Hi everybody and welcome. It's Darlene McLennan here, the National Disability Coordination Officer for north and northwest of Tasmania and also the manager of ADCET. On behalf of ADCET and ATEND I'd like to welcome you all to this webinar. Firstly I'd like to start to by paying my respects and acknowledge the traditional custodians of the land on which we all are meeting on today and also pay my respects to the elders past and present and any Aboriginal and Torres Strait Islanders joining us today. As you can see from our information we posted on our website post-secondary education environment is rapidly changing and a lot of the learning is actually going online and so what tools and skills do students need to ensure they can participate on an equal playing field? I think it's a fantastic topic. So today we're hearing from Darren Britten from Latrobe University and Martin Kelly Martin is a good friend of ADCET, he's actually developed the inclusive technology resource and information on on ADCET on our website and Darren Britten is actually a member of our advisory committee so it's fantastic to have two of our esteemed colleagues with us today. Martin and Darren will be looking at the changing environment of teaching and learning for students with disability and explore some of the readily available tools and technologies that can assist them in actively engaging in the studies. So now I'll hand over to Martin and Darren and looking forward to the presentation, thank you.

Excellent thank you very much for that warm welcome Darlene. I'm Darren Britten joining me right next to me is Martin we'll be trying to swap our microphones during the presentation as we go through today and we've got a lot to cover we know this is a very interesting topic, a topic that inspires much interest as well. We'll try and provide some answers. We have looked at the questions which was sent through prior and we've tried to base some of what we've got in the presentation around that Before I go on I'm not going to read our introductions they were on the website as well I'd also like to acknowledge the traditional owners of land on which Martin and I have located here at the Bundoora campus of Latrobe University and that is the Wurunjeri people of the Kulin nation and pay our respects to their elders past and present. So what do we want to cover today? I think that the synopsis that we put online is fairly apt and Darlene pointed that as well, the times are changing, the landscape has changed dramatically for students and so we want to look at some at the post-secondary education sector and those technologies that are currently available to students and in some cases staff to assist in removing barriers to education. While we could individually talk about this for hours we're going to try and limit this presentation to some of those more burning questions were raised beforehand, prior to the webinar and with a particular focus on the technologies that can assist students with disabilities in engaging with their studies. Now inclusive technologies are broad and in some respects all technologies have some aspect of inclusion built in otherwise why create something that nobody's going to use. We do have a lot to get through there will be many slides that we're just going to touch on but the slides will be made available after this on ADCET and on to the ADCET website. There's lots of links in there lots of links off to further articles, onto videos showing some of the software and things that we're talking about in depth. But primarily we'll focus on three things today I'm going to introduce some parts about that changing educational landscape, what's happened over time and part of that role of the student how has that landscape changed for the student over time and then Martin's going to be looking at you know some of those changing technologies what has happened with these technologies from a few too many as we've got. Moving onto, slide . We will be announcing some of the slides for our JAWS users so to follow along the copy that they've got already So I want to introduce you to Jo. Jo's our gender-neutral student and our go-to student for all things that we're going to be looking at to help us navigate these changing landscapes. Jo will also represent some of the examples we'll be using we're going to keep the anonymity of prior students and their feedback as private as we can. Jo is flexible and has no restrictions on environment or ability as well. Jo has many abilities and skills and Jo has one particular skill that we're certainly interested in today. Slide five. Jo has the ability to time travel because of this amazing ability that Jo has and possibly because Jo spent too much time watching s movies we can utilize this particular skill to help us look back at the past because all of our memories fade over time and we all remember some of the good things we want to compare that with the present and hopefully that will help us predict some of what lies ahead and how some of the technologies we'll be looking at later are relevant for now and maybe into the future and some of the emerging technologies. Slide We've sent Jo back to , our first stop in our webinar today. Back when information access was mainly hardcopy, there was some electronic, there were some websites, a lot of students didn't necessarily have a laptop at the same time or multiple devices mobile phones were still fairly rare terms of studying a subject the student may have up to twenty, thirty main resources that were needed, learning resources or e-resources however you'd like to frame them per subject. It was largely a linear process in terms of you've got the information you read the information you commented or studied the information and got assessed on that. There was a few assistive technologies, a few big players in the market that dealt with really mainstream disabilities. It was primarily face-to-face teaching