

DIGITAL LEARNING CAPTURE PILOT REPORT

CONTENTS

Introduction	2
Approach	2
Results.....	3
1. <i>Staff Interviews</i>	3
2. <i>Student Survey</i>	7
Conclusion	13
Next Steps.....	13
Appendix A – Staff Interview Questions.....	15
Appendix B – Student Survey Questions	16
References	17

INTRODUCTION

Digital Learning Capture (DLC) is the term used at CCCU to refer to the ability to audio- and video-record content both in the classroom and without. A more common term for this is “lecture capture”, although this is more narrowly focused on just capturing the delivery elements in the classroom. DLC can be defined as ***the use of instructor- and student-created audio and video content for the purposes of enhancing traditional learning and teaching practices, and developing blended and online pedagogies.***

Across the sector DLC is coming to be viewed by students as a critical service, with it being considered by some as a significant factor in selecting where to study (McClure, 2008). The ability to replay recorded content is seen by students as a huge benefit in improving retention of learning, as well as helping to address learning difficulties or lifestyle barriers to education. Academic staff, on the other hand, have more concerns around the inclusion of DLC, with many stating worries about attendance, workload, technical ability, impact on student study skills and intellectual property rights as factors against use (Bond & Grussendorf, 2013).

With the reduction of the Disabled Students Allowance in 2016, there is a requirement placed upon institutions to make suitable adjustments for students with specific needs, and a successful DLC solution addresses much of that requirement by providing the ability to rewind and re-watch content at their own pace, as well as providing options for subtitling and transcription of the recording. As such, in September 2017, CCCU undertook a year-long pilot of DLC in order to understand how this service would fit within the institution, in preparation for a fully implemented solution in the near future.

APPROACH

A short, informal tender process was undertaken to determine a DLC provider that would work effectively with CCCU for the duration of the pilot. The winning vendor, Panopto, are one of the leading DLC providers both in the UK and internationally, with a strong engagement with the UK HE sector in particular.

The pilot was run, not to identify how well Panopto might work for the University, but to focus on the higher concepts around implementing a DLC solution, such as pedagogic approaches, academic & student opinions, non-system-specific technical considerations, and university policy.

A pilot policy was written by Learning and Teaching Enhancement (LTE) and approved by Academic Board on 27th March 2017, to act both as a policy through which to run the pilot and as a draft of what would be intended as final University policy.

Faculties were then approached to identify module leaders who would be willing to involve their modules within the pilot. This did mean that most of the staff involved had at least some pre-conceived idea that DLC might be beneficial to their students in some way, but many of the staff were equally uncertain about the other implications of the service, such as impact on their teaching, their own technical ability, ease of use (for themselves and their students), or impact on workload.

In total, 17 modules took part over the two semesters, reaching around 1600 students (although some of these may have been students sitting more than one of the participating modules). These modules ranged across all four faculties, although with a substantial presence from Faculty of Social and Applied Sciences and Faculty of Arts and Humanities. Each module leader had an initial meeting with the project lead, Duncan MacIver, in order to discuss the pilot, be provided with some basic training on using the software, and consider the way they may want to use DLC within their module.

Once these meetings had completed, the set of rooms to receive recording equipment were determined based upon the scheduled timetables for the participating modules, and available funding for equipment. In total, 42 rooms were outfitted initially with boundary microphones on the lecterns and the Panopto software. Due to timing and availability constraints, cameras were not immediately installed, but scheduled for later inclusion. Unfortunately, for a variety of logistical and technical reasons, only a handful of rooms ended up receiving the cameras, although this does not seem to have had a significant impact on the final pilot results (see below).

The students were provided with a short overview video of the project, including a simple introduction to the system, which was shown in class and made available through Blackboard. Given the ease of access and use of the system, it wasn't felt necessary to provide further training, and none of the student respondents gave any indication that they would have required such training.

Each of the academics involved were subsequently interviewed about their involvement in the pilot, and the students on the participating modules were surveyed on their opinions of the inclusion of DLC.

RESULTS

1. STAFF INTERVIEWS

The staff interviews were split into four sections – consideration of the approach taken to include DLC within the module, challenges faced, impact upon students, and discussion around policy (see **Appendix A**).

1.1 Approaches

There were a variety of approaches to including DLC within the pilot modules, which fall into five distinct categories. It should be noted that where classroom content was being captured, it was almost exclusively limited to recording the audio and capturing screen elements (PowerPoint, software demonstration, web sites etc). In only one case was the lack of video capture viewed as a significant issue, with that particular pilot member reporting that they include some very visual teaching methods within the classroom that could not be captured as a result.

Within the categories, we discuss the “watching ratio” – by this we mean the ratio between the number of hours spent by staff recording content (either in classroom or externally) and the number of cumulative hours undertaken by students watching content. It is generally considered that more effective use of the DLC system is occurring when the ratio is higher towards the “watching” figure.

1.1a Lecture Capture

A straight capture of what was happening in the classroom. This almost always meant capture of the information transmission portion of the classroom, and pausing/stopping the recording during the more interactive elements. This provided the lowest ratio of hours recorded to hours watched, with a 1:1 ratio (or less) being demonstrated in a number of the modules.

This approach generated the greatest amount of content (just under 94 hours), as well as the most hours of watched content (over 265 hours), giving an overall watching ratio of 1:3 (3 hours of viewing for every 1 hour recorded).

1.1b Extra Content

Recording of content outside of the classroom to expand or enhance the classroom-delivered learning, but without capturing classroom delivery. Pilot members have used this to highlight statistical approaches covered in class, as well as to highlight to students on the programme actions being taken that have arisen from discussion within Staff/Student forum meetings.

This approach was only undertaken on two modules, by one staff member, and generated few recordings (one per module). The content recorded came to just under 2 hours, but the viewing of that content came in at over 11 hours, giving an overall watching ratio of nearly 1:6 (6 hours viewed for every 1 hour recorded).

1.1c Lecture Capture Plus

A combination of Lecture Capture and Extra Content – recording of classroom delivery along with the creation of additional elements beyond the live classes.

