Lecture Capture in Higher Education: what we know so far.

This briefing discusses the key principles of lecture capture, along with the documented benefits (to staff and students) and common fears around implementation. This is not an exhaustive list of use, fears and challenges but is designed to give an overview of key areas for consideration in the implementation of widespread, opt-out lecture capture. Neither is there the opportunity to discuss the merits or shortcomings of the research methods of the included references. The references provided will give a more thorough insight to the issues around Lecture Capture and its implementation.

What are the key principles of lecture capture?

- The lecture is captured from point of delivery using dedicated software—incorporating audio and visual elements such as slides or webcam recording as presented at the time of original lecture.
- The lecture is then uploaded to the local VLE or to another university server
- The lecture is open to everyone registered on the programme/module for access at any time.
- Lecture capture is most often used as a blended learning approach, but also for distance learning as a replacement for the traditional ‘live’ format.

What are the documented benefits of using lecture capture as a blended learning tool?

The table below is an amalgamation of the most frequently cited benefits to staff and students through the many lecture capture schemes in operation across UK and International Universities:

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<tr>
<th>For the Student</th>
<th>For the staff</th>
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<td>A revision tool prior to assessment</td>
<td>A tool for developing deeper learning over time</td>
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<tr>
<td>A recap tool for learning at your own pace</td>
<td>May be used to free up class time for student interaction and student-led activities(see flipped classroom – Birmingham University)</td>
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<td>A resource for distance learners and others who require flexibility of provision.</td>
<td>Reusability of resources</td>
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<td>Supporting students with lower academic abilities</td>
<td>Reduction in time spent recapping one-to-one after the lecture.</td>
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<td>A way of individuals managing disabilities incl. dyslexia</td>
<td>Upholds the principles of the Disability Act; whereby the University has an obligation to not treat students with disabilities, such as dyslexia, less favourably.</td>
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<td>Relieves the pressure of note-taking</td>
<td>Innovative blended learning approach</td>
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<td>Supports students whose first language is not English.</td>
<td>Supporting international students as well as learners with other flexible needs.</td>
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In addition, students in the literature appear to feel positively towards lecture capture, with one study at the University of Manchester reporting that 91% of students (from 588 respondents) who had been part of a lecture capture pilot, believed they would achieve better examination results after using the lecture recordings. Interestingly, 88% indicated that the availability of lecture capture as a tool increased their course satisfaction.

The extent to which lecture capture is used across the various institutions varies, and a snapshot of some notable schemes are included below, though it should be noted that some of these universities may be in the process of more widespread roll out to specific teaching spaces which surpass departmental boundaries but are not yet whole-institution. The University of Birmingham also has interesting pockets of activity where lecture capture is being used to augment the flipped classroom model of teaching (e.g. Dept. of Biology). Extensive information is available across university webpages and briefings, with many British universities being guided by the pioneering work of several Australian universities who have been using lecture capture technology since the 1980s.

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<tr>
<th>Dept./School Initiatives</th>
<th>Whole University</th>
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<tr>
<td>University of Liverpool - Chemistry</td>
<td>University of Manchester</td>
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<tr>
<td>University of Bristol – Social Sciences and Law</td>
<td>University of Coventry</td>
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<tr>
<td>University of Glasgow – Medical and Dental School</td>
<td>University of Leeds – In development from Feb 2014</td>
</tr>
<tr>
<td>University of Warwick - Chemistry</td>
<td>University of Birmingham</td>
</tr>
<tr>
<td>University of Bath – The Flipping Project</td>
<td>University of Western Australia (amongst others)</td>
</tr>
</tbody>
</table>

What are the common fears around implementation?

Some of the main fears around the implementation of lecture capture can be summarised under the following headings or ‘statements’, which will be discussed briefly. For further institution-specific insight a study conducted at the University of Melbourne (Chang, 2007) highlights some of these concerns in more detail. Furthermore, a recent pilot study of opt-out lecture capture at the University of Manchester (2013/13) highlights some other more specific fears around the use of recordings to ‘monitor’ teaching.

“No one will attend lectures anymore”

There is mixed research on this ranging from recordings having a limited negative effect on attendance, to no observed effect at all. It remains difficult to determine a direct correlation between increased video viewing and decreased live attendance. What is apparent is that students with lower abilities will access recordings with higher frequency, as will high achievers who will attend live lectures and use recorded lectures.

Pursel and Fang (2012) found that the availability of recorded lectures impacted on student’s decisions to attend some of the time, but not all. However, Traphagen et al. (2009) found in their study that the majority of students still prefer live lectures and will
not replace them with recorded lectures, therefore suggesting that in some cases the presence of recording is not the main reason for identified attendance issues. In reality, usage of recorded lectures appears to be piecemeal according to need, with access at its most frequent at the start of term/semester dipping away before a peak at exam/assessment time (Phillips et al. 2010). Within the local context, a new project is currently underway to look at the perceived issue of lecture non-attendance at Nottingham within two contrasting schools. This student-focused project will look at a wide range of issues that might affect attendance including timetabling issues and assessment load alongside the effect of lecture capture availability.