there's a few teaching and learning technologies some at Latrobe in particular we were delving into the into the online environment most of the learning was done certainly on campus or being just to give some perspective how things change certainly over time present with other people and we had library's full of books and photocopiers Just to give some perspective how things change certainly over time with that back in Google was the fifth most popular search engine. Time magazine was recommending that Friendster.com was the website to watch myspace had plans to become the major social network online and Facebook was just launching and was finding it hard to find some capital. So in that respect hindsight is a wonderful thing not everything we think is going to happen will happen so what we're going to do is send you off to the future while we have a look at the present and hopefully we won't create some time paradox for Jo. Slide Where are we at in terms of the present day? We've now got hundreds of assistive technologies or inclusive technologies of information access is in many ways shapes and forms. We have some print now in subjects we have a lot of electronic, primarily electronic and we have things in a wide variety of different formats now. There's different tools different systems different platforms people are using. We have the number of resources that are needed, I mentioned earlier to in the subject it may have been a reading pack, it may have been a collection of some online articles if you're lucky or a series of books. We've got subjects with ... resources links things for students to use and follow up on to help them with their studies. Multiply that across multiple subjects the student may be doing and now got a much more complicated environment. We've got some face to face going on we've got a lot more blended certainly going on with online, offline - we've got some fully online so we've got lots of technologies at play now lots of newer technologies lots of emerging technologies and we have a lot of digital disruption. So what's changed? Moving on slide eight. Well certainly the student numbers that support services are looking at, the needs and demands of those students is changing, the staff and student skill levels are changing as well. We'd like to think students are coming to the university being much more digitally literate. That may not necessarily be the case. There's not one or two tools that a student with a disability may need to now navigate and learn, there's multiple tools. Learning, teaching modes will be delivered in different ways. We now certainly in a much more just-in-time teaching model that seems to be across the sector that's the feedback that we're getting and certainly the experience here. The technologies used to access and participate have changed dramatically the multiple systems since new students need to engage with so one size does not fit all anymore you know look back as a saying on cert at the good old days and say well we can convert print across into electronic text that's fine most things were in some kind of print format we now have numerous videos it seems to be the increasing platform and audio that's there so there's challenges related to that the timeframes and the like so life cycle of the resources that students require has certainly reduced we've got things which are only available for a limited time or for the time period of the subject itself information that was online at Sardis mr. may no longer be online may not be you know in perpetuity anymore there's an increase in the learning resources required as we were saying the students now require more agency more individual skills and I think that's probably one of the biggest shifts that's starting to happen and there's numerous single and/or multiple purpose applications and tools that are coming out of that so the big thing I suppose is that line between the online and offline is blurring you know education is something you go you could do it's now integrated into part of students lives we're using Media to communicate and some of the tools that students use outside to communicate with them some degrees in some respects that's good in other respects we have students saying get out of my personal life I don't want the two things combined so we're in a tricky gray area so slide the future where are we going if I add below our timeline from past to present to future and we'd sent Jo off to the Future bad below that just the technologies and information communication methods and to represent that the way that we've used in the past and that we're currently using and the never ending expanding options that seems the future holds we get this rapidly increasing range of informations and technologies and that makes it hard so realistically I think this is probably only the tip of the technology and information iceberg we're moving to micro-credentialing we're moving to different ways of learning amongst pages and pages of things so therefore the challenging part how do we predict the future and where these are going as is they demonstrated earlier and many times in the past predicting the future can be very problematic two of my favorite examples of this in the president of the Michigan Savings Bank advised Henry Ford's lawyer Henry Ford's lawyer not to invest in the Ford Motor Company because the horse is here to stay and the automobile was only a novelty and a fad. To couple with that in Darryl zanuck a movie producer with th Century Fox is quoted as saying television won't last because people will soon get tired of staring at a plywood box every night. So as much as we think we know what might be coming we're not sure. So what will ten years on look like I would hazard a guess that just like the past to the present some barriers will come down some technologies will solve some of those but new ones will emerge. I won't go into much detail as we've got a lot