The most regularly recurring use of this approach was to record assessment briefings, to provide more detail on both the academic expectations and the administrative processes around creation and submission of work. Where this has been provided, we see a substantial increase in viewing figures, with these recordings regularly being the most-viewed recordings on their modules, often with double or greater the watched hours to the next most viewed recording. One pilot member commented that they noticed a particular large spike in viewing figures on the day before their assessment due date.

One pilot member has also used this approach to record and share analysis of data that was generated overnight following a classroom-based practical session, removing the need to use classroom time to cover that analysis.

This approach generated significantly less content than straight lecture capture (just under 37 hours), but nearly the same amount of viewing hours (just under 256 hours), giving an overall watching ratio of 1:7 (7 hours of viewing for every 1 hour recorded).

1.1d Lecture Replacement

Providing a recording in place of a live lecture.

One pilot member had a consistently low turnout for a difficult timeslot (late Friday afternoon), but much better attendance at the other weekly class on a Monday. For a few lectures, they decided to record the class earlier in the week, but after hours when a classroom space was available. Students were invited to optionally attend the recordings, although none took the opportunity. The recordings of these classes generated a higher overall “virtual attendance”, with 65% of students viewing all or part of the recordings. This generated the largest ratio of hours recorded to hours watched, with 19 hours of content viewed for every hour that was recorded.

1.1e Online Delivery

Recording content to deliver online programmes.

One pilot member was delivering a version of their face-to-face module to online students. By recording the lecture given to their face-to-face students, which was a pure knowledge-transfer class, they were able to provide their online students with an information transmission experience very similar to that received by their on-site counterparts.

This was the only module within which this mode of delivery was undertaken, and due to the mixed nature of delivery between the face-to-face and online students, it isn't currently possible to separate the viewing figures from these two groups of students.

1.2 Challenges Faced

Generally, the inclusion of DLC had no major impacts upon the teaching approaches undertaken by pilot members. There were some reported changes to behaviours, mostly involving the staff members being more conscious of the anecdotes they were telling, or the wording they were using, but no one reported this as being detrimental to their teaching. A few pilot members suggested that they made a conscious effort to be less mobile in the classroom, to stay nearer to where the microphone was installed.

A few of the pilot members also noted that they had started to repeat back to the class questions that their students were asking, to make sure that the recording picked up the question clearly. This was generally viewed as good practice whether a recording was taking place or not, to make sure all students in the class had heard the question.

When asked about the lack of video on their recordings, due to the lack of camera equipment in the rooms, most staff felt it made little difference. Only one pilot member reported this to be substantially negative, as their teaching involved a number of physical elements in the classroom that were lost in the audio recordings.

One of the bigger concerns around the classroom interaction was awareness of what students were saying. Particularly in those classes which covered more controversial topics (for example, politics of gender or sexuality), the academics had to be quick to pause or stop a recording if a student started talking about things that might be detrimental to them if recorded. Similarly, in those classes where children or young people are being discussed, anecdotes that might identify particular individuals needed to be caught and held until the recording could be stopped. For staff using similar sorts of anecdotes, some re-organising of their delivery was undertaken to discuss those stories in later non-recorded parts of the class or separate non-recorded seminars.

One unexpected positive outcome from the pilot was reported by one pilot member who talked about the way in which they had used the previous week's recordings to help plan their approach for the following week. By reviewing all or some of the previous lecture, they were better able to tie in content the following week to anecdotes, observations etc that they had previously discussed, particularly those that were not part of the core taught content.

1.3 Impact on Students

The overall message from the staff involved was that they could clearly see a benefit for their students in a variety of ways (see below), but that there are definite cultural and workload considerations that need to be addressed for the technology to be well accepted by the academic community at CCCU (see **DLC Policy** section below).

The general feeling was that the ability to record is great for information delivery, but of reduced benefit in interactive classes (or portions thereof). The ability for students to replay content from class later in the semester/year was highlighted by all of the pilot members, and of particular benefit to those students on programmes with a more widely spread teaching timetable (for example, on those programmes where the student-base is more geographically spread, and only attend classes for a few intense days every month).

Students who speak English as a second language were also noted by several pilot members as beneficiaries of the service, and particularly those in the early stages of their studies. Feedback from students in this position also seem to reflect this (see the **Student Survey** section below).

There were a number of comments about the way in which the inclusion of DLC technology can reduce or remove student anxiety, particularly for students new to the institution, through the replay of classroom concepts, as well as being able to present administrative processes clearly. Similarly, students with disabilities (including those with learning difficulties) were highlighted as benefiting from the recordings. One pilot member had specifically requested to take part in the pilot to address the needs of a student with particular disability. The feedback the pilot member received from the student acknowledged that the recordings were of substantial benefit in allowing them to learn in a way they considered more inclusive with the rest of their cohort. Another pilot member mentioned one of their students who suffered from a significant anxiety disorder that regularly prevented them from leaving their home. This student was still doing well on that particular module, and the pilot member attributed that success to the student's ability to access the recordings.

Additionally to this, the increasing number of students with limitations on their time (due to expected factors such as family commitments or financial burdens) were raised by pilot members as particularly benefiting from the technology, allowing them to catch up more easily when unable to attend.

1.3a Attendance

Concerns around attendance drop-off seemed to be generally unfounded, with none of the pilot members noticing any significant drop in attendance in their DLC-enabled modules beyond the attendance drops across all modules due to various external factors (assessment periods or semesterisation, for example). This view is further backed by the student feedback on attendance (see the **Student Survey** section below).

1.3b Classroom Behaviours

To the pilot members, their students' classroom behaviours did not generally seem to change significantly, although there were some interesting points of note. In some classes, pilot members did notice that students were taking less notes, and when asked about this the students responded that the recordings remove the need for them to multi-task as heavily in class, and instead allows them to focus on listening, thinking and generally engaging. This wasn't the case across all modules, however, with two pilot members commenting that they didn't see any particular change in levels of note-taking.

