# Mainstreaming Captions for Online Lectures in Higher Education in Australia: Alternative approaches to engaging with video content

A/Prof Katie Ellis and A/Prof Mike Kent

## Slide 2

## Outline

Background (Katie)

Definition, History and Background

Use in Education

Benefits for of captions for at risk students

Benefits of Accessible Education

Benefits of Captions for all students

## Slide 3.

## Findings of Research (Mike)

Providing Captions

Study Design

Survey and Interview Results

Future Directions and Implications

## Slide 4

## definition

The text version of speech and other sound in traditional audio visual media such as films, television, DVDs and online videos. Captions are usually provided to enhance audio content and are typically recognised as benefitting two main groups

1.people with hearing or learning difficulties

2.those who come from a non-English speaking background (NESB).

Generally in the context of education media, but this has relevance to education too

## Slide 5

## history

The timeline starts around the early 1980s when the Australian Government provides funding to establish the Australian Caption Centre and this was intended to get captions on broadcast television. All broadcasters sourcing captions from the Australian Caption Centre except the Seven Network who introduced their own captions and what sort of happened then was captions did not really take off because viewers required a teletext system to access the captions and the teletext system was very expensive, so viewers were saying, " We're not going to buy a teletext system until more captions become available." And the broadcasters didn't want to provide more captions until more people accessed them. So there was a bit of an impasse here in the 1980s and then we see going into the 1990s, a lot of legislation popping up around both disability discrimination and broadcasting services and similarly in the US at the same time, there was a lot of activism around the provision of captions and a law was introduced in the US called the Television Decoders Circuitry Act which mandated that screens over 30 inches must be able to decode captions and this is a standard that Australia then picked up in the early 1990s, which then resulted in the late 1990s with changes to legislation to require more captioning on television and at the same time, technology in education started changing and lecture reporting started coming in initially as just audio in the late '90s but coming into the 2000 we started having actual video recorded lectures, as well.

Curtin, first introduced recorded lectures in 2002 and I'm sure most people attending this seminar today are familiar with the disability standards for education that were introduced in 2005 to sort of try to clarify what a reasonable adjustment in education is for people with disability and so we see these sorts of changes as having a big impact on the availability of captions on on-line lectures for students with disabilities and so jumping forward to 2012, Curtin started introducing captions on recorded lectures for students with disabilities and if you required captions on your lectures you requested that through the disability office,

## Slide 6

## Background

1 in 3 Australian students with disabilities benefit from captions (Cap That 2015) Students benefit when individualized approaches to learning are encouraged (Alty et al 2006) accessibility for students with disability improves when it is mainstreamed as part of the online educational environment (Searle 2013)

accessible online environments are important to both students with disability and those without (Kinash, Crichton, & KimRupnow, 2004)

Closed captions improve both comprehension and vocabulary for the majority of the student population (Podszebkaet al 1998)

Captions improve the educational experience for all students, including those without hearing impairments (Bowe & Kaufman, 2001)

## Slide 7

## Research by 3Play Media and the BBC (2015)

* captions benefit a large number of people and are not only used by people with hearing impairments. Captions benefit students
  + with hearing impairments
  + whose first language is not English
  + with learning disabilities, attention deficits, or autism
* Captions also benefit all students
* comprehend content that is spoken very quickly, with accents, mumbling, or background noise.
* clarify full names and technical terminology
* watch videos in sound
* sensitive environments, like offices and libraries.

## Slide 8

## Captioned lectures benefit “at risk” students

Essential for people with hearing impairments

Improve comprehension for students with autism spectrum disorder(ASD) by cutting out background noise

Anecdotal evidence suggests students with ADHD prefer to autonomously access direct content through transcripts rather than through a note taker. NEEDS FURTHER RESEARCH

many students with dyslexia perform better with textonly media such as lecture transcripts, when compared to media combinations such as sound and diagrams or diagrams and text (Alty et al., 2006; Beacham & Alty, 2006).

NESB: Captions are an effective aid for individuals of all ages who are learning to read, be they first or second language learners

Older students who suffer from age related hearing loss benefit from information being information in multiple ways => can easer cognitive overload

## Slide 9

## Benefits of accessible online education to everyone

Li and Hammel (2003) offers innovative ways to bypass the effects of impairment that can prevent a student from participating

Mullen et al. (2007) allows a neutrality of identification to allow the student with disability to blend in as though not disabled

Alltree and Quard (2007) adjustments introduced to assist students with disability have far reaching benefits for the non-disabled population also.

