# Transcript for the ILOTA Things - Episode 12 – **Neurodiverse Student Perspectives on Using AI**

**Announcer:** Welcome to ILOTA Things, the ADCET podcast where we explore Inclusive Learning Opportunities through AI. In this series, we'll explore the exciting convergence of universal design for learning, UDL, artificial intelligence, AI, and accessibility, and examine ways in which we can utilise emerging technologies to enhance learning opportunities for educational designers, educators, and students. Now, here are your hosts, Darren, Elizabeth, and Joe.

**Darren: Hello and welcome from whenever, wherever and however you are joining us and thank you for your time as we continue to investigate ILOTA Things, that is Inclusive Learning Opportunities Through AI. My name is Darren Britten and joining me to look through our Artificial Intelligence, Universal Design and Accessibility kaleidoscope are my co hosts Joe Houghton.**

**Joe: Hi from Dublin**

**Darren: and Elizabeth Hitches.**

**Elizabeth: Hi there.**

**Darren: In today's episode titled Neurodiverse Student Perspectives on Using AI, we're going to explore AI and how it can support Neurodiverse students to enhance their learning and studies. Now to help us break down this topic and provide some real-world insights as our special guest today, Tiana Blazevic. Tiana is a neurodivergent educator with ADHD and dyslexia and believes in a strengths-based approach when working with students. Tiana has a background of academic language and learning and teaching at the University of Adelaide, Macquarie University and the Kaplan Business School. Tiana has worked one on one with students who have neurodivergent conditions and has a range of broad interests and research interests including artificial intelligence and algorithms in the classroom and its effect on the teaching of history. So, it's my pleasure and our pleasure to welcome Tiana to our discussion today.**

**Tiana: Thank you everyone. Glad to be here, looking forward to this conversation. I think there's a lot to talk about.**

**Darren: Definitely. Thank you, Tiana. Now for some listeners, we may be using some terms that we may need to break down when we talk about neurodiversity, neurodivergent and neurotypical. So Tiana, are you able just to unpack that and what are we talking about with those different terms?**

**Tiana: Yeah, so these are terms that came out of some of the scholarship in the 1990s. It actually came out of the Internet community and funnily enough, talking a lot about algorithms, artificial intelligence and the Internet community. So that's where some of those terms came from. They are non medical terms. So neurodiversity refers to the diversity in everyone's brain. So we all have a very different brain, we have a different way of learning about things, seeing things, visualizing things. Everybody thinks differently, right. Neurodivergent often refers to very specific neurological conditions, but also specifically having a divergence in learning, processing and sensing. So that's often what is described as neurodivergent.**

**And neurotypical is often a way that we describe somebody who might not have any problems related to dopamine regulation, executive functioning, and generally tend to fit, you know, a normal neurotype. Right. So they're able to operate and function and do things just like any other person could, as opposed to someone who might have a neurological condition like ADHD or ASD or dyslexia like myself.**

**Darren: Excellent. I first became aware of your work, Tiana, through an ADCET webinar that you did late last year titled Serving as a reminder you are not alone, building community and supporting neurodivergent students through study skill workshops which discussed the Neurodiversity project that you were running at the University of Adelaide. And what I found particularly interesting to hear about was your UDL mindset and your use of generative AI as part of the project, which is something that we're going to dive in today.**

**However, for those that are unfamiliar with the study skills workshops, can you give us a brief overview of that project?**

**Tiana: Yeah. So I have been working on the Neurodiversity project for the University of Adelaide for just over 12 months now. So it's the one year anniversary of my start date, and this project, project came out of a need from the university, then noted that there was quite a lot of students who were registering with disability support services who were registering with neurological conditions like ADHD and ASD specifically. And so they wanted to create a peer mentoring program specifically to support autistic students.**

**When I started, because I have a sort of data driven mindset sometimes when it comes to these things I really wanted to get more of a lay of a land before deciding how I would create that program. If I would go with peer mentoring, what would it look like? And coming from an academic learning advising background, I also knew that there was a really big gap for students who were not diagnosed and how could they also tap into maybe peer mentoring in the same way without registering for disability support whilst they were waiting for a diagnosis or, or again, maybe figuring out if they were neurodivergent or not? And when I went into our data, I saw that there was quite a lot of ADHD in our registered students. There was a really big rise, something like 34% for the university of Adelaide every single year and about 22% for students with ASD, and so I decided that instead I'll definitely be running the Peer mentoring program, and it's piloting. As of this semester, I currently have 24 mentors and now about 13 mentees, as it's just started, but I wanted to do something more. So hence came my idea for the workshops. It's something that I'd been trying to establish in my role as a learning advisor at the university for a while, but because of the casual nature of that role, was not able to do it in the same way.**