to cover let me say Jo's just contacted us from the future and has let us know that things are looking pretty good, it's not all doom and gloom. Unfortunately Jo's also let us know that they cannot share any specific information with us for fear of causing a temporal anomaly so unfortunately there's not too much we'll be able to do there but I can share with you one of my seven C's checklist that we use internally for looking at things. So the seven C's checklist that developed over the past decade helps me evaluate subjects for student access without knowing about students individual needs. It's a broad concept taken from many best practice models and frameworks such as Universal Design, web content accessibility guidelines along with student feedback that we've received over the last years here at Latrobe and helps us facilitate some discussions around minimising barriers to information access and teaching and learning environments. It's about communication - is it clear information? are the expectations made clear as well. Is there consistency in the presentation location of information that's there, the style of how that's presented within the subject? The context there - why is this link here? Why would I put it there? Why do you need to go and use it for this? The choice - the flexibility, multiple formats are options. This control giving the usability to customise, download content, disseminate content in different ways. There's channels for contribution for the student to provide feedback and to engage as well and then there's the compliance which is a very difficult one I know there are some questions around this earlier around you know standards-based things becoming technology agnostic. It's not you just have to use this platform or you have to log in and be a user of this website and register in order to use things and I know that it's a huge fear of things to cover very quickly but that's just trying to set a very brief landscape of where we're at at the moment so I'd like to throw over to Martin who will take you through some of the teaching and learning and inclusive technologies that are available to students. Take it away Martin.

MARTIN Thanks very much John that was really interesting to kind of sit back and listen to the overview that you presented of the changes that have happened really quite amazing to see what's happened in the last or so years so I'm gonna start off with a screenshot of the Inclusive Technology section of ADCET's website. That section of the website was completed around this time last year and it has some great information on yes obviously it has a lot of information to do with assistive technologies and that information is grouped by a disability type. Now there are also some video resources of students talking about their experience services of using assistive technology and it's very useful to shows other students this. Students learning from other students is always a good thing. The other thing it has on there it has information on where you can purchase various technologies. Okay moving on to the next slide. How have assistive technologies evolved if in the context that Darren has just described. Well there's the subscription model of providing software which some, a small number of assistive technologies are starting to use, Texthelp, Read&Write Gold for Google Chrome now has the subscription model, as does Sonocent audio notetaker. The advantage to it is that it's has ongoing technical support and updates. You've always got the most updated version of the product and this is in line with what a lot of other major software companies such as Adobe are doing. Another thing that has been happening is that a lot of software licenses are now device agnostic so you can purchase a license and it can be used on either a Windows or Mac machine and in addition there might be an app version of the product that either is a scaled-down version of it or supplements some of the functions that the main software does. We've also seen that some licensing, certainly not all licensing, but there are some good examples of flexible licensing and I mentioned sonocent audio notetaker again which I'm going to be talking about sonocent a bit later, the license management system is an an easy-to-use online management system where I can assign a license to a student for a given period. When that students finished using that license after that period I can either extend the license loan for that student or I can give that particular license to another student. I've also listed Text HELP Google Chrome if a student has a license for that they can log in using any computer that has Text Help on it and they can sign into it via the the Chrome extension on their device. Moving on to the next slide which is slide There's been a partnering that multinational companies have initiated with some of the smaller assistive technology brands So non-visual desktop access, a screen reader has been working quite a bit with Microsoft over the years to make their products compatible with each other to improve accessibility. Google has been working with Text Help and Braille Note for the same reason. Another thing that's been happening within the environment is that the native accessibility of some web browsers and operating systems has really improved. I've mentioned Google Voice type there I'm going to be talking about that a bit later. Microsoft speech recognition and Mac dictation are also pretty good and the map voiceover screen reader is very good for users who require a screen reader on a Mac computer. So also over the years single purpose apps and there's a lot of text-to-speech apps whose sole purpose is to read text that's on the screen. Single purpose apps have become much more reliable. When apps were first released onto the market they were often an isolated project that a developer was doing that would work for a while but then you would find that they