DEBBIE HINDLE: We have Lee Chambers from Sonocent and Jim Sprialis from Sprialis Consulting joining us today. Together, they bring a wealth of expertise, drive and passion to engage and build capacity. So, during this presentation, Lee and Jim will be conducting two poll questions - I think it's actually three poll questions, and we will read those out as well as the responses. So, just a reminder, if you have just joined us, welcome to Stream 1. We have the captioning available for you on the Zoom tool bar. But also, it is available in the browser and we will put that link in the chat box. Please use the chat box to engage with us as well. I would like to say thank you, Lee and Jim. I'm going to hand it over to you to elaborate on your presentation “When peer notes fail to meet the grade; using note taking technology to improve student outcomes.” Thank you, and welcome.

JIM SPRIALIS: Thank you so much, Debbie, and welcome to you all. I did see in the listing many familiar names but it's fantastic that this online version of Pathways for 2020 has enabled access to a wider audience. So, there's quite a large group of people that I'm not familiar with and look forward to sharing information to everyone that's attending today. Yes, today, we're going to look more closely at how effective notetaking technologies can be used to support students to build independence in their learning and feel empowered in their lifelong learning. Just quickly, a little bit about ourselves, I'm based in Adelaide and I'm the Australasian representative for Sonocent. I have been for several years supporting universities with original technology called Audio Notetaker. I do have a background in inclusion and special education as a teacher, assistant principal. For the last five years, I've been working with schools, universities and workplaces to provide support and training with assistive technology. Quickly, I will hand over to Lee so that he can introduce himself. He will also outline his role in today's presentation. Thank you, Lee.

LEE CHAMBERS: Thanks, Jim. So, I've been with Sonocent now for about four years but working in the assistive technology sector for about 10 years now, predominantly as a trainer. My role was going around and training students, mainly on a wide range of technologies that I'm sure a lot of you will be familiar with. You can probably tell from my accent that I am from the UK, where it is currently, I think, quarter past four in the morning. So, if I'm slightly blurry eyed, that is the reason why. My role in this presentation is really going to be support Jim. I will be monitoring the chat pane. So, if you have got any questions, please do feel free to ask them throughout the presentation in there and I will make sure I do my best to answer them as we go along.