**And so we decided, okay, I'm going to do these workshops. I brought it to my boss and I said, what do you think if I do this? And she was like, look, cool. Sounds great. Let's give it a go, and ended up becoming a really amazing place for students to come and discuss some of their experiences. So it's 12 workshops over 12 weeks. It started in semester two, and we focus on core academic skills like note taking, memory techniques, research, time management, how to understand executive functioning, how to. But it's all taught from a neurodivergent perspective. So I did quite a lot of research to try and get these workshops up and running. There is not a lot of research in some of these areas as well, which is the challenging part. So in those cases, I had to bring my own perspective and talk about my own experiences and the things that I've learned being someone who's late diagnosed ADHD, but, you know, had had dyslexia and was diagnosed with it when I was 16.**

**So that's pretty much an overview of the workshops. And now I went from running them only once a week to running them three times a week. So I run them now on a Tuesday, Wednesday and Fridays online, and they, the numbers have just skyrocketed. The conversion rates are quite large at the moment. We'll be heading into the fourth week next week, and I'm sitting at about 75% on average for conversion, which essentially means that the students that are registering in most cases, they are attending. So I think it shows that there's a really big need for these workshops and for these spaces.**

**Elizabeth: Thanks so much, Tiana, and I think one of the things that really interests me that you've touched on is the fact that not all students who are eligible for that support from disability services or from accessibility support are actually registered with those services. So I think anyone who thinks that those processes remove the barriers for all students who need them, it's not the case. It's so true that we need that, you know, more universal approach, that universally designed approach where we can reach students where they're at, including those who don't actually register for that support.**

**Now, I'd really love to know, you've seen this come about because of your interest in this particular area. You've seen that gap that need needs to be filled. So, I'd love to know how has your own lived experience and the insights that you've gained from it really shaped the way that you approach teaching and supporting neurodiverse learners?**

**Tiana: Yeah, that's a really good question. I have told this story quite a lot, so I'll try and give the abridged version as much as I can. I, like I said, I was diagnosed with dyslexia when I was 16. And so I actually was diagnosed because I moved school. So I went, ended up going to university senior college in South Australia, which is a university prep school, and that's where my English teacher picked it up and said, I think there's something going on here. And I then went into that and went, okay, this explains a lot, this label really does help me to identify some of those things.**

**And after that, I then had ended up having a really bad experience in year 12 and didn't get the score that I wanted. So I actually completely bombed out of my year 12 results, and it was a really stressful year. My brain just was not working. I had personal things going on, and so I did not get the ATAR to get into any of my courses. I didn't. I think I got into my last option and I ended up going to TAFE after recovering from a blood disorder.**

**And then I was in TAFE for two years. And by the time I got to 21, I went, okay, I definitely want to go to uni. And I knew I had dyslexia, and when I went to tic enroll me and they asked me, you know, do you need support? I went, no, I don't. I need. I don't need support, I'm. I'm fine. And I was not fine. So things were a struggle in the first couple of years of my bachelor's, but I put a lot of different things in place. I'm a type of person that likes to try a lot of different things, so I utilized our writing center, I, you know, hired a tutor to help explain grammar to me because a lot of my comments and essays were about, you know, grammar. I was working a lot of different jobs. So I was essentially working these jobs to pay for the person to help me explain some of the feedbacks and the comments, and that's just me as a person. But some of the things that I noticed when I was studying was that I would go, oh my God, it takes me such a long time to get through these texts. Why does it take me forever to read these things? And for a little bit of background, of my background, I was trained in classics, so I'm a classicist. That of course I had to go and do something that's really hard and requires a lot of reading and history and all of those things and a lot of Latin and Greek and those texts can be really dense. And the area that I just study specifically for my PhD and my Master's was also very dense, a lot of philosophy. And so I thought, this is taking me ages to get through these texts, how can I do things in a better way? And so the basis of the workshop and my own experience is a lot of my own trials and errors. What's worked, what hasn't worked?**