## Slide 10

## Beneficial for all

Online spaces allow more students with disability the possibility of participating in an educational experience.

Alltree and Quadri(2007): more flexible study options, such as flexible delivery of lectures off campus using digital technologies, addresses the problem students with disability face under the traditional face-to face learning format.

Students with disability are a useful reminder of the importance of meeting the varied needs of a diverse population which includes students negotiating paid employment or family commitments with study. different students adopt different learning styles (Kinash, Crichton, & Kim-Rupnow, 2004). Approaching accommodations made for students with disability along a continuum of different learning style places disability, as another way of achieving the same goal rather than as a deficit.

accommodations made to assist students with disability can actually benefit the entire student population.

## Slide 11

## For example: Alt text

accessible online environments are important to both students with disability and the mainstream:

images can be effective in providing alternative examples or explanations of content. The addition of an alternative text tag to the image enables a screen reader used by a visually disabled person to read the textual description to the learner, describing attributes of the image. Adding a title representative of a description of an image also allows learners without disabilities a more detailed explanation of the image. Sounds can also be used, but captions or alternative text benefit the deaf and those with hearing by providing a written script to follow and refer back to at a later date. Easy-to-read content benefits all learners by “chunking” the information into blocks of important information that can be easily read and understood by any audience. (Kinash, Crichton, & Kim-Rupnow, 2004)

## Slide 12

## Captions are another example

.students learn in diverse ways, and comprehend information in different ways depending on how accessible they find the delivery

.All students report difficulties hearing lectures.

Captions may also be an important tool to help tackle the underrepresentation of at risk groups in particular subject areas such as science, technology, engineering and maths courses .demonstrated a positive effect on vocabulary acquisition, which may help students to learn the subject-specific language and vocabulary of these and other academic disciplines.

.Captions improve course retention rates.

Captions offer the ability to adapt content to different context, constraints and audiences eg listening to a lecture in a library where sound is inappropriate

## Slide 13

## General mainstream benefits of captions

* Captions and transcripts enable more consistent access to content even when it is not possible or suitable to listen to a lecture
  + students can therefore access the content in public spaces or noisy environments, and can avoid having to replay video content whenever background noise interferes with their ability to hear clearly.
* provision of captions is an advantage in a purely online learning environment.
  + Mode of learning becoming more popular
  + Important for students with slow or intermittent internet connections, poor quality speakers or headphones, and computers that struggle to stream large filescreating captions or transcripts for video media can revolutionise the way students index, search and retrieve information
* Search Engine Optimisation
* Students can more easily search for particular terms to find relevant lecture content when revising (Gernsbacher, 2015).

## Slide 14

## Our research question

Do students as a diverse population benefit from personalised learning approaches, and accommodations designed to assist students with disabilities? Do these approaches benefit the entire student cohort, and how do all students utilise captioned lectures as part of a personalised approach to learning?

## Slide 15

## Study design

Providing Captions

Study Design

Training Module

Survey and Interview Results

Future Directions and Implications

## Slide 16

## Providing captions

Accommodation rather than Universal Design

CAP Plans

Echo360 captions provision and features

## Slide 17

## Study Design

Taking advantage of initial captions provisions

Providing captions

Survey and Interviews

## Slide 18

## Training Module

(no information on slide)

## Slide 19

## Results - demographics.

Respondents ranged in age from 18 to 65 with a relatively even spread across the age brackets therein. While the students surveyed were enrolled in first and second year units, only 48% were under 30 and 52% were aged between 31 and 65, reflecting a significant portion of mature age students participating in the study. A total of 64% of respondents were female and 36% were male.

## Slide 20

Do you identify as a person with a disability?

88% YES

12% NO

## Slide 21

Is English your primary Language?

90% YES

10% NO

## Slide 22

## Engagement with Recorded Lectures and Online Unit Materials

Did you have access to captioned lectures (where a text version of what was being spoken would appear as text at the bottom of the screen)?

68 % NO

32% YES

## Slide 23

## .

Many students may not realise the availability of the captions unless they are reminded about them and how easy they are to use. Even if it’s a quick mention at the start of the lecture to turn the captions on.

## Slide 24

Did you have access to the training module on the lecture captioning system at the start of semester?

