Lecture capture – can it help 'hard to reach' students?

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New technology is often seen as the solution to problems or a means of enhancing practice, but, in many cases, the benefits offered by technology are lost, on account of the challenges their implementation presents. Is this the case with lecture capture technology? Can it actually be a solution to offering students supportive learning opportunities beyond the classroom? From my own experience of implementing an institution-wide lecture capture solution since 2008, the benefits of this technology far outweigh the technological and institutional challenges faced, but it is useful to understand both benefits and problems. My own experiences of lecture capture technology began with an initial pilot in three large lecture rooms, in order to explore what the technology offered to learners. This has subsequently been expanded to forty-six rooms (soon to be over 100), capturing approximately 7000 sessions per term. From early in the initial pilot, it became apparent how beneficial the technology could be to students, with positive feedback and high levels of engagement from across the student body. This finding is reinforced by a number of other reviews - e.g. Yeung *et al*, (2016); Taplin *et al,* (2011).

The statistics provided by the technology help to illustrate how much students are engaging and which parts of lectures they are reviewing the most. In the first term of the 2016/17 academic year, Exeter had just over 400,000 student views, watching a total of approximately 600,000 minutes of recordings. Figure 1 shows an example of statistics for a single module and highlights the levels of engagement, especially around exam time at the end of term.

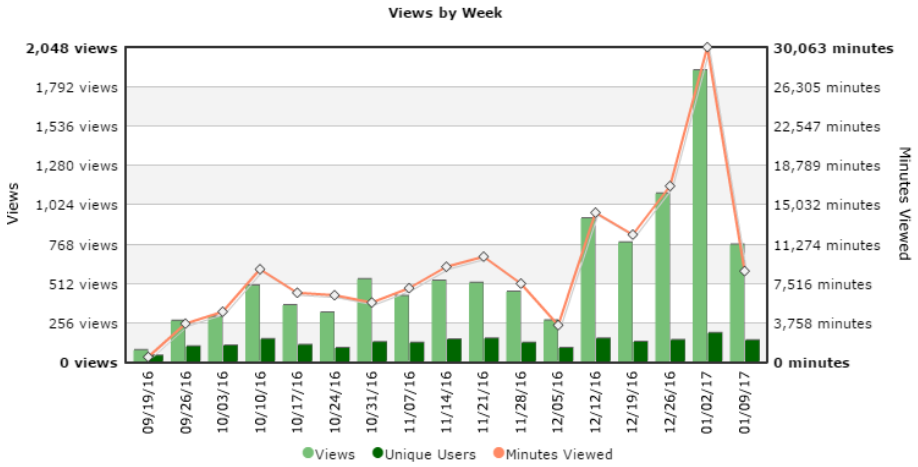

Figure 1. Example of statistics generated for module which has been recorded

The statistics also provide individual academics with the ability to explore and understand the sections of lectures students are watching. This, in turn, highlights areas which may need to be re-capped in future lectures or tutorials.

This is illustrated in Figure 2 - between 16:33 and 29:26 minutes into the recording, a peak of users watched this section: Was this a new threshold concept? Was there a discussion about assignment topics? Did the group just struggle with understanding this particular topic?

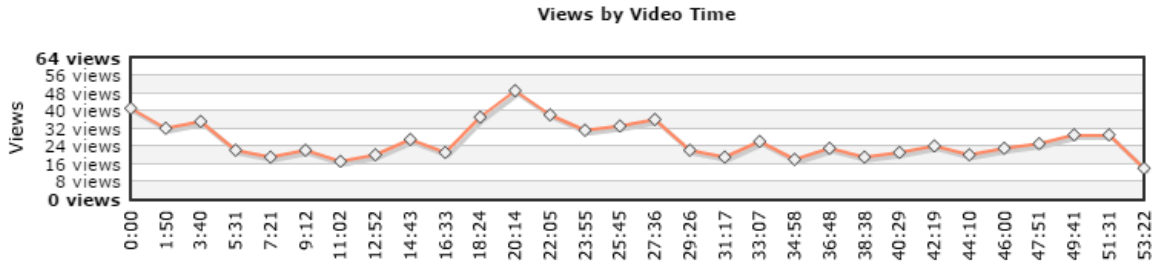

Figure 2. Engagement by views and recording time for an individual lecture

By exploring these statistics alongside the recordings, academics can start to understand how the technology is being used by diverse groups of students. In more detail, they can see by username which students are engaging, a useful record if some of them are regularly unable to attend lectures.

