**Digitising Note taking accommodations: Revolutionising the Way Students Work with Spoken Information**

**Presenter: Jim Sprialis**

# Slide 2

About Jim Sprialis

* 30 year teaching career in mainstream and special education
* Assistant Principal, State Manager – Inclusive Technology Service
* Established Sprialis Consulting in 2014
* Service schools, higher education, workplace
* Apple Accessibility Ambassador
* National Education Manager for Voice Recognition Australia
* Australian Representative for Sonocent

# Slide 3

Session Outline

* Importance of effective note-taking
* Challenges for students with disability
* What is effective note-taking?
* The Sonocent workspace
* What about lecture captures and flipped content?
* Current impact and learner benefits
* Q&A

# Slide 4

Effective note taking is incredibly important to student attainment

**“...accurate and complete notes are critical** for students to be **successful** in content area classes.”

*Boyle, J.R. (2012)*

**"...**if information is **recorded poorly in their notes**, students will more than likely **perform poorly on tests.”** *Stringfellow, J.L., & Miller, S. P. (2005)*

**Better notes lead to better grades** *Titsworth, B.S. (2001).*

“The **highly positive relationship between notetaking** [...] **and achievement** was [...] confirmed correlationally” *Titsworth, B. S., & Kiewra, K. A. (2004).*

# Slide 5

“Note-taking is a highly complex task placing more burden on memory and processing skills than playing chess” Piolat et al., (2005).

Additional note taking roadblocks: poor spelling, memory issues, number of lectures, individual study technique, learning difficulties, organisation problems and poor concentration.

**Trying to process and manipulate extensive verbal information places great demands on working memory**

# Slide 6

SwD really struggle with note taking

Image: Graph showing student survey results

Note-taking is the biggest problem students at university with dyslexia feel they encounter\*
*\*Webster. D.M (2016).* [*Listening to the Voice of Dyslexic Students at a Small, Vocational Higher Education Institution to Promote Successful Inclusive Practice in the 21st Century*](http://www.ijlt.org/uploadfile/2016/0219/20160219030900799.pdf)*. Journal of Learning and Teaching Vol. 2, No. 1, p78-86.*

# Slide 7

What is effective note taking?

* **Capture**
	+ Need to **capture** the information to later **review**
* **Synthesis**
	+ **Summarising** is key to learning
	+ Helps recall and **long-term retention**

*“Studies have found that note-taking is most effective when notes are organized and transformed in some way.”* Brown, C (2015). What’s the best, most effective way to take notes? The Conversation.

**Active learning**, a key aspect of **student** **engagement**, is **reduced** when students are not **directly involved in the process of collecting and sorting information for notes** (Brazeau, 2006)

# Slide 8

Note-taking is most effective when done independently

# Slide 9

The Sonocent workspace

Image: Desktop monitor displaying Audio Notetaker and an iPhone displaying the Sonocent Recorder app.

# Slide 10

The Sonocent workspace in action

# Slide 11

Preparing for and capturing a lecture

Image: Screenshot of Audio Notetaker on a computer.

# Slide 12

Annotating the spoken information

Image: Screenshot of Audio Notetaker on a computer.

# Slide 13

Adding written notes

Image: Screenshot of Audio Notetaker on a computer.

# Slide 14

Export audio summary as a study guide – 1

Image: Screenshot of Audio Notetaker on a computer.

# Slide 15

Export audio summary as a study guide – 2

Image: Screenshot of Audio Notetaker on a computer.

# Slide 16

Export audio summary as a study guide – 3

Image: Screenshot of Audio Notetaker on a computer.

# Slide 17

Export audio summary as a video

Image: Screenshot of Audio Notetaker on a computer.

# Slide 18

Exported study guide – video format

Image: Screenshot of Media Player displaying video format of study guide.

# Slide 19

Exported study guide – playlist album

Image: Screenshot showing playlist of audio tracks.

# Slide 20

Exported study guide – MS Word format

Image: Screenshot of Word document showing images of PowerPoint slides with accompanying text notes.

# Slide 21

Sonocent Recorder – free companion app

Image: iPhone screenshot showing Sonocent Recorder app.

# Slide 22

Sonocent Recorder – Scribble feature

Image: iPhone screenshot showing the Scribble feature within the Sonocent Recorder app.

# Slide 23

Import app recording to desktop software

Image: Screenshot of app recording imported into Audio Notetaker desktop software.