Some of the pilot members reported that engagement was generally improved, while others thought their classes were possibly a bit quieter than in previous years, with students being perhaps more reticent to engage within the classroom. However, none of the pilot members were willing to attribute this latter change solely to the inclusion of DLC, suggesting that this could be natural for a different cohort, and also that the change to shorter, more compact lectures this year may reduce the opportunity for students to interact.

On many of the pilot modules students were given the opportunity to request recordings were paused or stopped before engaging within the classroom, but not a single one requested this be done. Staff generally reported that students felt comfortable with the recordings, and did not provide any negative feedback on their inclusion.

Overall, the feedback the staff received from their students (both verbally and through module evaluation) was very positive. One pilot member particularly noted that the ability for their students to have some space after the lecture to re-watch and re-consider the knowledge imparted was especially effective, with students reporting changes in their viewpoint over difficult or controversial issues after one or more replays. The level of uncomfortableness in class at discussing such issues was softened or even removed when the students were able to re-engage individually, in a more personally comfortable surrounding, and appeared to have significant impact on their learning as a result.

1.4 DLC Policy

The biggest issue from staff was very clearly around how the institution might approach the inclusion of DLC more widely. It should be highlighted again here that the staff involved in this pilot were all very positive about the benefits that DLC provide, and generally see it as a "good thing". There were, however, many concerns voiced by them and, through them, their colleagues about the way in which this technology might be imposed upon them, and the implications that could have to their practice.

There was particular feedback from three pilot members who discussed DLC with colleagues on their programme. In all cases, colleagues were dubious about using the technology. In the first case, when the pilot member showed the system in action, their colleagues were much more open to considering the technology, and expressed that concern was more around impact upon classroom time than anything else. Legal implications around recording particular content elements were highlighted by the group as a possible barrier, but they were generally open to discussion about how to resolve such issues.

In the other cases, colleagues were vehemently opposed to being recorded. When prompted, the reasons for this opposition factored into two major areas – use of recordings for staff evaluation and concerns around copyright/intellectual property rights of recordings.

1.4a Use of Recordings for Staff Evaluation

Colleagues felt that once recordings of their lectures were made, these would be used by line management and faculty management to review their performance. This was something they were deeply unhappy about, and required clear indication that this would not be done either now or in the future before they would engage with such a service.

1.4b Copyright / Intellectual Property Rights

The concern around copyright / intellectual property (IP) rights stems from the idea that once a lecture has been recorded, academic staff (and particularly sessional academics) would no longer be required to provide those lectures for future cohorts, as the recordings could simply be re-used year on year. Colleagues indicated strongly that there would have to be clear policy and process to avoid this from happening before they would be comfortable using DLC.

In regards to IP rights, it should be noted that one pilot member did raise the fact that students often record lectures themselves, and while the pilot member in question has given permission for this to happen, there is a concern around where those recordings might end up, and the lack of ability for the academic or the institution to be able to control the IP rights of those recordings.

1.4c Other Concerns

One other concern that was highlighted by many pilot members was the implication on workload if they were to undertake using DLC effectively. When capturing a standard lecture, there was a concern that a level of basic editing of the class may be required before publishing to students (such as “topping and tailing” or removal of a particular part of the class that was not intended to be captured). While pilot members recognised that this can be done quickly and easily by any staff member, it nevertheless presents an implication on the amount of time within their weekly timetable associated with a particular class. Many pilot members also expressed a desire to be able to use DLC in a wider array of approaches beyond standard lecture capture. This again has an implication on workload planning, and some staff made a point of stating that they would be uncomfortable recording elements outwith their allocated workload – this was regarding the impact on their own workload, but also the implication of how it might affect their colleagues whose workloads are already very full.

All of these concerns are more generally mirrored across the academic community, both within CCCU and the sector, along with a few other key concerns, namely : the use of recordings when staff withhold their service (see Grove, 2018); the copyright implications of recording third party/internet-provided content in classes; and the general expectations from faculty management on what academics “must do” within their “own classroom”.

2. STUDENT SURVEY

Students involved in the pilot were asked to fill out a short online questionnaire discussing their experiences with the recordings (see **Appendix B**). 58 students responded to the survey, with 47 of those reporting that they had already watched one or more recordings on their module at the time of survey. 50 students claimed that the recordings were beneficial to their learning, with only 1 student claiming they were not. This suggests that the availability of recordings, whether immediately engaged with or not, are viewed as a useful resource.

The students were asked about the uses to which they put the recordings, and 46 of the respondents commented that they had used (or would use) the recordings to prepare for exams. As the survey was carried out pre-exams, this may also explain the discrepancy in the numbers listed above.

Out of 14 students who expressed that English was not their first language, 10 agreed that that they revisited the material via DLC to overcome language barriers.