“Will offering lecture recordings make any different to student learning”
A study by Engstrand and Hall (2011) found that recordings had no significant role in learning where recordings were used to fully replace live lectures. However, one 6-year study has demonstrated that in a group able to repeatedly view recorded lectures there was a positive impact on average grade attainment (Akiyama et al. 2008). Moreover, one study found that students with lower academic abilities tended to access recordings more regularly and watch in the entirety in order to improve their grades (Karnad, 2013). In the same study, one key reported use of lecture recordings was as a revision tool whereby students dip into recordings to revisit complicated ideas or concepts they didn’t get first time around (Karnad 2013). In a broader sense, Traphagan et al. (2009) found that increased use of recordings lead to more positive results and learning behaviours in students within their study. They also found that where attendance did fall in live lectures due to recordings, no reduction in attainment was seen. However, some studies do show that recordings have little or no provable effect on final results for students (Leadbeater et al. 2013; Von Konsky et al. 2009).

“I don't want to be recorded, I have copyright”
Guidelines provided by JISC are a good overview of issues around ownership and permissions; however those available through Manchester University are also a helpful aid. [http://www.elearning.eps.manchester.ac.uk/recording-lectures-and-participants-legal-rights-what-you-should-know/#A1](http://www.elearning.eps.manchester.ac.uk/recording-lectures-and-participants-legal-rights-what-you-should-know/#A1). By way of a summary, the university owns the right to use lecture material as the employer of the member of staff, and in this respect it may record lectures without explicit permission from the member of staff, though the staff member still retains performance rights. However, where a student can be identified in a recording then permission from the potentially affected students must be sought. This scenario can be avoided by recording the lecture visually and audibly with the focus on the staff member and lecture slides, rather than capturing the class as a whole.

“Surely, lecture capture is just another way of monitoring my teaching performance”
Whilst staff may be reluctant to acknowledge this as a fear, it could be an underlying concern which manifests itself in one of the other popular objections to widespread lecture capture. One solution to this concern is to explicitly state in the guidelines that lecture capture will not be used in any assessment of performance, and this will be articulated from the beginning of the process of implementation. This approach was taken by Manchester University as part of the second phase of their implementation of lecture capture in 2013.
Implementation Considerations

Before implementing a university-wide opt-out scheme the following considerations should be discussed:

Pre-implementation technological and resource considerations

- **Availability of hard/software in current teaching spaces** – making capture technology available to all will involve a substantial financial outlay.
- **Server capacity** – can the current server cope with the automatic generation and upload of recordings across the institution, particularly at peak teaching times.
- **Ease of use** – to work, the technology needs to be simple to use and largely automatic so that staff don’t disengage and resist use at the beginning of a lecture.
- **Automatic availability in the VLE** – to have the support of teaching staff, the technology will need to be able to handle automatic integration of materials within Moodle.
- **Archiving** – who will have responsibility for the storage system as the volume of material grows over time?

Policy considerations

- **Equality of availability** – if the technology will only be available in large teaching spaces then is there a bias in who will receive recordings and who won’t owing to timetable restrictions: Will only schools with large cohorts benefit? If so, is this a policy decision as an alternative to small-group teaching?
- **Establishing a usage and availability policy** – students need to be aware of copyright around reproduction, with clear guidelines on what they can and cannot do with recordings. There also needs to be consideration of how these will be accessed through the server. For example, will they be ‘locked down’ to students registered on particular modules and therefore password protected? Will there be guidelines for schools on the minimum number of recordings that they will need to provide?
- **What are the opt-out guidelines** - Who provides and enforces them? E.g. making it clear to staff what a reasonable justification is for opting out. I.e. incompatible teaching style, confidentiality issues, sensitive materials.

Communication of intent, use and outcomes

- **Guidelines for staff on how to communicate the purpose of lecture capture** with students -what it is intended to do e.g. enhanced learning through a blended approach, not a replacement for lectures, or a substitute for other learning methods such as reading from the library.
- **Communication with staff on the purpose of lecture capture** as a blended learning tool, and not a method of monitoring of teaching quality.
- **Coherent University communication plan** – for students, involving them in the process and articulating the benefits of lecture capture and how to optimise it for learning.
Concluding Remarks

Lecture capture appears to be anecdotally useful to students in a variety of ways, as highlighted above, and importantly lecture capture may be perceived by students as an important step in the direction of student-centred approaches that are increasingly important within Higher Education today. Whilst it's clear from the documented evidence that students still value normal lectures, and wouldn't necessarily want to see them replaced, there also appears to be space for recording lectures as a blended method, that helps some students and also enhances their sense of satisfaction with the teaching offer.

The success of recording lectures with regard to their uptake and impact on attainment (rather than course satisfaction), and whether this will have a negative impact on existing teaching methods, will largely depend on the rationale for using capture in the first place. Where it is used as part of a blended learning approach it appears to be useful for some students who need flexibility, and for revision, however as a replacement for live lectures and other such contact hours, this tool often has no reported impact on learning either way.

With regard to staff suspicion around the impact of lecture capture, they should be reassured that recordings are unlikely to replace other methods of delivery, and where a decline in attendance is observed, schools should be prompted to consider the other variables that may affect a student’s decision to not attend lectures. Work could also be done to encourage staff to consider pedagogic benefits of lecture capture, not least for the opportunity to self-reflect on what recording a lecture can add to the teaching process through e.g. the observation of one’s own style of content delivery.

One key opportunity afforded at the beginning of a project to roll out lecture capture more widely, is the chance for teaching staff to engage students in a discussion about the benefits of different learning methods, and how this might impact on their academic development more broadly. Involving students in the implementation process from the outset could have the value-added benefit of elevating discussions around deeper learning, as well as encouraging students to take ownership of a project designed to enhance the opportunities they have to learn.

References


Couperthwaite, J., 2011 Identifying sustainable strategies for the


