

# The Lectopia service and students with disabilities

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The Lectopia lecture capture and publication system was introduced to The University of Western Australia in 1999. Since this time the project team has regularly received feedback from students with disabilities or medical conditions, as well as from the University's Diversity Projects Office, regarding the positive impact Lectopia has had on their learning activities. Throughout the project's history the feedback received from these two groups, predominantly provided informally, has helped to shape the system's development. In 2006 the team undertook to conduct a thorough analysis of why and how students with disabilities or medical conditions are using Lectopia, the perceived benefits derived and the problems encountered. It is anticipated that results from this analysis will further assist the project team to refine the system to ensure it continues to meet the needs of the University's diverse student population.

Keywords: lecture recordings, students with disabilities or medical conditions, accessibility

## Background

The practice of recording audio and video material from university lectures to make them available online for students to access has been repeatedly acknowledged as having significant benefits for a large proportion of the student population (Laurillard, 1993; Bligh, 2000; Biggs, 2003). Students with learning styles not necessarily suited to the face-to-face lecture method, students with disabilities or medical conditions, international students, and those with significant work or domestic pressures have overwhelmingly welcomed the opportunity to gain access to lecture recordings online (Williams & Fardon, 2005). Once a lecture is recorded, students are empowered with a greater level of control over the material presented, allowing them to review the material at their own pace and in an environment in which they are comfortable, as many times as they require.

Lectopia (formerly known as the iLecture System) is a lecture capture and publication system which has been in production at The University of Western Australia (UWA) since 1999. The system facilitates the automated recording of audio and video material from lectures for delivery to students via the internet. The impacts on the lecturer are minimal, and students are able to access lecture recordings in a variety of streaming and download formats, as well as via podcasting. The main driving force behind creating Lectopia was the desire to make lectures more accessible to the increasingly diverse student population, and this remains a high priority for the project team. At UWA in semester one 2006, Lectopia was installed in 45 venues and recorded over 400 lectures per teaching week: more than 5,000 lectures across the semester. By the end of the examination period, these recordings had received almost 300,000 hits from students.

## Study introduction

In a study carried out by the Australian Senate, it was noted that advances in technology have resulted in assisting students with disabilities in gaining greater access to higher education. Particularly mentioned was the importance of improved flexibility and access to information achieved through technology, resulting in enhanced levels of independence and better opportunities for academic success (Employment, Workplace Relations and Education References Committee, 2002). Lecture recording systems are an example of such technology.

In literature dealing with issues relating to learning in higher education and students with disabilities or medical conditions, the practice of recording lectures (and/or other teaching materials) is frequently proposed as beneficial to advancing learning (Exley & Dennick, 2004; Leung et al., 1999; Skill: National Bureau for Students with Disabilities, 2004, 2005). A quick glance through university websites in Australia and the UK endorses this approach, repeatedly recommending that staff consider recording

lectures for students with disabilities who may be attending their lectures (Australian National University, 2005; Monash University, 2003; University of Adelaide, 2005; University of Cambridge 2004; University of Cardiff, 2005). Of particular note is the University of Newcastle's Disability Support Services website which provides information sheets for staff on 21 different disabilities from ADHD to Vision Impairment; every one of these information sheets contains the recommendation that lectures should be recorded (University of Newcastle, 2005). These university websites state that recording lectures alleviates the pressure on students with disabilities to take notes during a lecture, provides an avenue for the efficient review and revision of core course material, and is an important resource should regular attendance at the face-to-face lecture not be possible due to a medical condition.

In 2005 at UWA, 902 undergraduate students recorded on their (re-)enrolment form that they had either a disability or a medical condition. This is almost 7% of the undergraduate population at the University. The disability condition types listed on the enrolment form are learning, hearing, vision, mobility, medical and other. Learning (10%), mobility (7%) and medical (31%) have the highest proportions of respondents, although it should be noted that students were not required to provide this information and that the number of 'unknown' disabilities or medical conditions was considerable (31%).

At UWA, the tradition of recording lectures is now firmly established as a means for providing flexible access to lecture materials for students with disabilities, although attendance at face-to-face lectures where possible remains an expectation of all students. This is evinced through a variety of University documentation; for example, a report published by the University's Disability Services observed the importance of lecture recordings in supporting a diverse student population (University of Western Australia, 2003) and the annual *Study at UWA* publication for prospective students lists lecture recording as one of the main services provided to students with disabilities or medical conditions to assist their learning activities (University of Western Australia, 2006).