wouldn't work after that. The good thing is that there are a lot of stayers in the market now and there are a lot of good reliable apps and they're usually fairly low cost in relation, in comparison to the big names in software. Okay we're gonna move on to the next slide which is slide number ... we're having a bit of a debate here Darren over whether it's slide number or ... okay it's slide number okay and it's got it written down there. I want to talk about in the next few slides about screen readers, I will be moving on to other assistive technologies. So I have a screen shot of a graph and it's from the web aim screen reader survey that was done in A few things to point out on this survey that you'd be able to notice is that there has been a decline in the usage of jaws as a screen reader and has been a rising popularity in zoomtext windows and NVDA which is as I mentioned before non-visual desktop access. It should also be noted that the rise in popularity of window eyes at the point when this survey was done might be partly attributed to the fact that it became freely available alongside the purchase of Windows. Now the version of this survey ... what I'm hoping there will be ... I'm guessing there will be a version of this survey because they seem to do one every couple of years it will be interesting to see how things change and if they do change. There is a link at the top of this page to a full description of the survey on the web aim website so go there for more information if you're interested. Moving on to slide I want to talk about NVDA and jaws and the reason I want to talk about the two screen readers is that they are often compared. Now the comparisons that are often made between the two applications I find are sometimes based on what people have heard about the two products years ago so for example in when NVDA was released many people compared it to jaws and it was commonly said that jaws was much better which at that point in time jaws was certainly was much better NVDA had just come on the scene and jaws had been around for more than years. Let's have a look at some of the differences between NVDA and jaws so as I said before NVDA was released in and jaws was released in NVDA is free it's funded by companies such as Microsoft, jaws you have to pay for a license and it is quite expensive. Both are compatible with Windows. Now I'm going to get a bit geeky here just for a few seconds NVDA uses accessibility API's to read information on the screen and Windows uses it's video intercept driver. The difference here is that there might be some programs on your computer that don't support accessibility api's and as I'm told if that's the case NVDA might not work with those programs. The main question that I'm interested in is this in when it comes to using NVDA and jaws with Microsoft applications and web browsers is there really that much difference and functionality when you compare the two? Now I can't say that I've done a formal study on this I certainly haven't but from my experience of working with students in recent years and from reading available information on websites and forums there really doesn't seem to be that much of a difference. You do sometimes hear NVDA provides more audio information when reading online forms now some users like this and some users don't like it. I spoke to Quentin Christensen at NVA, that's non visual access, about this particular issue recently and he explained that there are some settings within NVDA that can be changed to minimise that kind of auditory information. I've also included a slide ... I've also included on this slide a link to an interesting article about switching from jaws to NVDA and some things to expect and Jo our anonymous student recommends that you have a bit of a look at that. Moving on to the next slide slide number zoomtext fusion , so what is zoomtext fusion ? Well the makers of jaws that's freedom scientific and the makers of zoomtext that's AI squared got together and had a baby and they called it zoomtext fusion . So basically zoomtext fusion is a combination of both jaws and zoomtext so the rationale behind it is to provide a product that meets the needs of the user whose vision is changing over time. Another thing to consider about this product is that it's a cheaper way for an institution to purchase a license of Jaws and zoomtext. Now I would recommend having a look at the link to the video and auditory information about the product because to me the idea of bringing a screen magnification software and a screen reader software and these two particular software's together makes a lot of sense. Moving to the next slide, slide now maths has been one of those areas where assistive technology has often struggled. There have been some products out there on the market but nothing that's really taken off. When I was in Sydney in May at the texthelp and Google EdTech event equatio was one of the new products being spoken about and I saw a demonstration of it and I was pretty impressed. So basically it's a texthelp product which is a Google Chrome extension there's a free version of it and there's a version ... a paid license that you can purchase. It creates Math's expressions that use equations and formulas it has handwriting recognition by a touch screen and touch pad it also has voice recognition and the ability to type equations. So because it's certainly a product that I'm looking forward to introducing to students and I'm looking forward to seeing how well it works. There are a couple of links on this slide that give you more information about equatio so as Darren mentioned it's a good idea after this webinar to download the PowerPoint slides because there are loads of links on them. Moving along to the next slide, slide number voice recognition so what's been happening in the world of voice recognition? Well quite a bit over the last number of years I just start by referring to a couple