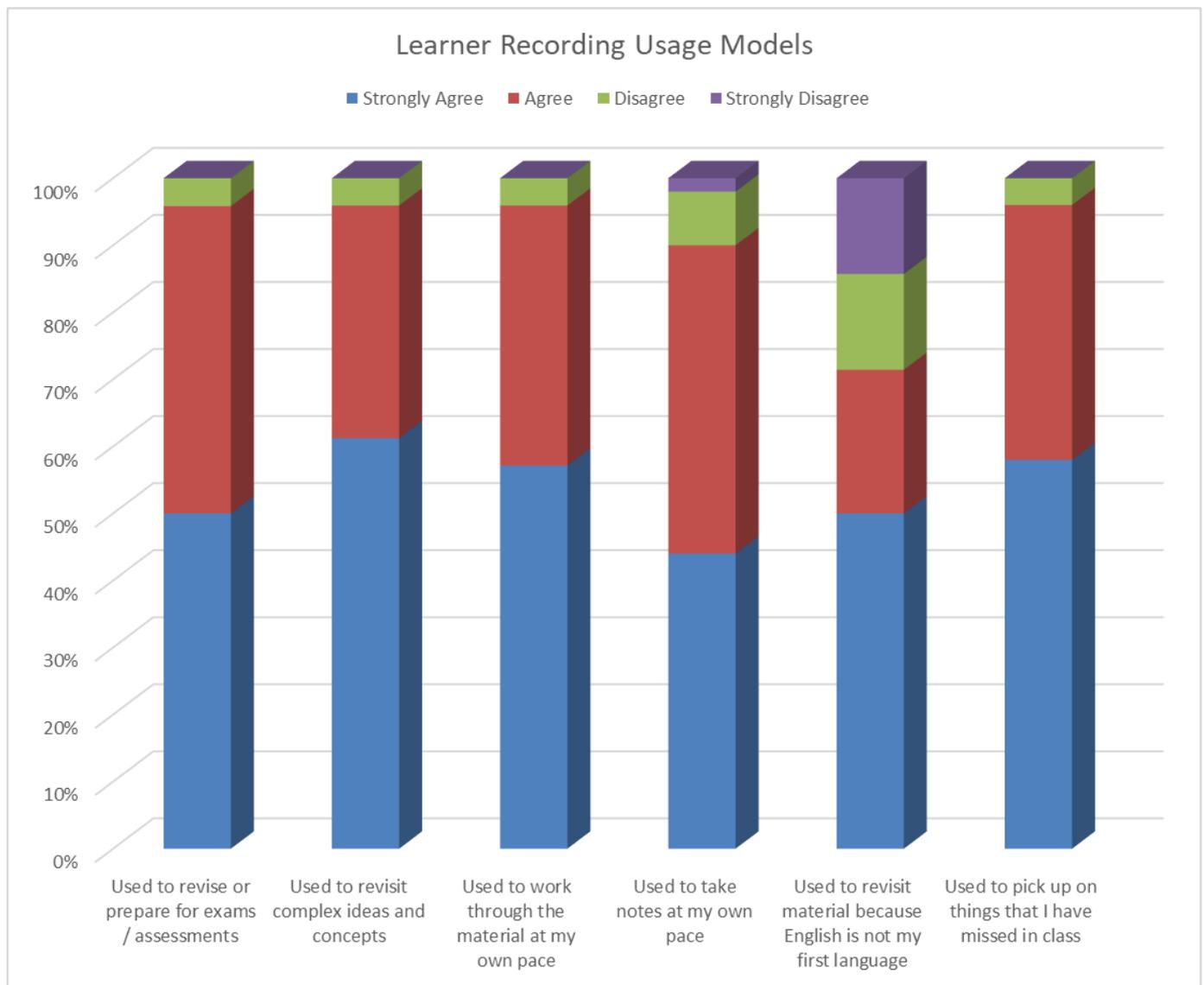


Figure 1 - Learner Recording Usage Models

The approaches the students took towards viewing the recordings was markedly varied. As can be seen in Figure 2, the overall approach to viewing is very evenly spread between the four major methods. However, this spread changes when individual modules are considered. The smaller charts shown within Figure 2 represent four of the modules from the pilot, those with most significant data gathered in the survey. All have similar numbers of students enrolled.