20.0% YES

80.0% NO

## Slide 25

How often, if at all, did you use the search function to find a word and skip to that part of the lecture

Multiple times a day 0

Once or twice a day 0

Most days 1

Multiple times a week 0

Once or twice a week 2

Once every two weeks 0

Once or twice a month 1

Less than once a month 1

Never 13

## Slide 26

How often, if at all, did you Access the full transcript of the lecture to read

Multiple times a day - 0

Once or twice a day – 0

Most days – 2

Multiple times a week - 0

Once or twice a week – 2

Once every two weeks- 2

Once or twice a month – 1

Less than once a month - 1

Never – 12

## Slide 27

Transcripts are particularly useful in addition to captions as they allow the user to quickly skim the material rather than sit through a whole lecture. Transcripts also allow translation into other languages, highlighting text and other features that make the content more accessible.

## Slide 28

I typically receive requests for lecture transcripts at the commencement of each study period. In SP3 [during this study] I did not receive any requests.

I feel that lecture transcripts would be particularly useful as this is the most common request I receive from students, especially those with disabilities.

I think transcripts and keyword searching would likely be useful to many students who access lectures through recordings (or who access recordings even after attending the lecture in person).

## Slide 29

## .

I used the captions keyword search. I think I would like to use the lecture transcript as well but I did not use that in this unit.

## Slide 30

Overall did you find that the captions helped in your use of the recorded lecture

material?

Approximately 38% NO and approximately 63% YES

## Slide .31

[Captions] made a big difference to me in terms on understanding and retaining what was said in the lectures. I am not sure that many students would realise this unless they actually used the captions.

I found it much easier to follow what was being said in the recorded lectures and I also found that they helped stay focussed and not become distracted from the lecture.

## Slide 32

It is difficult enough to track who listens to lectures at all,

let alone who might be using the captions, or have found

these helpful. I would like to think that not only those with

hearing impairments, but also ESL students and even

people who find listening to and taking in the recording

difficult for other reasons, might have benefitted.

## Slide 33

One student has given me positive feedback via comments on the [discussion board].

.

One has reported that it helps with retention and with times when speech is soft or garbled. I suspect it helps mediate my accent and pitch!

## Slide .34

I was not aware of the implementation of closed captioning

As I was unaware that CC was being implemented, I cannot comment on this.

## Slide 35

There have been some glitches within the iLecturesystem with identifying the correct lecture and some issues with audio quality. There is also a time delay as it takes up to a week for the captions to become available.

.I find the location of Transcripts in the iLecturesystem is not user friendly and many students have difficulty finding where they are.

I’m aware that the EchoCenteris not necessarily the most intuitive of interfaces to use.

## Slide 36

Any technology that can assist in making lectures more accessible is useful, particularly in OUA [online] courses.

It would be a good example of Universal Design as it would make the lecture content more accessible for students with disabilities as well as students with other equity needs.

## Slide 37

YES

–

it benefits all students. I personally find that I

understand and my attention is held more by captioned

content.

.

It certainly makes my role easier as it allows effective

access to recorded lectures. Captioning allows full access

as every word is accessible as opposed to note taking

which is not verbatim.

## Slide .38

Lack of awareness of captions availability

.

Lack of awareness of training module provided

.

Those who were aware or used them found them helpful

.

This was across the cohort

–

not just students with a

disability or from and ESL background

.

The system interface could be better at highlighting the

captions availability (maybe have them turned on by

default)

## Slide 39

Because the captioning is once off, it means I can’t re

-

record the lectures where there was a failure in technology

as the new versions would not be captioned.

.

A bit cautious about the transcript as there may be

problems with students copying that content and also with

not viewing the lectures thinking the transcripts are

sufficient.

## Slide 40

In the main I just feel [captions are] important for

accessibility and equity in general. Why should people

have to request captions? Recorded lecture content

should be available to all students, in whatever way they

find it most easy (or possible) to engage.

## Slide 41

.

Hi All, In one of my units last semester we were lucky

enough to have captions on the recorded lectures. They

were immensely helpful for a number of reasons. I really

hope they might become available to us in this unit. I think

Mike Kent was the name of the Curtin person who

organised them. If Carol or Paul think we might get them

I'd be a super happy camper!

## Slide 42

## Future Directions and Implications

Moving towards Universal Design

Increasing reach of global regulations in media and education