Despite lecture recordings being viewed as an important learning resource at UWA for students with disabilities or medical conditions, to date our only evidence of this has been taken from informal or anecdotal feedback, and through campus-wide Lectoria surveys which have occasionally elicited general information or comments about the use of the system from students with disabilities. Therefore, the purpose of conducting a Lectoria study specifically targeted at UWA students with disabilities and medical conditions was to capture more substantial information about their use of lecture recordings at UWA: why they are using the system and what value they attach to having lecture material available online; and how they are accessing the lectures, in particular if they need to use specific software tools such as Jaws, Dragon or Zoom Text to gain access. This study will offer the UWA Lectoria project team, together with the UWA Diversity Projects Office, the opportunity to better understand the use of lecture recordings by students with disabilities to feed back into both the Lectoria system development and the University's policies and procedures for supporting the learning needs of students with disabilities.

## Study summary

The central activity of this study was to conduct a survey about the use of lecture recordings across all undergraduate and Masters by Coursework students who have acknowledged either a disability or a medical condition on their enrolment form. The survey was constructed by the UWA Lectoria project team in collaboration with the UWA Diversity Projects Office.

This survey was conducted over a three-week period at the end of semester one 2006 (10–28 July), with survey questions covering the following topics and issues:

- type of disability as acknowledged on UWA enrolment documentation
- tools used to access recording
- preference for delivery format
- frequency of attendance at live lectures
- frequency of access to lecture recordings
- reasons for using lecture recordings
- opinion of the value of lecture recordings as a learning resource
- problems encountered when accessing recordings
- suggestions for improvements to the service and for new features.

A printed copy of the survey was sent by the Diversity Projects Office to 578 UWA undergraduate students and 57 Masters by Coursework students, with an additional 7 undergraduate students being sent an online version of the survey via email. 642 students in total were sent the survey.

Following on from this targeted survey for students with disabilities and medical conditions, a campus-wide Lectoria survey was conducted over a three-week period during semester two 2006 (28 August–15 September). All UWA students accessing lecture recordings during this period were given the opportunity to complete an online survey about their use and experience of Lectoria. This survey seeks information about demographics, type of equipment used to access recordings, lecture attendance, and use and experience of Lectoria. This general survey does not seek specific information about students with disabilities or medical conditions, apart from one question which asks whether or not the student is registered with the UWA Disability Office; the inclusion of this question will assist in some cross-referencing analysis between the two survey sets.

Once the results from both surveys have been collated and analysed, a series of student focus groups will be conducted during October 2006. These focus groups will target a variety of different topics from frequency of attendance at face-to-face lectures to use of portable devices when listening to recordings, depending on the survey results.

In tandem with these activities the Lectoria team will be accessing other sources of information about Lectoria use by all students at UWA, including the extraction of access statistics and logs from the system.

## Study outcomes

This study is a work-in-progress, and comprehensive results (including data obtained from the campus-wide survey and focus groups) will not be available before the end of 2006. However, the results from the targeted survey for students with disabilities and medical conditions are available and can be reported here in isolation from the other study activities. Some salient points extracted from the survey results can be summarised as follows (note that the survey attracted a 21% response rate):

- 65% students deemed Lectoria to be an 'essential' learning resource, whilst 32% stated it was 'useful'
- special software is rarely used to access recordings (Dragon 3%, Jaws 1% and Zoom Text 1%)
- download is the most popular format (50%), with streaming at 25% and 25% not having a preference
- the majority of students either 'always attend' live lectures (43%) or 'regularly attend' (45%)
- frequency of Lectoria use identified as 'always' (16%), 'regularly' (40%) and 'occasionally' (33%)
- students tend to access recordings 'once' only (57%), with 31% accessing recordings '2–4 times'
- most common use of system is for 'revision and review of missed concepts' (73%), with 'unable to take notes in live lectures' at 36% and 'unable to attend live lectures due to disability' at 22%
- a high proportion of students with learning disabilities (58%) use Lectoria because they are 'unable to take notes during live lectures', compared to 27% of those with non-learning disabilities
- 38% of students with medical or mobility disabilities use Lectoria because they are 'unable to attend live lectures due to their disability', compared to 11% of those with no-medical/mobility disabilities

The survey results strongly indicate that Lectoria is meeting the needs of students with disabilities and medical conditions at UWA, and the benefits derived by these students from the system appear to greatly outweigh any problems relating to access or usability. In their written comments, over 60% of students indicated that they felt the system should either be compulsory for all lectures across campus or at least be more widespread, and expressed frustration with lecturers who were unwilling to record their lectures. Many noted that the system has been vital in enabling their learning. The increase in the use of screen capture (video of the presenter's screen) was particularly welcomed, as well as the ability to download recordings and subscribe to recording podcasts.

These results will be evaluated alongside the campus-wide survey results and the focus groups, and drawn into the system development plans by the Lectoria project team, helping to ensure that student need and demand continues to drive the system's development. Final study results will also be supplied to the UWA Diversity Projects Office and may provide important input into revising or creating University-wide policies and procedures to further support the learning activities of UWA students with disabilities.

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