**Then when I became a tutor and started teaching, and then when I started becoming, when I was a learning advisor at the writing center was when I then went, okay, I'm seeing a lot of neurodivergent students who think like me and who process in the same way. I know that these things work for me, I'm going to see if it works for them too. And it was in those one-on-one sessions that I kind of discovered a few tips and tricks and strategies that worked with neurodivergent students and that definitely didn't work with some students who were neurotypical. And I'm still in trial and error as well in my own personal journey for my PhD and with my students too. I'm always learning about how to make processes better and more effective. But the story that I do like to tell to my students is that it is possible, even when you have a neurodivergent condition. It's hard. It's really, really hard. My time in university was amazing. I still really enjoyed my bachelor's, but it took a lot of work and a lot of people didn't see on the outside. I looked like a really good student. I finished top of my class. I was valedictorian. I finished with a 6.6 GPA. I won like six awards in my last year for my essays.**

**On the surface, when I would tell people I have dyslexia, they're like, no, you don't know, you don't. And I would get a lot of like pushback, like, no, you cannot have dyslexia. And I went, yeah, I do, you just don't see all of the things I'm doing in the background to make this work, to get to where I am now. And you also don't see the amount of tears that happen in the background when my brain just wasn't working.**

**And then when I finally received my ADHD diagnosis because of a colleague that I also worked at the writing center with as a learning advisor, she would be helping students with ADHD, I would be helping students with dyslexia and I would overhear her conversations about her symptoms and I would go, hang on, that sounds like me, and we'd both kind of point at each other and she was like, maybe I. And she'd just gone and had an ADHD diagnosis as well, quite late in her life too, and so that also explained, explained a lot of the struggles that I had in the background for my own experience, if that answers the question.**

**Elizabeth: An incredible overview of that journey. And I think something that's going to really resonate with that universal Design for Learning community is that idea of learners getting to know themselves as learners. And I think in what you've just mentioned, you can see that over your journey you've come up with different strategies, you've approached people to learn more about different ways of viewing learning or viewing feedback and then reach this point where you know, looking at the start of your education journey where it wasn't a good fit for you to now being incredibly successful in your field and all of that coming about just because of the way that that approach to learning has developed, I think that's so incredible and really going to resonate with people that when you do know yourself as a learner and get to develop as a learner, some really incredible things can happen.**

**Based on that, I'd love to know how has that Universal Design for Learning framework really helped to inform some of the structure and content of those workshops? I'd love if you could share with us any examples of those UDL strategies that you've implemented.**

**Tiana: So something that I start off at the beginning of every single face to face workshop is I do a sort of temperature check in the room and I ask everyone how many lights do we want on? Because I know that we have a whole bunch of neuro spicy people in the room that are very sensitive to light. I myself am also sensitive to those lights that we get in most classrooms and spaces, and so just that I think in of itself is a very simple act, but it then establishes some trust. Like I get it. I see you, I'm not going to force you to be in an uncomfortable environment. And so I'll just turn off some lights and I'll go, yeah, is this good? Yep, this is great. So that's one very small and easy thing to do.**

**The other strategy that I also use is to tell everyone you can actually get up and move around. And I think that's something that, again, is very simple because we not really, I think, understanding that for a student with ADHD or a student that has maybe hypermobility, and we know that with neurodivergent conditions comes a lot of other complex health issues like POTS, like, you know, EDS, there's lots of problems that are happening in that body in that time. And so just giving them the okay that, hey, it's okay to get up, move around, and stretch if you need to, also bridges and gives a little bit of trust, too.**

**The other thing that I do is I make sure that for each activity, there is a very specific time that I've stated where I put it on the screen and I will say, all right, five minutes for this activity. And if I choose, okay, we don't have 10 minutes for this activity, I'll be very specific and say, we've got five to seven minutes. We're going to start now and finish it exactly 10:38. So that the urgency is there for some of the students with ADHD, but also the very explicit instructions are there for students who, their profile is ASD more predominantly.**

**So those are just a couple of the small, smaller strategies, the other things that I do in terms of design is that each workshop, the slide set, is going to be different. I try to keep it different so that we've got some colors, some variations, so that there's novelty that's embedded in it as well.**

**Another strategy that I like to use is by giving them reflection worksheets, too. So each workshop will have a reflection component. There's often is about maximum four in a session where I ask them what works for them, and I create, you know, colorful worksheets that they can fill out and, you know, ask questions around themselves and what their learning strategy is and what works for them, because I say it at the beginning of every single workshop, because sometimes I get new faces. Sometimes I get people that have come to every single one is, I am not the source of truth on neurodivergence. I'm not the source of truth of your experience. So these workshops and these reflection worksheets are ways that you can incorporate UDL into your own learning strategies. And then by the end of it, if you've gone to six or you've gone to all 12 of them, you've kind of got a passport to yourself that you can reflect back on and look at all of those strategies. Because I know that I've created these beautiful spreadsheets and systems and then it's worked for three months and then all of a sudden it stops working. But I don't know how I did it. So if I had written down how I did it and my process, that would have been really helpful for me.**

