of Echo360 ALP which was called the Echo360 ALP Early Adopter Program. The purpose of this program was to examine the key success factors required to implement Echo360 ALP at an enterprise level.

Literature review

The use of digital technologies is ubiquitous in learning and teaching in higher education. From enterprise level learning management systems to social media tools incorporated into individual lectures, students and staff are encouraged to interact with technologies fully and regularly (Henderson, Selwyn, Finger, and Aston, 2015). In terms of pedagogical value, studies show that, when used judiciously, digital technologies can be an important component of creating an engaging learning environment (Adams Becker, Cummins, Davis, Freeman, Hall Giesinger, & Ananthanarayanan, 2017; Junco, R., Heiberger, G. & Loken, E., 2011). Student engagement is increasingly important as there are many reasons for students not attending lectures. These are complex and varied as one study by Massingham and Herrington (2006) demonstrated. Reasons included being busy, working, sick, or bored. Thus, it is important to ensure that students take a deep approach to learning (Biggs & Tang, 2012) as this will allow students to gain the most from their studies. By engaging students through the use of

Echo360 ALP it is hoped that students will engage in as many lectures as possible throughout the semester.

Lecture capture is a commonly used digital technology in university teaching in Australia. Its purpose is to increase flexibility for students in terms of when and where they study. Initially some academics were concerned that its introduction would have a negative effect on lecture attendance (Young, 2008) and hence student learning. However, this seems not to be the case. A study by Toppin (2011) found that attendance at lectures was not negatively affected by the use of lecture capture, and in fact many students' perceived it to be a useful tool in helping them understand concepts taught in the course. This finding is consistent with that of Chandra (2007), who concluded that reviewing videos of class lectures can have a positive impact on student learning. A study into the use of Echo360 as a lecture capture platform (Mark, Vogel & Wong, 2010), concluded that students "instead of developing an intention to skip classes … believe that Echo360 plays greater value in helping students to revise" (p.1732). Research on the newer version of Echo360 lecture capture, Echo360 ALP is limited. However there is early evidence that Echo360 ALP engages students who use it (Campbell & Centre for Learning Futures, 2017).

This study reports on the findings of the trial of Echo360 ALP and identifies the key success factors required for its implementation at an enterprise level.

Methodology

The Echo360 ALP Early Adopter Program was conducted from January 2016 until November 2016. It took approximately four months to define the project; find participants (through collaboration with the University's Deans Learning and Teaching, and the submission of expressions of interest); and allocate teams and schedules. The project was then implemented in Semester 2, 2016.

Participants

Seven academics participated in the program, from four academic groups and a variety of schools. The courses that the participating academics taught were delivered across a range of different modes, including face-to-face teaching across two campuses (and in one instance fully online). The courses included small and large class sizes. Figure 1 shows a breakdown of the mode of delivery, year level of the students and number of students in the course.
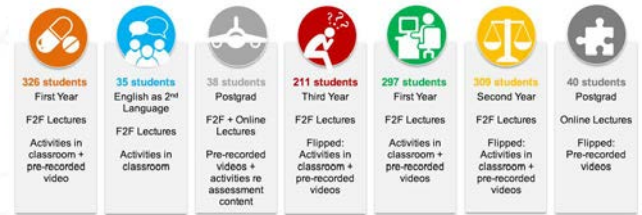

Figure 1: The range of courses and mode of delivery and numbers of students in each course

An initial meeting was held in May, 2016, and a site visit was organised to The University of Queensland to see the Echo360 ALP program being used in a face-to-face lecture. The Echo360 ALP devices (specific hardware to assist with the software) were then installed in specifically identified rooms at Griffith and planning then occurred to capture the recordings of lectures that occurred in rooms without the devices installed. Orientation sessions were offered across two campuses prior to the start of semester and online support materials for students were developed. Handouts were also provided informing students and support staff of how to access the Echo360 ALP, access the Griffith wifi, allow popups, and enable cookies in their web browsers ready for the first weeks of lectures.

Informal feedback was gained from the technical and support staff on the project. This was in the form of team meetings that contained minutes and email correspondence. These results have been included below as they inform the complete picture.