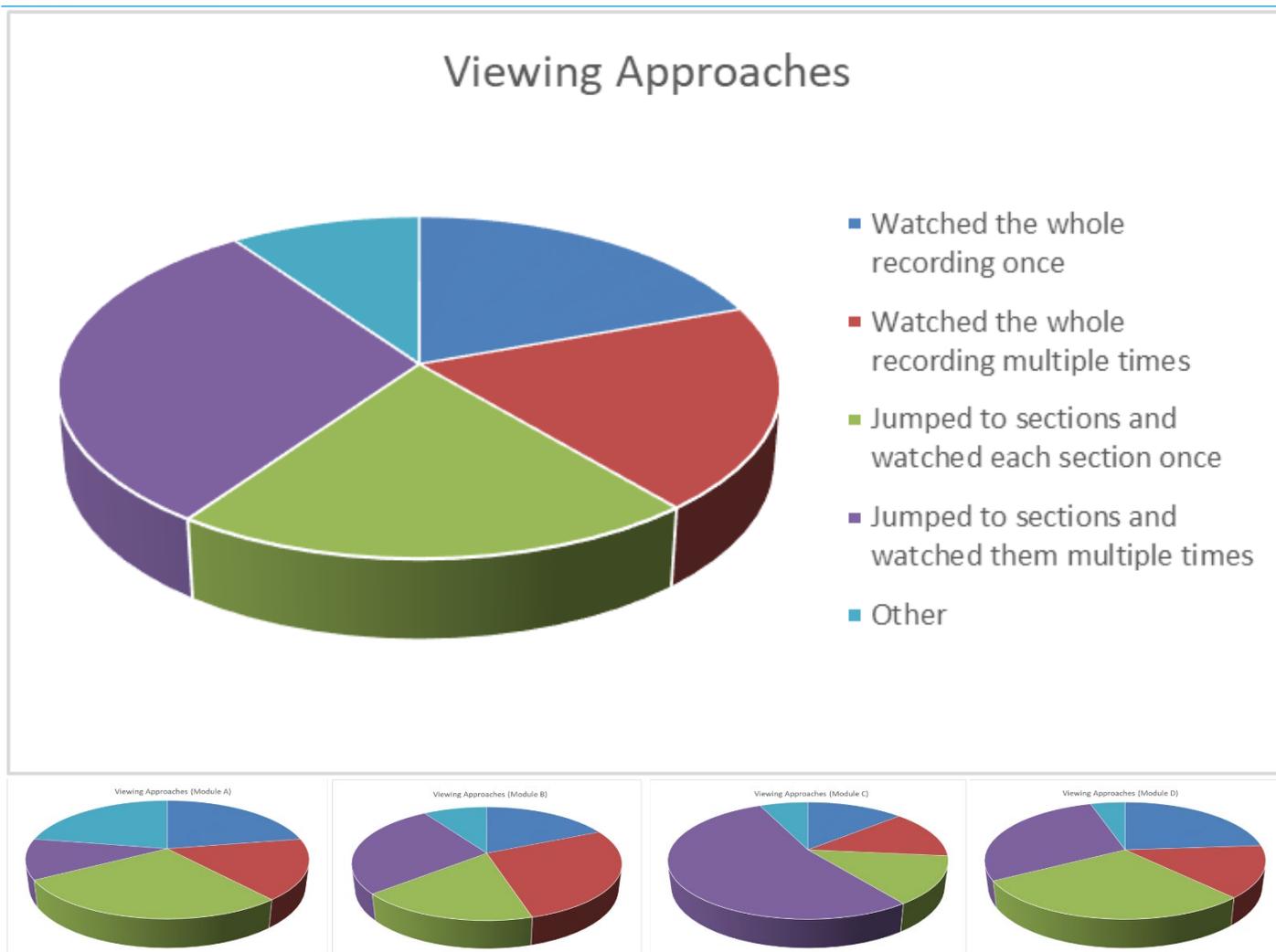


Figure 2 – Overall viewing approaches vs approaches on individual modules

Modules A, B and D in Figure 2 all took a straight “Lecture Capture” approach, and quite an even spread can be seen, although viewing recordings (or sections thereof) a single time seems to be something of a preference. It should again be noted that the survey was conducted prior to the exam period, and this could significantly affect this spread.

Module C undertook a “Lecture Capture Plus” approach, and we see a much larger shift towards multiple viewings of sections of recordings. The pilot member recorded several lectures, and one assessment guidance video, and we can see a notable difference between the approaches students took to the different types of content.

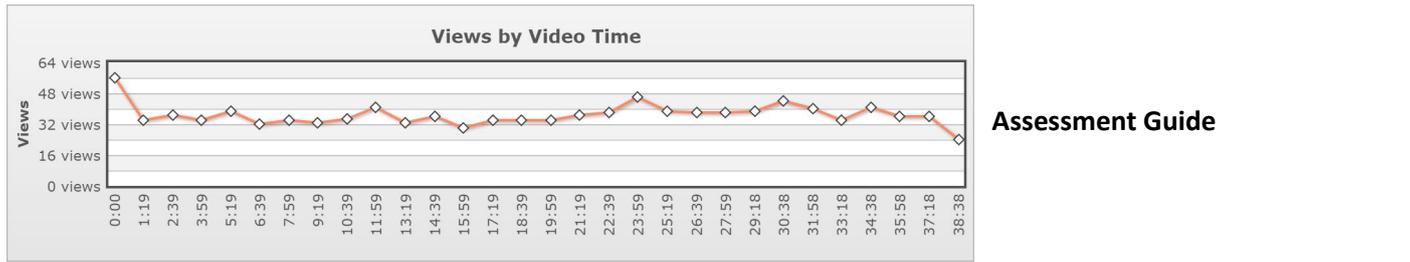


Figure 3 shows the length of the **Lecture** recording for the

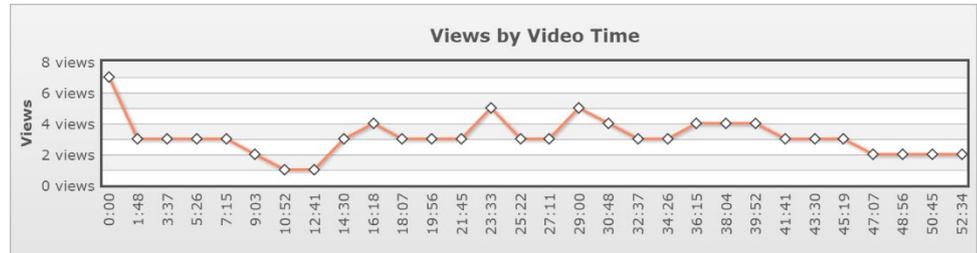


Figure 3 – Section Views - Assessment Guide vs Lecture

Assessment Guide and one of the more-viewed lectures, and provides the number of independent views at different points in time throughout the recording.

We can see that the Assessment Guide, which was not presented in class, received much more general viewing across the entirety of the recording, while the views for the recorded lecture were more focused on particular sections. As previously mentioned, the amount of viewing for assessment-related content is substantially higher than for lecture content.

Students were asked to give their opinion on whether different elements of the recording were (or could be, in those