# Slide 24

To recap, with Audio Notetaker, students can:

* Capture everything, reducing anxiety about missing key information
* Immediately apply active listening comprehension strategies
* Begin synthesizing audio content that is aligned to slides and text
* Extract selected highlights to repurpose as study guides and written assignments

The visual representation of the recording adds a tangible cognitive bridge to the audio content. The software scaffolds the application and development of study skills. Most importantly, struggling students are empowered to build greater independence and ownership in their learning.

# Slide 25

What about lecture captures?

**Lecture capture** is purported to support students with disabilities by circumventing the note taking problem. But is providing students with a recording of their lectures enough?

# Slide 26

Key findings of literature

* Students benefit from using technologies that enable them to **repeatedly return to material** and **select the pace** with which they study. (Turney *et al*, 2009)
* “transforms an ephemeral event into a **learning object**”
(REC:all, 2012)
* **Recorded lectures have little to no effect on student results**(Elliott & Neal, 2016; Danielson *et al,* 2014; Karnad, 2013; Leadbeater *et al*, 2013; Franklin *et al,* 2011)

# Slide 27

How do students use recorded lectures?

Image: Graph showing student viewing habits of lecture recordings.

Revision and note taking

* 94% Pause to think/make notes
* 86% Write notes
* 84% Watch some segments repeatedly
* 51% Consult other sources of information on the topic
* 55% Eat or drink
* 25% Browse mail, Facebook, other web sites
* 15% Mobile i.e. on bus, train, walking

# Slide 28

Review of recordings is time-consuming

* Students with dyslexia use lecture capture recordings **more** & listen to them for **longer** (Leadbeater *et al,* 2013)
* Students reported reviewing video recordings as **time-consuming**
(Karnad, 2013)
* “ I will spend two hours, two and a bit on a one hour lecture because I stop it, take lots of notes, re-listen to bits, Google a word that they referenced that I didn’t know what that meant or I’ve forgotten.” LC student survey respondent. (from: Cornock, 2015)

# Slide 29

Use Audio Notetaker to record lecture capture videos, webinars and flipped content into a more accessible format

Image: Screenshot of YouTube video being captured and annotated within the Audio Notetaker software.

Accessible notes are a vital part of an accessible education

# Slide 30

What do students and campus staff think?

# Slide 31

Student survey results

Image: Percentage figures of survey results

# Slide 32

Measuring Impact

Sonocent is *proven* to create learning independence and improve grades

***Grade increase in individual students at The University of Nevada***

**80% of students experienced an average improvement of one full grade (e.g. a B to an A) over a single semester**

Image: Graph showing pre and post Sonocent grade comparisons.

“Every student tells me it’s making a difference. And it shows whenever we do end-of-semester grades.” Darrin McCarthy, Lead Student Assistive Technology Specialist, University of Nevada, Reno

Image: University of Nevada logo

# Slide 33

Measuring Impact

Sonocent is *proven* to create learning independence and improve grades

***Grade increase for students at Tennessee Technological University***

***100% of the 25 students identified as ‘at risk of failure’ experienced an average improvement of more than one full grade over a single semester. They all retained their place at college.***

Image: Graph showing pre and post Sonocent grade comparisons.

“Of the students to whom we gave the software we didn’t have a single one who didn’t increase their GPA. We had a student who had flunked the previous semester go to somewhere in the neighbourhood of a 3.0 average. He said that had it not been for the software, he wouldn’t still be at the college.” Edward Beason, Lead Student Assistive Technology Specialist, Tennessee Technological University

# Slide34

Measuring Impact

***Preliminary findings from recent adopters in Australia***

Image: Curtin University logo

One of the first Australian institutions to implement as a digital note taking accommodation

*“I recommend it every day and our students are just amazed when we tell them about the wonderful ways Sonocent can assist them .”* Karen Darby, Curtin University

Image: The University of Adelaide logo

Conducted a small scale rollout for 2017 academic year

*“Sonocent has enabled students to take control of their note taking and enhanced the quality of their notes; they’re no longer relying on the content, accuracy and timeliness of notes from a peer note-taker.”* Annie Harris and Ngaire Robertson, University of Adelaide

Image: Western Sydney University logo

Recently completed a pilot project conducted during the final semester of 2017.