of reviews of voice recognition technologies in Now I've got links to these reviews at the top of the PowerPoint slide both reviews put dragon at the top of the list and the reason for this has to do with the accuracy of voice recognition in relation to dictation, the ability to customize the vocabulary, to add specialist terms, the ability to navigate operating systems and voice commands, the ability to customize commands and use macros. In addition dragon has a medical version which has a huge medical vocabulary and also has a legal version which has a huge vocabulary related to law. So having said that it's really important to also know about upper voice dictation technology because a lot of it has come a long way. Now I've got three technologies listed there Google Voice type which I'm going to talk about on the next slide is very good the Google ... Google's vocab and Google's accent recognition has been developed by feeding into the data from Android phone users and so it's got a massive database that it utilises when recognising words. I've also mentioned Mac dictation and Windows speech recognition they're also good. One thing I would say regardless of what technology you're going to use is definitely use a good noise cancelling microphone you might find that you know that the microphone ... the inbuilt microphone on your laptop works when the room is quiet but if you just get a bit of background noise it really ... the accuracy really falls down. So moving on to the next slide, slide and talking a bit about Google Voice typing. One thing I should point out to start off with is Google Voice typing does only work within Google Docs. So I've got a screenshot of a demonstration of Google Voice type that I did and of the five sentences that are in that screenshot you'll notice or if you're a screen reader if you read the alt text you'll notice that there's not an error in any of them. One thing that I do notice when dictating with applications like Google Voice type is that it doesn't recognise punctuation and formatting as well as what dragon would and the other thing to point out about these products is that they are usually just limited to dictation, they're not limited but you know you can't navigate through an operating system using voice commands or navigate through menus within a word doc or a web browser using commands so they are limited to dictation of words. Now there is a link to a video on how to use Google Voice typing. I'll recommend sharing that with people it's very good. Now moving along to slide number text-to-speech software. So many devices now have some form of converting text information to audio it's usually part of an operating system. Some of the paid-for products are much better in terms of usability and they will often have voices that are also much easier on the ear I suppose. We've got a couple listed there text aloud for PC's ghost reader for Macs also don't forget about the assistive technology section of the ADCET website it has additional information about text-to-speech software. Many of the eBook readers now have text-to-speech functionality built in. Google play store you can get moon reader and eReader prestigio is also available and down at the bottom of this slide there is a link to Tom's guide which has a list of the best ereaders on the market. So moving along to slide sonocent audio notetaker one of the more impressive educational technologies that's come out on the market in recent years I think. I've got a screenshot of a demonstration video ... from a demonstration video in this slide and there's also a link to a four-minute video that I did that demonstrates sonocent and it gives a really quick demonstration and some instructional information as well on sonocent audio notetaker. Sonocent is one of those products it's kind of its best to actually see how it works I'm going to give it an attempt to describe some of its functionality but it is ... you'll get the gist very quickly if you watch the video of a lot of things that sonocent can do. So in this screenshot it has the main interface of the sonocent audio notetaker software and you can see that there are three columns. In the first column the column on the left you can see there are PowerPoint slides that have been imported so you can import your PowerPoint slides into the software. In the second column, it's titled text and that's where you can add your notes you can type your notes during the course of when the audio recording is occurring you can type your notes alongside the relevant slide. The third column allows you to group the audio by means of chunking it alongside the relevant slide and text. As I say watch the video you'll get the idea. Now it does a lot of other things on a sonocent audio notetaker but it would take me too long to go through them happy to talk to you more about that. Staff and students that I've been training in sonocent are really excited about it. It's interesting at one educational institution I've been training students in sonocent and I've also been introducing them to Livescribe smartpen some students depending on the nature of their disability and the content of their study are opting to use Livescribe smartpen and for me it was just a reminder that it's a good idea to give students a choice where there is a choice and it's also a reminder that smartpen is a really good bit of technology that is very relevant to education and disability and as I say some students will prefer to use it. It's a good idea to keep students informed about what's out there. Ok so I suppose sonocent also ... one last point about it is it is unique in that it does merge multiple formats and there's nothing quite like it. So slide is what we're on now what changes are happening in the area relating to students who are deaf and hard of hearing. Now we are going to be posting some questions out after this webinar asking institutions how they are going about