Data collection

To determine the key success factors for implementation of Echo360 ALP at an enterprise level, data were collected from several sources. Data were gathered through anonymous student surveys in weeks 1, 7 and 13, in both paper and online formats. A total of 200 students completed the survey in week 1, 160 in week 7 and with only 26 student's completing the survey in week 13, showing a significant drop in survey data across the weeks the Early Adopter Program was conducted. This may have been because the students were not given the opportunity to complete the survey in class, or due to decreasing lecture attendance. In addition to the formal survey, informal feedback was also collected from students in their lectures.

Data were also collected each week from the students in each class using the using the ALP system analytics. Statistics were collected that related to the number of engaged students; overall usage; and tool usage from each course were also gained from the ALP reporting system. Data is only presented here for the first five weeks due to the short length of the paper.

Staff data were collected through reflections and they were given the opportunity to provide feedback from

each week they used the ALP. Additional data were collected from staff, both academics and support staff, in training sessions, through consultations and also through emails.

Results

An analysis of data showed that students were generally engaged with ALP and saw value in its use. A closer examination of the data identified three key factors for this result. The results are presented below and are structured around the four sources of data gathered during the Early Adopter Program. These include the data analytics from the Echo360 system, the students' perceptions of ALP's value, academics' perceptions of ALP's potential to enhance learning and teaching; and, results from technical staff and professional staff.

Table 1: The number of students engaged with Echo360 ALP throughout the Early Adopter Program by course

	NURSING	PSYCHOLOGY	ICT	LAW
Total ALP Students (n)	326	211	297	309
Total students who engaged* (n)	182	201	245	287
Total % students engaged	56%	95%	82%	93%

The number of students who engaged with Echo360 ALP varied between the courses. Table 1 shows the largest four courses and students who had the opportunity to engage with ALP, with the total number of students who engaged. Nursing was the lowest at 56% while Psychology was the highest at 95%. This may have been due to a number of reasons, for example, the lecturer suggesting to students to use ALP, or perhaps due to the support staff offering various types of support to the lecturer, including assistance in class time, or perhaps less assistance when teaching was occurring.

Students engaged in the system in various ways throughout weeks 1-5 of the semester. These included 61% of Law students using ALP via presentation views, with 42% of ICT students engaging in presentation views, down to Psychology (36%) and Nursing (37%) students engaging with the presentation views in class. A smaller number of students viewed the videos with 6% of students in each course accessing the videos in this manner. Students accessed the notes tool quite readily and some students accessed the quiz tools successfully. Access depended on the course and if students were asked to complete quizzes in class, with over 50% from

Nursing, Psychology and ICT accessing the quizzes this way.

Students' perceptions of ALP's value

As indicated in the responses from the student voice surveys, students generally found Echo360 ALP easy to use, and found it useful for their learning. Their favourite features were viewing the presentations, participating in activities, viewing video recordings, and taking notes. They also suggested enhancements that could be made to improve the ALP. Positive student survey comments suggest that the features of Echo 360 are what makes it very positive to use and include:

> *The Echo360 ALP was easy to use (Weeks 1 and 7)*
>
> *I liked the ability to answer anonymously, it allowed me to participate without the fear of voicing my opinion to a large group (Week 1)*
>
> *I could view it at a time that was suitable to me (Week 1)*
>
> *I like the ability to take notes and interact during the lecture (Week 1)*
>
> *Make it available in all my courses (Week 7)*

Negative student comments were generally around the quality of the features of the program rather than the features themselves. Comments include:

> *Provide better explanations as to how to use the additional features (Week 13)*
>
> *Improve the notes so that it includes the relevant slide (Week 7)*
>
> *Improve the quality of the videos (Week 7)*
>
> *Make classroom selection screen easier to read (Week 7)*
>
> *Mobile screen is too small to properly view the content or to take notes (Week 1)*

There was some initial concern that students would have problems with accessing the ALP platform. This was not to be the case although there were a few negative comments about access in general. Students who completed the survey report using ALP in lectures, reported that they found it useful for their learning (74% in week 1). Data from the other weeks are not presented as less students completed the survey. This is a positive outcome for the Early Adopter program as it suggests it is worthwhile continuing with an enterprise wide implementation.