*“We anticipate that many more students will approach D.A.s in 2018 seeking the software as an alternative to professional notetaking.”* Nola Baker, Western Sydney University

# Slide 35

During the pilot, students primarily used Sonocent to:

* **Colour code audio recordings according to ‘value’ of the information to the student.**
* **Pair audio with PowerPoint slides from lectures**
* **Create summaries aligned with recordings.**

“I was able to focus more on the parts I had trouble understanding and remove all the waffle that increases my mind drifting off.” Wayne, B Science student, Campbelltown

# Slide 36

Qualitative Data from the Post Pilot Surveys: Key themes in the feedback

* **Focus and improved understanding of material**

Students report increased ability to concentrate on the information that matters to them.

* **Ease of use**

Students love the fact that the program allows them to work with audio, slides and text in the one workspace.

* **Improved engagement in the lecture**

Students have reported that they are able to relax and enjoy their lectures more and participate in discussions.

“**I have loved using this technology**. It has made my notes **succinct** and have kept them **all in one place**, **nicely organised** and **easy to follow** which was **something I was struggling with prior to using Sonocent**.” Christina, BHSC (O.T.) student, Campbelltown

# Slide 37

Image: Western Sydney University logo

Student feedback from Western Sydney University Disability Service Sonocent Audio Notetaker Pilot, 2017.

“Being able to download the lecture recordings and take notes whilst looking at the slides in the same app was great as I am usually unable to take complete notes whilst in lectures. I also used it during practicals/workshops that were not recorded so I could go back and revise things I was unable to write down or missed.” Ingrid, B. Science (Zoology) student, Hawkesbury

“I find the Sonocent software is really helpful for screen capture of online lectures, highlighting salient explanations and making a video that allows me to view it later on TV.” Morgan, B. Grad. Dip. Psychological Studies student, Kingswood

This software package is amazing for students and note taking in general! It helps you structure and organise your notes for not only lectures and tutorials, but also with assignments. This is the kind of software that not only students with disabilities need but … pretty much anyone who does research or studying for a course. ……The university should look at incorporating this software into its course fees and offer it to everyone.” Arthur, B. Psychology student, Kingswood

# Slide 38

Key Pilot Information

* Professional notetaking has been removed from approximately 200 students this semester, so it is reasonable to anticipate that many more students will approach D.A.s in 2018 seeking the software as an alternative to professional notetaking.
* It should also be a regular recommendation for new students registering with the service in 2018.

Image: Laptop computer showing Audio Notetaker.

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Key Pilot Information

* The free trial pilot licenses expired on 15/12/17.
* We have purchased 200 licenses for 2018 academic year. Licenses will be made available to those students who have participated in the trial and indicated that they want to continue to use the software while at WSU.

Image: Laptop computer showing Audio Notetaker.

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What next? We need to:

* manage licenses and provide support for students using the software.
* collect data over a longer period, including GPA before and after. Data collected over the next 12 months could be used to support a case for a university site license for all students.
* advocate for a universal **Recording Policy** at the university.

Image: Laptop computer showing Audio Notetaker.

# Slide 41

Who else has implemented Sonocent?

Over 300 institutions, including:

Images: Logos of The University of Edinburgh, University of Central Florida, University of Bristol, University of Bath, University of California (Davis), University of Nevada, University of California (Berkeley), Curtin University, University of Adelaide, Griffith University, Swinburne University of Technology, Flinders University, La Trobe University

# Slide 42

Accessing Sonocent

Request a free campus trial

* Free semester trial of Audio Notetaker
* Ongoing support provided
* 25 user license provision recommended
* More information at www.sonocent.com/australia

Invitation is open to institutions across Asia-Pacific

Image: Map of Asia-Pacific region

Image: Screenshot of Audio Notetaker License Management portal.

# Slide 43

Frequently Asked Questions

The recording quality. What is it like? - Audio Replace

To what level has it reduced the provision of peer note takers? - University of North Florida

Can it transcribe audio? - Dragon wordstonote [www.wordstonote.com](http://www.wordstonote.com)

Is the software accessible? - Lecture capture format of choice for Uni of Huddersfield

How much training do students need to use the software?

# Slide 44

Image: Screenshot of wordstonote web site.

[www.wordstonote.com](http://www.wordstonote.com)

# Slide 45

Image: Screenshot of organisation's transcription account on wordstonote web site

# Slide 46

Image: Screenshot of student's transcription account on wordstonote web site.

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Image: microphone icon

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