What became obvious to me was that recording lectures and providing them online for students to review, in their own time and wherever they want, is of benefit to all learners, allowing engagement with teaching in new and flexible ways, 24/7, as and when lectures are required by students. This approach thus offers institutions an effective and highly-beneficial enhancement to the student experience, both on and off campus. When this was explored in more detail, greater benefit was apparent for those considered 'hard to reach' in this context (i.e. those who were unable or less likely to attend lectures, whether for genuine difficulty or other reason).

My own work has allowed me to explore student engagement in a number of ways, including through the generated system statistics, discussions with groups of students about how they have used the recordings and, formally, through end of module surveys. So, what have I observed as the benefits to such students?

The opportunity to:

- re-visit recordings closer to exams in order to aid revision;
- catch up sessions which may have been missed and then re-visit them;
- re-visit and review complex ideas and concepts;
- work at their own pace without pressure or disturbance and take control of their own learning.

This, in turn:

- helps students to improve their knowledge retention;
- gives support to students for whom English is an additional language;
- supports students who have a wide range of accessibility needs;
- provides flexibility and reassurance for students who, for example, are carers and may not be able to get to lectures.

Students are becoming much more tech-savvy and are used to engaging with a range of rich online media. Hence, offering students choice in how they can interact during and after their lectures is important. Once lecture capture is implemented, the benefits immediately start to become apparent; so-called 'hard-to-reach' students, in particular, benefit from the flexibility of access to core learning and it is this flexibility which opens up new avenues to them and ensures that they are offered the best opportunity to succeed within Higher Education.

It also leads to new opportunities for academic staff to enhance and experiment within their own practice. Experimenting with new curriculum models, such as flipped learning, encourages change and brings additional benefits to students. This curriculum innovation can lead to such wider benefits as exploring new assessment techniques and greater student engagement in lectures and online, they in turn leading to effective development of blended learning. These changes engender enhancement of the face-to-face, blended and online curriculum and greater engagement by students with their courses.

However, lecture capture is not a simple solution – there are some issues, at times complex, which need to be explored, solved or addressed, if the benefits I have observed are to accrue. For many staff the thought of being filmed is in itself a step too far, raising issues of copyright, IP ownership and public evaluation of their own professional practice. Careful consideration must be given to staff concerns and appropriate measures identified to address them. For example, so as to allow staff the right not to engage with lecture capture, recording is supported with an 'opt-out' policy, which ensures that those colleagues who do not want to be recorded can opt-out of the process. In practice, this has, in fact, meant that the majority of lectures *are* captured and I believe it to be a more effective process than an 'opt-in' one. In addition, to ensure there is no additional work for staff, the system (including opt-outs) is automated and driven by the timetable to ensure a seamless experience for students. It is also important for institutional policy to be aligned to support lecture capture, and a thorough understanding of the legal issues which may arise when it is rolled out needs to be achieved.

It is also important, in my opinion, to recognise that recordings should not entirely replace traditional face-to-face lectures, especially at a campus-based institution. People may hold contrasting views about the value of lectures, but these continue to be a valuable educational tool; many are now interactive and engaging, offer students opportunities to talk to the lecturer and support a developing community of learners.

So back to my initial question – can lecture capture help 'hard-to-reach' students? From my observations, I would suggest that it can, and does; in my view, it is one of the ways in which institutions can support all students very effectively. Recorded lectures certainly enhance learning opportunities, and for some specific groups of students more than others. There are many other technologies that can help, but lecture capture provides an institution-wide solution for capturing existing practice and opening up flexible approaches to university-level learning.

Reference list

Taplin, R.H., Low, L.H. and Brown, A.M. (2011) 'Students' satisfaction and valuation of web-based lecture recording technologies.' *Australasian Journal of Educational Technology*, 27(2), 175–191.

Yeung, A., Raju, S. and Sharma, M.D. (2016) 'Online lecture recordings and lecture attendance: Investigating student preferences in a large first year psychology course.' *Journal of Learning Design*, 9(1), 55–71.