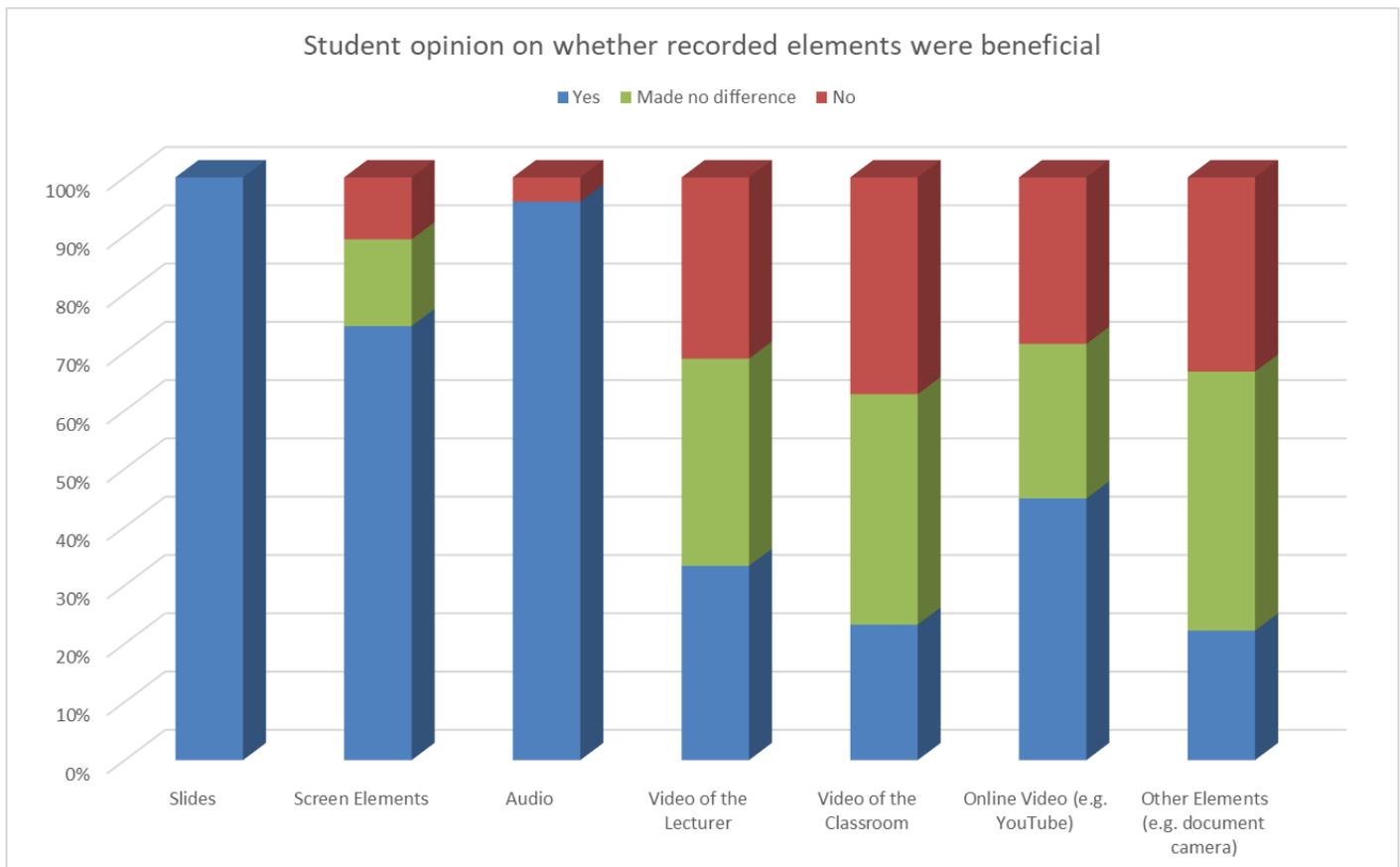


Figure 4 - Student opinion on whether recorded elements were beneficial

cases where they weren't included) of benefit to their studies.

We can see in Figure 4 that core elements (Slides, audio and other screen elements such as recording software, web sites, documents etc) are almost universally viewed as beneficial. Where it comes to capturing other elements, however, there is much more uncertainty about the benefits provided. In particular, video of the lecturer or the wider classroom have a much smaller percentage of students considering them of significant benefit.

It should be noted that the two core elements (slides & audio) were included in every module, with the additional screen elements being captured in the majority. The other elements were captured in far fewer, meaning that many of those that answered were speculating on whether they may provide benefit without directly experiencing those elements.

2.1 Attendance

The students were asked to consider whether their attendance was different on their DLC-enabled. The results are overwhelmingly positive, that most students do not believe their attendance was at all affected (see Figure 5). For those that did, only a quarter believed they attended less, with over a third of those students claiming it had a positive impact upon their attendance (see Figure 6). Students commented that where lack of attendance was unavoidable, the inclusion of the recordings helped to relieve anxiety over missed content.

One student did specify, however, that *“I felt less panicked if I HAD to miss a class. I would choose to miss a recorded one [lecture] over a not recorded.”*, while another noted that *“It meant I could work”*. This does suggest that the students can view attendance at recorded lectures as being less critical than non-recorded ones, although the comments both have an implied suggestion of necessity of non-attendance, rather than just for pure choice.

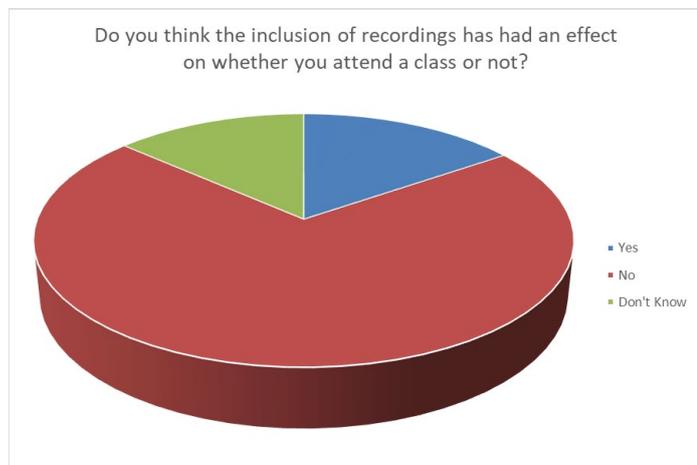


Figure 5 - Impact on Attendance

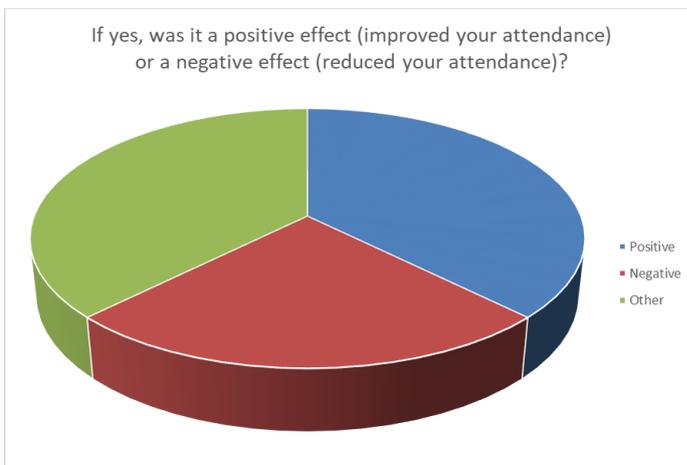


Figure 6 - Type of Impact on Attendance

2.2 Classroom / Study Behaviours

The students were also asked to reflect on their study behaviours, both in-class and outside, and whether they change as a result of DLC being included. While many suggest that their behaviours stay the same, reflecting much of the observational feedback received through the staff interviews, there are many students who believe that their study behaviours are affected by the recordings, and most of these changes appear to be positive.