captioning and so we do want to gather some information about that because we do understand it's ... it is a discussion that's like a lot of others, it's ongoing, but it's a discussion that a lot of people are interested in hearing about. I'm just going to cover some things, so the Phonak devices that link in with hearing aids and cochlear implants are really beautifully streamlined unobtrusive technologies. They're becoming more and more used and there's a link to the Phonak website on this slide the cardionics stethoscopes have headphones that work with or without hearing aids and cochlear implants and they're also readily available on the market and there's of course the bellman FM transmitters and receivers that are also very handy things for disability liaison units to have as a resource to loan out to students. Now a question did come through on the webinar form asking whether there is technology that assists Auslan users so apart from captioning and remote video for Auslan interpreter there are some things happening that I would describe as being in the research and development phase. Unfortunately the research and development is happening in America so they're developing it for American sign language but some ... there is more information on this slide. There's a product called the iCommunicator as I say it's relatively new it claims to convert speech or text to video American sign language. The makers of the product do state it's not intended as a replacement for sign language interpreters but as an alternative when an interpreter is not available and I've also got a link to an interesting article on technology that is being developed to convert American sign language to text. Moving along to the next slide which is slide number I've listed a number of productivity and time management apps on these ... on this slide. These apps are free and some of them are quiet fun for example the app called forest aims at limiting the time that someone accesses their phone by having a timer represented by a tree growing if the user starts using their phone during the period that the tree is growing then it will begin to wither the longer you don't touch your smartphone the better the tree will grow. I know a few people some of my friends that should get that. I've also listed one app to do with grammar and that's grammarly it's probably one of the more popular apps out there in that area and again there's a free version of that app available. So moving on to the next slide, slide . Now this slide I've put last but it's certainly by no means the least important and as you can see Jo he's there with a microscope looking at it with some interest. The Sett framework is a framework that I use and a lot of people who are introducing assistive technology to students use. It was developed by Joy Zabala a number of years ago and the reason it's important is because it looks at technology within the context of the big picture the Sett itself is an acronym. It stands for student environments tasks and tools so in relation to the student when meeting a student and evaluating what technology is relevant to them the Sett framework says well look at the students learning strengths, how are already going about accessing their materials and demonstrating their skills and knowledge, what strengths do they have. Acknowledge those strengths and encourage the students to use those strengths. It asks what's the impact of the disability or health condition on learning and it also asks what are the students goals and interests. The E in Sett stands for environments and it takes into account where the technology will be used and as Darren was outlining the blended learning environment the students don't ... if the things have changed for Jo over the years it's common place for a student to learn as much of their stuff online as what it is at the actual educational institution and of course students also have work placements in many cases. So they're going to need to use the technology in the environments that are relevant to them but also in the environments that they're in what learning supports do the students have, can they meet with their lecturer or their tutor face-to-face and ask questions, are they going to the study and learning center to develop skills. The T in ... the second-last T in Sett stands for tasks. What tasks does the assisted student need to do. So this kind of relates to conversations about inherent requirements The last T stands for tool so tools, so based on the above information what assistive technology is relevant to the student but not only what assistive technology is relevant for the student what other resources such as training and technical support will a student require to a system to integrate the technology into their daily study routine. So often this just doesn't happen overnight as we say it can take a while particularly for a student who really relies heavily on assistive technology it can take them a while to bring in the technology to their day-to-day study routine. I know that I often say to students who are taking up the use of assistive technology when they start a degree or a certificate I often say to them well look you're doing an overload you're actually doing an extra subject and that extra subject is learning how to use your assistive technology. So this Sett frameworks very good, it's a holistic way of considering technology. It just doesn't see technology as the thing that can be the one solution. In some cases assistive technology is the solution to a student's problem but in perhaps in more often than not students require assistive technology and other additional supports as well. So thanks for listening to me we're interested in listening to you of course and so it's probably a good point just to stop there. We've got a slide up now that shows Darren's contact details and my contact details please feel welcome to contact us. Moving along ...