Academics' perceptions of ALP's potential to enhance learning and teaching

The academics commented on their lectures after using Echo360 ALP in their courses. Most saw the potential of the platform, were interested in exploring it and that the effort was worth the "ah ha" moments. Comments were generally positive:

I see the potential and have interest in exploring it (Week 1)

All the effort and hard work was worth it for those in class "ah ha" moments (Via email)

I find the interactivity is better with this than just asking the questions in class (Week 5)

Investment was at the beginning of the semester. Time spent now is moderating. This provides useful information (Week 5)

There were some negative aspects to the academic results, such as, when analysing the course data, it was evident that the implementation of activities in small classes was not successful, and students rarely used the Questions and Answer feature. First year courses had a high number of presentation views, but not many students watched the video recordings. In the second and third year courses, the presentation views, video views, and number of notes taken was considerably higher. For the successful use of its implementation, particularly for first year courses, monitoring students' engagement with ALP appears to be particularly important.

Technical and support staff feedback to enhance the ALP implementation

Feedback from technical and support staff indicate that there was a consensus that the amount of work required by all involved was much higher than anticipated. Choosing the right participants in the trial and having support staff to assist throughout the pilot was key to its success. Ongoing support for students including that from academics, support staff in lectures, and the availability of just-in-time online resources (which are regularly updated with ALP enhancements) is also key.

Many students had problems accessing the wi-fi and enabling cookies in their browsers

Many students with English as a second language had language packs installed on their devices

Drop in sessions that were offered for students who were unsuccessful in the lecture theatres also had low attendance

Support materials had to be regularly updated during semester as enhancements were made to the Echo360 ALP

The IT helpdesk did not have any student enquiries during the Early Adopter Program, suggesting that the students and academic staff were able to use the platform with only the technical assistance provided. It was reported that support from staff (volunteers, wifi, and support teams) at the first lecture were the reason why the number of students who successfully logged on was so high. Academics commented on the support that was provided by the educational designers and blended learning advisors from each school and they were reported to be key resources for the pilot.

Discussion on the key success factors

There are two main key success factors that have become evident with the results of this study and another third key success factor that staff feel contributed to the success of the program. These factors are the academics themselves, and the technical and support staff along with the vendor support in the implementation. These success factors include the academics trialling the program due to their keenness and their ability to be able to trial something new. This ensured the academics attended the training and reflected on the implementation throughout, so that they were able to ensure their students' learning was enhanced throughout.

The blended learning advisors and the educational designers assisted with technical support and were also key success factors. They were consulted early on and were key partners in the pilot. Their training consisted of the same training as the academics, in how to use the tool and also embed it in teaching sessions. This meant they were able to assist the academics to update their course materials, course site, and lesson plans, as well as provide general support to the academics in the implementation. This allowed the academics to feel more comfortable with the implementation and to feel supported when using it.

Although not featured in this paper another key success factor is the platform vendor who was very supportive throughout the trial, and appreciated the feedback provided by university staff including academics, students and support staff. This allowed enhancement requests to be implemented in a timely manner for all to benefit from. One limitation of this study is that there is no direct data around the vendor changes and how the academics and technical and support staff benefited from these changes. This is an area of for future research.

Conclusion and future directions

The results of this paper demonstrate the key success factors to implementing an active learning platform such as Echo360 ALP. The key success factors of the academics

themselves, the ongoing support of technical and support staff, and the vendor acknowledging feedback from staff and students in terms of enhancement requests, goes a long way to assisting with implementation. Based on this analysis and exploration, it would seem that when implementing an enterprise role out of the Echo360 ALP, these key success factors should be considered.

It is planned that in 2017, the Early Adopter Program will continue with a second cohort, this time across three of the four academic groups. In 2018, it is planned that Echo360 ALP will be rolled out at an enterprise level across the university. During the rollout some features may be turned off at a system level to allow for an easy rollout for across the university, although individual academics can choose to turn them back on. At some point in the future it is expected these features will be turned on as part of the continuing use of the program by the university. This study supports previous results from a study at another Australian university (Campbell & Centre for Learning Futures, 2017) which shows students engaged in the various features of Echo360 ALP and that it is a novel product to assist academics with their teaching. This paper adds to the body of knowledge in this area and allows others to benefit from this pilot study.

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Note: All published papers are refereed, having undergone a double-blind peer-review process.