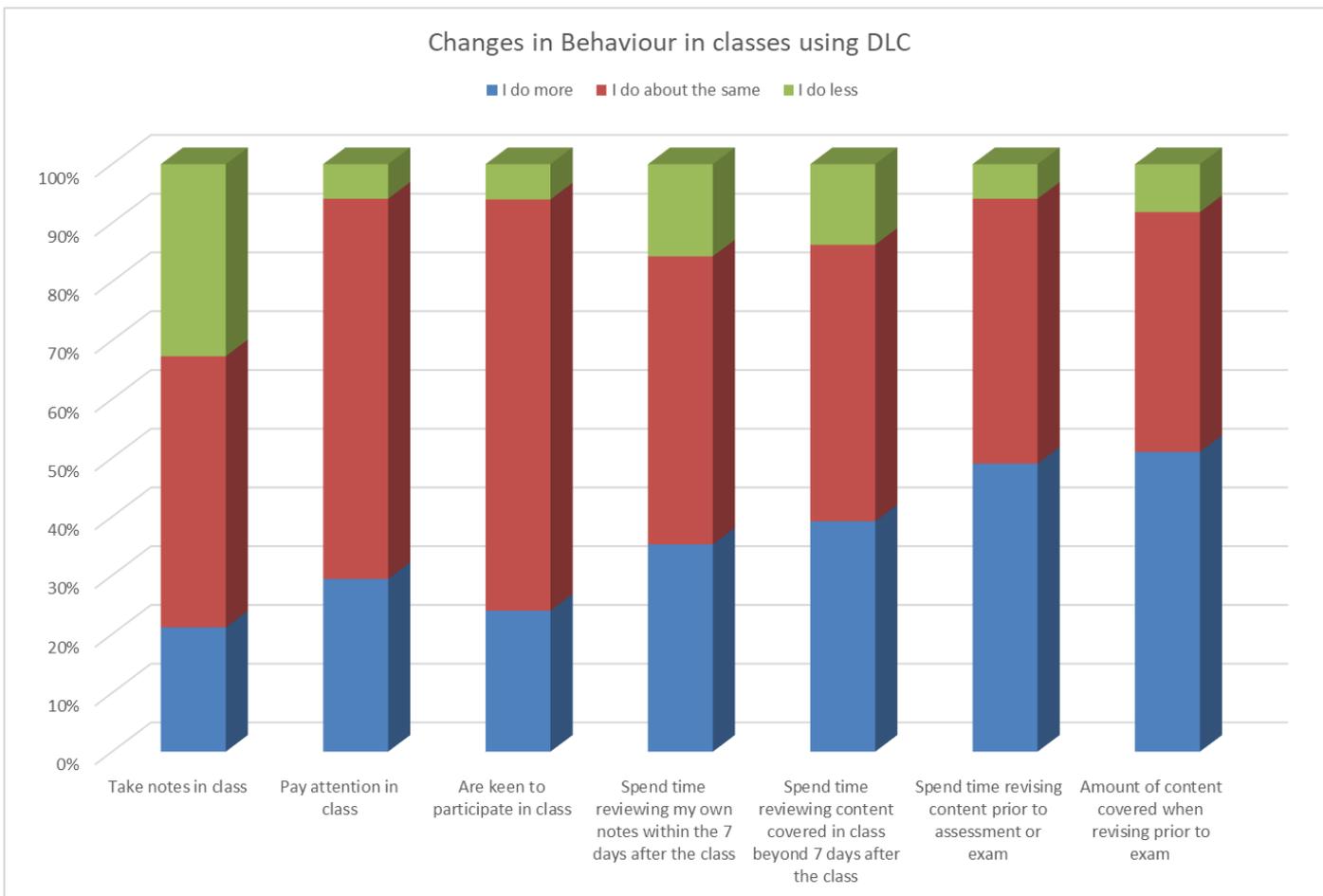


Figure 7 - Changes in Study Behaviours

A third of students say they take less notes while in class, with several commenting that this allowed them to concentrate or engage more with the delivered content as a result. One student commented that this led them to undertake “more detailed note taking”.

There seems to be an overall trend amongst the pilot students that their opinions on reviewing lecture content and revising for assessments & exams increase with the inclusion of DLC, with over 50% of students suggest that they cover more content in their exam revision than in non-recorded modules. The amount of time they say they are spending on review & revision across the whole semester also sees a dramatic increase, of between 35-50%. The individual module results also reflect this across the board.

Generally, comments provided by the students around changes in study behaviour focused on positive impact on general revision, knowledge retention, classroom engagement and overall confidence, including the following quote:

I am a student with different anxieties that sometimes make it difficult to attend lectures. When I do attend I find it difficult to focus or absorb information probably due to my dyslexia. The lecture recordings are so valuable to my studies, it means the course is more inclusive to all students with all different difficulties.

CONCLUSION

Overall, feedback from both staff and students involved in the pilot have shown that DLC is considered to provide substantial benefit for the institution and its students.

A potential barrier to successful implementation of Digital Learning Capture is related to staff concerns towards a new system with which most people will be unfamiliar. The benefits of the system for students will need to be highlighted, especially in the context of the University's obligations to support students with special needs despite the reduction of the Disabled Students Allowance. This is why the University has decided to go for an opt-out policy. However, the Policy recognises that there may be instances when the recording may not be appropriate, thus giving staff the flexibility to consider programme- and module-based factors (such as module/session design, student need, external requirements etc) and take appropriate action.

Additionally, it would be in the institution's interest to address the ownership of rights over recordings in partnership with the subjects of the recordings. Providing a shared ownership would address academic concerns over re-use of recordings outside of contract, while also considering the needs and rights of the institution.

Having a clearly defined and well-understood policy around DLC, along with clear communications and discussion opportunities will go a long way to making this a more successful service.

Attendance reduction as a result of DLC does not appear to be the critical issue that many believe it to be, but it would be sensible for the University to consider the introduction of DLC alongside attendance monitoring data in the future to further research this.

Video is an important element in an institution-wide DLC solution, which must be available in any classroom when required, but it is not critical to the initial implementation of the solution. Providing audio and screen capture in every classroom is the most critical part of the service, and should be the focus of the initial roll-out of a final solution.