DARLENE Thank you Martin that's brilliant. That's absolutely fantastic.Yes I'm definitely going to the App Store after we speak and downloading Forests I think I'm probably one of those people that require it so thank you for that. Just encourage people if they have any questions they can put it into the question pod. If we don't get to them today we'll certainly have them answered and put on the website afterwards. We have had a question in the pod that's a very important question and that's one to Jo we want ... the person would like to wonder if you could ask Jo if they could tell us who's going to win the US election.

MARTIN Just checking with Jo, hang on it just takes a little while to go across the decades. No, Jo said due to publishing rights can't release that information again. We've already got a bit of a time paradox happening we don't want another one.

DARLENE Very good and guys the jokes were fantastic. I felt quite sad that you couldn't hear us all chuckle along with you because I certainly had some moments of chuckling so it was fantastic to hear your humor coming through in the presentations. So we have had a couple of questions that we received prior to the webinar one of ... one of the ones that I would would like to find out I suppose is how is from LaTrobes experience handling audio transcriptions that are interactive and classes and discussions.

DARREN Oh that one dreaded question DARLENE Oh, is that the one you didn't want me to ask. DARREN No, thanks Darlene. And its a good reference because I think in the follow-up survey to this we're going try and ask what different institutions and organisations are doing. This is certainly an emerging area as Martin touched on there's a few applications that help with some of this voice-to-text recognition but the learning and teaching environment is we have much more video, we have a lot more audio-visual material being used. These resources ... lectures are recording, we've got students studying everywhere, again we've got you know students using different technologies on different devices at different times you know it's very much user driven but when it comes to that side of it it's still not that great. You can get really good automatic transcription only if the system knows the voice, it's in the perfect environment, there's no background noise. Martin was saying you know get noise cancelling microphone and unfortunately that's the environment most of the videos that we have, most of the recordings in terms of education even at LaTrobe and I know a lot of other universities use Lectopia system. If the quality is just not there for the automatic transcription, well that's becoming much better, you know YouTube, Google has been doing a lot of work certainly on that. The confidence levels still not that great as soon as you get two talkers or you get some background noise or you get somebody with a slight accent or talking too fast as I do you'll find that it just doesn't happen, hence the same reason that we've got a steno captioner here today so we can hear what we're saying has human intentions etc. I might just quickly add to a slide as well women put this online there's a very interesting article on why voice recognition in terms of auto captioning and that isn't there yet and I'm just going to throw to Martin for a second. MARTIN I'll just add to that a couple of weeks ago Microsoft made an announcement that its voice recognition of multiple voices was more accurate than a transcriber and they presented a paper of how they made this claim I suppose. So we might put a link to that up as well but you know you do have to kind of evaluate these things and these things have to be proved out there in the ... in the, how do you determine, real-world but out there in places like our lecture theatre,s meeting rooms and up at venues so maybe we'll add that one to it as well.

DARLENE Excellent. Just somebody's asked also is how is it best to enable students to trial and learn some of these new technologies from your experiences.