JIM SPRIALIS: Thank you, Lee. So, we're on - thank you, Lee. So, we're on our first home slide. You can see here there is a screenshot showing an image of Glean, our web-based app on a computer, but also there is a screenshot of the app for a mobile device. I'm now going to move to the next slide. Just quickly, because there are so many people who may not necessarily have been part of Pathways or part of ADCET in the past, I would just like to explain that we have been around since 2007. We've basically been supporting schools - universities with Audio Notetaker in over 450 countries and, most recently, we've been supporting students with the uptake of Glean, which was released in early January. Basically, it has enabled students this year under COVID conditions to use Glean to capture over 25,000 classes, whether they be lectures or tutorials. Most of them are perhaps in remote learning situations or blended learning situations. So, what do we want to achieve today? We would like to start by going back over what the research has been telling us for quite some time now, and that is that effective note taking is directly correlated to improved learning outcomes. And investing in students' learning to develop better notetaking skills, you know, sets up our students for that lifelong learning after graduating. As Dr Tobin said in his keynote earlier today, it's all about agency for our students to have that independence and have that quality of experience when they're at university. We're going to touch upon the challenges that we have that are ongoing, that are inherent with the peer notetaking services, but today's presentation will primarily focus on how Glean has been used by students to improve their learning outcomes and develop into independent learners. I'm now going to move to the next slide, which is about why is notetaking so important. And, again, just to reinforce, I think, so that we're all on the same page, it's important to emphasise that the act of notetaking is critical in learning and learning retention because notetaking is not an outcome, it's a process. And that very act of taking notes is a key part of the learning process and ultimately influences course understanding and that retention of knowledge that we mentioned earlier. I'm going to now move to the next slide and just talk about that active process rather than that passive one, because when it is an active process, notetaking involves the encoding and storage paradigm. Encoding is that processing of information when we encode into written form or some other form with diagrams and so on, and then afterwards have that external storage of information where we can categorise that information when we review our notes. So, this encoding storage paradigm is critical. You need to be able to encode and store information effectively in order to retain and use that information, whether it's later in tests, exams, or written assignments, and they're both equally important. It's been proven that students can improve learning outcomes when they use this process. I'm now going to move to the next slide just to quickly finalise our revisiting of the notetaking issues. So, on your screen now, there are images of four students. These are students who were recorded this year from US colleges and universities and they've been using Glean under COVID conditions. Lee will be posting a link in the chat box to the full video but we've just extracted some quotes from that video. So, if we look at the first image of a young male student, he says, "I get distracted and miss material." That sounds familiar to us quite often, doesn't it? We work with our students to support them who have those attention and concentration difficulties. The second student, "I can't listen and write at the same time." So, that task switching that happens between listening and writing, that encoding is very challenging, particularly those students who have working memory difficulties. The third student mentions, "I don't know what is important to write down." Notetaking is a very important core study skill but it's not one students tend to receive explicit instruction in, certainly not before they get to university. I'm sure it rings true for many of you when students enter their first year of post-school education, where they need that additional support to be able to more formally develop those study skills. Finally, the female student at the end of the slide says, "I process things slowly and can't keep up." So, this really does make it a real challenge for this student and the others to be able to record high quality notes. I'm moving to the next slide and now I would like to talk about how this impacts on all students' learning and not just those that we service through disability services. I certainly do have challenges with notetaking myself, we all do in one shape or form. It could be around the writing and listening skills, attention span, that level of engagement that comes from trying to stay focused and concentration. For me, the biggest issue, I think, is in the executive functioning area, particularly in working memory. You know, working memory involves that task switching that we talked about earlier in that paradigm, where you're listening and writing and encoding and processing. Working memory refers to a person's performance on that task where they have to temporarily store that information, then manipulate it, and they have to then do something with it, whether to comprehend it, to reason it, to categorise it, all those sorts of things. Obviously, students with poor working memory ideally need a larger store in which they can hold and manipulate that information they process at the time. That's how technology and assistive software like Glean can help by expanding the capacity of the working memory store. We see it in other ways. You know, we see students take images or record the lecture. But just finally on working memory, I would just like to state that working memory is actually a better indicator of academic success than IQ. I'm now going to move to the next slide where we have the poll to happen and we have three statements that we would like you to answer as a yes, no, or if you're unsure, that's fine as well. And I think, Debbie, this is where you can put up the statements for us where we want to look at note taking accommodations that everyone currently utilises.

LEE CHAMBERS: I have just launched the poll myself so it should be on screen now, Jim.

JIM SPRIALIS: Right. Now, I'm in show mode of my slides. Lee, could you go through the questions for me?

LEE CHAMBERS: Yeah, it's fine. Question 1: are peer notetakers the primary notetaking accommodation offered on your campus? Three options for that: yes, no and unsure. Lots of people are answering these questions already, by the way, so I can assume everyone can see them. Question 2: do you think improving student independence should be the main goal in support provision? Again, we've got yes, no or unsure. And question 3: do you think student peer notetaking adversely affects student independence? And, again, the three options, yes, no and unsure. We've got a lot of people answering, so I think we'll leave it up there for another 15, 30 seconds or so and then we will reveal the results. I can still see some people answering those questions. We've got 63 responses. There we go. Another five or 10 seconds and then we will reveal the results of that poll, everyone.

DEBBIE HINDLE: Thanks, Lee, I will stop that at 1:45, if you like.

LEE CHAMBERS: Yeah, I think that's enough. Right. Jim, I'm not sure if you can see the results there but - Question 1: are peer notetakers the primary notetaking accommodation offered on your campus? So, 49 per cent say yes, 40 per cent say no and seven per cent are unsure. Do we think improving student independence should be the main goal? 93 per cent - overwhelming - say yes, independence is the main goal in support provision. Only three per cent say no and four per cent are unsure. And the last one is a little bit more even. So, do we think student peer notetaking adversely affects student independence? 46 per cent, the majority do think that peer notetaking adversely affects independence. 28 per cent say no and 25 per cent are unsure. I will pass it back to you now, Jim.