NEXT STEPS

The funding for an institution-wide rollout of Digital Learning Capture has been approved by IT Strategy and Policy Group (ITSPG) and the tender documentation is currently being completed in preparation for a tender period during the first half of Advent Semester 2018/19.

Selection of a preferred vendor, contract signing and implementation of the new system will take place from November 2018, with roll-out of the solution across the campus for (and during) Easter Semester 2018/19. In order to maximise roll-out, and given feedback received in the pilot, it is intended to implement audio and screen capture in all rooms as soon as possible, with video capture being prioritised only where it is required in the first roll-out phase. Subsequent roll-out of video to all rooms will then be phased based upon cost and need. Inclusion of a visual indicator light/button into each room is also expected in the initial roll-out phase, to provide additional awareness of recordings, as well as simplified control over recordings for staff.

Discussion is already underway with faculties and project leads regarding implementation of DLC within Building 2, to ensure that requirements for all new spaces are being considered as part of the development plans for the building, and included at most effective cost.

Staff training is currently be considered, but cannot be fully developed until the vendor has been selected and implementation is underway. It is intended that this will begin to be rolled out to staff as soon as possible, starting before Christmas and rolling into and through Easter Semester 2018/19.

The pilot DLC policy document is currently under-going final revision based upon consideration of feedback from staff interviews, as well as from other staff, Human Resources, the Solicitor's Office, UCU and the Student Union. This revised version, intended as final University policy, will be made available to all staff for discussion after initial approval from Education and Student Experience Committee in November 2018. The policy will then be submitted for approval to Academic Board in December 2018.

APPENDIX A – STAFF INTERVIEW QUESTIONS

Approach
How often did you record content?
Was it solely recordings of live classes?
If not, what other approaches did you take?
What did you record? (Video/screen/audio)
How easy did you find it to record?
What would you like to be able to record? (Video/other sources)
What type of class were you recording?
What other approaches would you consider in the future?
Challenges
Did you encounter any pedagogical challenges?
Did you feel you modified your teaching approach as a result of the recordings?
Do you feel you might in the future?
Did you encounter any technical challenges?
Did you encounter any barriers to adoption?
Student Impact
How did your students respond to the recordings?
Were there any particular groups of students who responded either positively or negatively to the recordings?
Do you think the recordings had an impact on your students' attendance?
Do you think the recordings were beneficial to your students' learning, and if so how?
Did you find that students' classroom behaviours were different in classes that were being recorded, and if so how?
Policy
Did you read the DLC pilot policy document?
What were your initial thoughts on the approach taken?
Are there any specific elements of the policy that you think need to be revised?

APPENDIX B – STUDENT SURVEY QUESTIONS

1. Which module(s) are you studying that are involved in the DLC pilot?
2. Have you watched any of the recordings so far?
 - 2.a. If you haven't watched any recordings, can you explain why?
3. Please indicate how you mainly viewed the recordings (select all that apply)
4. On which type of devices did you watch the recordings (select all that apply)?
5. Do you think having access to the recordings was beneficial to your overall learning?
6. For each of the following elements of recording, please tell us whether these were included within any of your recordings, and if you did (or would) find them beneficial.
 - 6.1.a. Slides (e.g. PowerPoint) - Available?
 - 6.1.b. Slides (e.g. PowerPoint) - Beneficial?
 - 6.2.a. Screen elements (e.g. documents, web pages etc) - Available?
 - 6.2.b. Screen elements (e.g. documents, web pages etc) - Beneficial?
 - 6.3.a. Audio - Available?
 - 6.3.b. Audio - Beneficial?
 - 6.4.a. Video of the lecturer - Available?
 - 6.4.b. Video of the lecturer - Beneficial?
 - 6.5.a. Video of the classroom - Available?
 - 6.5.b. Video of the classroom - Beneficial?
 - 6.6.a. Online video (e.g. YouTube) - Available?
 - 6.6.b. Online video (e.g. YouTube) - Beneficial?
 - 6.7.a. Other elements (e.g. document camera, x-ray box etc) - Available?
 - 6.7.b. Other elements (e.g. document camera, x-ray box etc) - Beneficial?
7. For this question try to compare your behaviour on modules that have recordings available to those that do not. On modules with recordings available, do you find that you do more, less or about the same for each of the listed activities.
 - 7.1. Take notes in class
 - 7.2. Pay attention in class
 - 7.3. Are keen to participate in class
 - 7.4. Spend time reviewing my own notes within the 7 days after the class
 - 7.5. Spend time reviewing content covered in class beyond 7 days after the class
 - 7.6. Spend time revising content prior to assessment or exam
 - 7.7. Amount of content covered when revising prior to exam
8. Have you found that your behaviour towards your studies differs in any other way between modules with recordings available and those without?
 - 8.a. If Yes, please state how.
9. Do you think the inclusion of recordings has had an effect on whether you attend a class or not?
 - 9.a. If yes, was it a positive effect (improved your attendance) or a negative effect (reduced your attendance)?
 - 9.a.i. If you selected Other, please specify:
10. For each of the following statements regarding the way in which you used the recordings, please rate how much you agree or disagree.
 - 10.1. Used to revise or prepare for exams / assessments
 - 10.2. Used to revisit complex ideas and concepts
 - 10.3. Used to work through the material at my own pace
 - 10.4. Used to take notes at my own pace
 - 10.5. Used to revisit material because English is not my first language
 - 10.6. Used to pick up on things that I have missed in class
11. Do you have any further comments about the recordings made available to you?

REFERENCES

- Bond, S., & Grussendorf, S. (2013). *Staff attitudes to lecture capture*. Retrieved from <http://eprints.lse.ac.uk/54870/>
- Grove, J. (2018, March 20). Academics 'must sign away authorship rights' to recorded lectures | THE News. *Times Higher Education*. Retrieved from <https://www.timeshighereducation.com/news/academics-must-sign-away-authorship-rights-recorded-lectures>
- McClure, A. (2008). Lecture Capture: A Fresh Look. *University Business*, 11(4), 57–60. <https://doi.org/Article>