SPEAKER So yeah good question. So to trial it and to learn how to use the technologies I guess I'm engaging with students and making the opportunities available is certainly number one. I do find that having students ... when a student actually sees how a product works I do find that that can be very powerful. I've had experiences of students who ... screen reader users and who perhaps aren't that skilled with their screen reading technology I've had experiences of getting them to meet a screen reader user who is very experienced at using it and it's a really powerful learning experience for that student to actually learn from another student and see it in action. I do also think that when stuff like voice dictation dragon is being introduced to a student that does need to be provided with some training. Just providing students software out of a box isn't always the best ... isn't the best idea I don't think. Training alongside of it, face-to-face training is really good. Another thing to point out is you really want to make these things work well you want demonstrations to be good demonstrations I mean if I was going to go out and buy a car today and it didn't work for some reason you know I wouldn't be buying the car and the same thing goes with assistive technology you want students to see this work and you want to see it working well and you do also want to acknowledge the fact that it can take a while for a student to integrate the technology into their daily study routines and so ask the question too - okay is the technology alone the solution as I mentioned before it often isn't so for example if I was to give a student some mind mapping software and the software itself isn't going to teach the student how to mind map the student is going to need to learn how to ... the concept of mind mapping and how to do mind mapping the software itself is just a tool. Voice dictation, dictating to a computer is very different to talking to a person the student is going to need, or anyone's going to need, to kind of learn how to talk to a computer and often it's good to have someone there to give them some feedback about how they're going because most of us aren't usually used to listening to our voices unless you're a singer unless you're an actor unless you're a news reader so it's one of those things yeah it's a multiple ... there are a number of answers to that question DARLENE Okay.

DARREN I might, sorry Darlene, it's Darren. I might just quickly add to that so can you just mute Martin. Ah sorry, I might just add to that that I think it's very important we've certainly found over time in terms of you know alternate formats and student needs changing you know over the last odd years, that time frame thing that Martin talked about and that ownership going back to the student I think is really key. The assumption we make when we say this is the best bit of software for you it is primarily the wrong assumption in most cases it will be what they can adapt and build into their current routine. It will need to replace something they're already doing again if we look at something's a hundred percent full we can't add another percent cognitive load onto it without taking something away and that only happens over time. We know from experience introducing new formats to students saying you know you should use ... well not say you should, here's an ePub or here's a daisy book for instance and here's these things the uptake of those new technologies is really slow for the students and it has to be done at their timeframe and we've generally found that's a six to month time frame so we can give somebody the software get them to play with it remind them to play with it when they've got time to integrate that into what they do and the more that their technology can be part of their life outside of education where this will help them with their you know social media will help them with other things that they're doing the more likely that is to be adopted then we get those students back to primarily you know be the peer as you're saying for another student to see what this is but there's a point of your own ownership once you've ... you know it's the same thing if I tell you go listen to this song it's fantastic you won't think it as great as what I will but if you discover it yourself and somebody just pointed you in that direction then you'll have a different love affair with that if that makes sense, sorry.

DARLENE It does. I like it but I'd listen to anything you recommend Darren, it's fine. Just a question on Claro Reader and GoToIt. Is that how you pronounce it? Has anybody done any comparison about Go and read and write gold have any of you done any comparison of those technologies? SPEAKER Um, I have done a comparison on Claro reader and read and write gold have gotten both on my laptop. Read and write gold is much more user friendly, Claro read at the time that I purchased it a couple of years ago there were some bugs in it it wasn't working that well with Word and the company acknowledged that themselves and they did provide a fix to it at some point. So just in terms of user friendliness definitely text help is much better. No I haven't done a comparison with GoToIt.

DARLENE No that's okay. Alright well looking at the time we might finish up we have got a number of other questions but we might put them on the website and we'll have them all answered. Just before we finish up I just want to tell people about our next webinar which will be one of our other wonderful colleagues Kathy East from Griffith University she had the wonderful opportunity to go to the association of higher education and disability conference in America and she will be ... will be holding a webinar on the th of September, Wednesday the 27 th of September at p.m. hearing from Kathy and her experience from that conference and there's kind of quite a lot of new kind of things happening in America that I think hopefully will come our way and probably some of the similar discussions and issues that we're facing. So that's coming up later on this month. So thank you very much Martin and Darren it was a very informative presentation it was timely because I'm actually presenting next week to a career practitioners around technology so it's great to have touched base and actually found some new technologies as well today so thank you both for your time, I think you've done an enormous effort in providing the wealth of information. We will be posting the PowerPoint presentation on our website so everybody can go to the presentation and click on the links and do some further research themselves so thank you and thank you everybody who has participated today.