JIM SPRIALIS: Thank you so much, Lee. Okay. So, we asked those same three statements to 200 disability support professionals in the United States. I'm now going to move to the next slide to show you those results. Lee, you mentioned the first one, today, 49 per cent of people agreed - offered peer notetaking accommodation. In the second one in the US, 71 per cent believed improved independence should be a main goal but here in Australia, today, we've got 93 per cent. That's fantastic to have that. I think that we value building students and empowering students for their lifelong learning. Interestingly, today, 46 per cent of our people who voted believe peer notetakers adversely affect student independence. It is the majority, so they're quite similar. So, the reason we wanted to have this one is to think about the provision of peer notetakers as a service delivery, and in many ways, we can only measure that as a service delivery outcome. But as we said in previous slides, we know that the act of notetaking is not an outcome, it's a process, and it's a key part of learning and ultimately influences the student's course understanding and that retention of knowledge. Ultimately, this is because students have to have that agency, be able to be independent notetakers, rather than rely on and use a peer's notes or, for that matter, a verbatim transcript that they may obtain as an accommodation. There are some challenges around that. We know that when students do receive a verbatim transcript it's very hard for them to be discriminative of that information and process and store it. Whereas, if they're taking their own notes, they have to select important information and build it into their own understanding, and transfer that into that prior - connect it with the prior knowledge they have on the information, on the topic. So, I'm going to move to the next slide because I know it is a very short session we have today. Even though we have systems in place to provide students, you will note 93 per cent resonates quite well with the quote from the Assistant Director of Disability Services in Washington DC where students - I will read the quote. "Students with disabilities need the opportunity to take notes independently and in a way that is most effective for their learning experience." We heard a lot about learning experience in various sessions today, so it's a common thread and a common theme. So, one of your roles, which comes out very strongly from the poll is that you focus very much on helping develop independent and autonomous learners. Moving on to the next slide. I mentioned in the previous slide that in providing a verbatim record, transcription, learners miss the encoding element that was so important when they analyse information. They haven't needed to practise taking meaningful notes, they only highlight those salient points. When they're provided with a transcription they have to review all the information in a transcript, all the lecture capture equally. Likewise, when peer notes are recorded and provided to the student, they really will be limited only for the notetaker rather than the receiver when it comes to review time. Knowledge varies between the notetaker and the student with accommodation. We take notes of things we do not already know, but we have to remember, the two students do not have a shared frame of reference. And we do know that there are other issues with appointing peer notetakers, perhaps missing appointments, the quality of those notes, and afterwards being able to provide them in a timely fashion. There has been lots of discussion around that, you know, what is the real value of the peer notetaking system. But the most important one, I think, is that students do not take ownership of their learning and they miss that experience of encoding and assessing the value of that information in the moment that they're processing it. So that brings us to Glean. As a notetaker technology it's not just a capture system. It's got built into it assistive features to support and scaffold that step-by-step process of effective note taking. Students can bring in lecture slides and synchronise the audio recording to those slides. Here on the screen, you can see a screenshot of the Glean app and on the left-hand side it has that audio layer there, and on the right-hand side, students actually have a feed where they can start typing in their notes, just much like a text message feed or a social media feed. I suppose the only thing that's actually missing from the screenshot, though, is that, ideally, the student would have brought in the PowerPoint slides on the left-hand side so that way the audio aligns with each of the slides. You can see in the slide, though, that it does refer to slide 1 as being captured. Using this technology allows students to stay engaged in the moment. And we know that engagement accounts for 30 per cent of learning. So, if we can ensure that we're giving students - as part of that universal design, we're giving them multiple means of processing information and capturing it, and so they've got an opportunity to use this platform to engage in and process and prepare later for tests and assignments. On the next slide, let's talk a bit more about the design in detail. It is designed for cognition. The interface is clean, simple, intuitive and helps students to focus and to capture what they need to capture, whether it be key words, whether it just be an icon, just an icon to come back to. But it helps them to organise their notes and it does help with getting better grades. We've mentioned - we're going to show a video shortly where students mentioned how their grades improved using Glean but, importantly, how they did that independently. Now, Lee is going to actually post a link to a pilot that we did with Western Sydney University that had these very same outcomes but it was with a pilot of an Audio Notetaker that was done two years ago. It's well worth looking at how the benefits of it were - yes, it did reduce the pressures, funding pressures for the peer notetaking service, but, most importantly, it strongly comes through how valued this technology was for the students and how it helped them develop those study skills that will help them in their lifelong learning when they seek employment post education. I'm now going to move to the next slide. On this slide is a video which I would like to play. Because we don't have time for a quick demonstration, as Debbie mentioned, please visit us in the exhibitor's room later for that demonstration. I will just make sure I turn on the closed captions. There is background music to this, which I will reduce.

DEBBIE HINDLE: Thank you, Jim. It's Deb here, the Chair. We have five minutes.

JIM SPRIALIS: Right. Okay, I will just quickly play this one video. (Video plays). Now, I will go forward a slide because we will talk about the trial a bit later on. So, for trialling Glean, we did have 440 institutions trial it around the world, including 26 here in Australasia this year. About half in Australia have been able to get off the ground with their trial and the others have found it quite difficult to get that underway. And so, we are offering this trial again. For those of you who were unable to get it off the ground this year or those of you who missed out, please contact us. We're happy to discuss with you how we can run a pilot trial in 2021 and support you with that and in a very strategic way, too. So, maybe a 30 day trial with five to 10 students, and we will help you plan that, implement it, and evaluate it. Now, just quickly, I would like to mention some student feedback. So, here we have a student in the US who returned to university after retiring from a career in the military. And certainly, coming back to university to study with a disability, having issues around concentration, staying on task, initially, she mentions in her quote that she actually didn't have a very good study skills strategy in high school or college but got through okay with very good results. Obviously, now, coming back to much more formal learning and with the challenges she now has, Glean has been that working memory capacity support for her, to be able to capture everything and process it. We do have some students who also give feedback on this video, but Debbie, you mentioned we only have a couple of minutes left. What they mention in this video, every one of them, really just focus on their grade improvements. It's a two minute video of about five to six students, they all mention how Glean helped them to get better grades. But, I suppose, when we look underneath that, the reason they were able to improve their grades is because they used Glean effectively to focus on and improve their understanding and be more actively engaged with their lecturers and tutorials. Obviously, they had a lot of less anxiety, that was reduced. That can have such a disruptive effect on their learning and retention. Importantly, it helped them become more independent learners. I would like to go to the next slide very quickly just to wrap up and allow really time for some questions, I'm mindful we are down to a couple of minutes now, Debbie. Lee, I'm just wondering if there are any questions in the chat room that need addressing?

LEE CHAMBERS: There was one question which comes up a lot for me as well, and that is how Glean is different from Audio Notetaker. That's one I get asked a lot as well, Jim.

JIM SPRIALIS: Would you like to respond to that, Lee, because you get asked quite a lot as well.

LEE CHAMBERS: Yeah. Debbie, I know we're very short on time. Fundamentally, they are two very similar bits of software. They're designed to help people take notes independently. The main difference is that Glean runs via a Google Chrome web browser, so it's a web-based system. It's designed to be much easier to use, very intuitive, so it doesn't require any training whatsoever. You can pick it up and use it in a short period of time. Because it's a web-based solution, you're not tied to use one computer, you can log into your account and use it absolutely anywhere you want. It is a little bit more modern, to be perfectly honest. We did a lot of research with our kind of target user-base, mainly 16 to 25-year-olds, predominantly, to find out what they wanted to see in the software that they use. It's really been designed with the end-users in mind. Best thing you can do is probably come and visit Jim throughout this week in a private room that he has got because I know Jim can do a little demonstration and show you this software working in real time.

DEBBIE HINDLE: Thank you, Lee. I was definitely going to do the plug to go and visit Jim in one of the sponsor exhibition spaces that Caroline has been putting up throughout the session today as well. We're very fortunate that we then can track you down there, Jim, and ask all the additional questions. Can I just say to Lee and Jim, thank you very much for your time. And just think, Lee, how much you're going to fit into the day starting at 4 am. So, thank you very much forgetting up very early to do that. And Jim, thank you very much. One of the things that really resonates with me is that we just don't do education once, we are lifelong learners. So, having a positive experience and using a technology like Glean is then going to make us feel a lot more comfortable in going back embracing more learning. So, it's just fantastic. And some of the results that you've shown has just been great for people to become - you know, to have the control over their learning and have that ownership and become independent autonomous learners. So, I want to thank you very much today for sharing the information and we look forward to seeing you in your sponsor exhibition space. Thank you.

JIM SPRIALIS: Yes, thank you. I look forward to it. And I hope everyone enjoys this wonderful event over the coming days.

DEBBIE HINDLE: Thank you and thank you for putting such great information very succinctly into 30 minutes. That was a great challenge, you stepped up to it and you delivered. Thank you very much for that.