**Joe: This is amazing. I've been writing, I've been scribbling down as you've been talking. I've got so many questions. The first thing, the first thing that struck me when you were telling that story was I was very sad. I was very sad that you had to go through that kind of, I don't think you went through it alone because you did reach out to the writing center and you, you have made, you know, connections in, in the institution and stuff. But I suspect that your story resonates with many others. You know that a lot of people, whether they're diagnosed or not, have gone through these struggles and very often have felt that they have been alone, that they have been perhaps unsupported by the system, by their module leaders, by their classmates, you know, by everything, really. So that's one thing that, you know, just struck me straight away, and I think that's probably, you know, that goes back to one of the reasons why we actually started the podcast was to highlight this kind of stuff. So, I mean, thank you for sharing that because I think it's really, really important, and I wish you'd actually given us the long version because even the short version was great. So that was wonderful.**

**My part of the trio is kind of AI. I suppose you've not mentioned AI yet, but, you know, in your bio kind of, you know, one of the things that pops up is artificial intelligence. So as I understand it at the moment, these workshops that you've put together are person, and you are, you are doing them kind of live with people in a room and stuff. So I mean, you know, the first thing that I wrote down was what's the benefit of in person versus, say, computer based training? Because a lot of those topic areas, you know, I'm saying, I'm thinking she's teaching this three times a term to the students in her, in her university. Yeah. Put this online, okay, and then it'll go global, yeah, and it'll have far greater impact. What's the, what's the pluses and minuses of doing that.**

**Tiana: So at the moment I'm running two in person on a Tuesday, Wednesday and then Fridays online. And this is the first time trialing online. But I put when students register on the website where they already have access to all the materials before each of the workshops. So where they register is where they access the materials, further reading and then a brief overview of each session. But I've also put on there very clearly what to expect from the face to face session, what to expect from the online session. Because I taught through COVID, I knew that I can't replicate what we do in person in an online environment. I'm the only facilitator. So unless I had like a co facilitator or somebody else to help me create them as hybrid, which is potentially something I might trial next semester or maybe next year with the new university, with Adelaide University, we'll see. But what I have found in the difference between the two is that whilst the online is really good for some of the students who are talking in the chat box, because I encourage them to give over their strategies in the chat box, I've made a padlet for them where they can put their own strategies and tools and share that with each other, is that you don't get that same experience in the face to face sessions where people will put their hand up, they'll start talking, they'll go, yeah, and they're, they're next to each other and they kind of look at each other and laugh. Because I try and make my workshops as light as I can because we do sometimes will, you know, talk about neurodivergent experiences that are a little bit heavier, and so I would tell them, you know, raise your hand if you are ruminating at night all the time and don't want to look at your phone because you're scared of the blue light waking you up and you go through all of these different thoughts in your head and everyone raises, raises their hand and then they look at each other and they all laugh because they realize I'm with my people.**

**And same when people are late, you know, I always begin the class and say to everyone, if you're late, I don't care. You're coming to these, you know, for your own benefit. I don't care if you're late. If you come here for 30 minutes, right, you come here for the full hour and an hour and a half, fantastic. And often what we see is we get a lot of people that will come in about 10, 15 minutes late. And in typical ADHD fashion, they'll go, I'm so sorry, you know, I'm so sorry that I'm late, and I'll say, you're with your people. Don't apologize. We know it's fine. Like, you can head in. And so I think that's the difference, is that you don't really get that in the online space. I think a lot of people now, maybe because of podcasts, they're sort of used to just tuning in as opposed to facilitating then and there. And I also don't want to make things awkward. I hate Icebreakers in zoom rooms sometimes. Whilst they can be really good, that I think in an online space, it can be a bit awkward. But in my workshops, the activities, there's no requirement to participate in a group either. So if you just want to put your headphones on, and I state this clearly, if you want to just put your headphones on and do the worksheet by yourself, you can, if you want to, you know, put your answer up on the Mentimeter, because I often use Mentimeter as a tool to also get people to participate and facilitate without feeling that need to vocalize anything you can. It's difficult to replicate that sometimes in the online space.**

**Joe: Yeah, yeah, it's definitely difficult to, to facilitate online, like in a. Like in a room. I mean, I do a lot of online teaching and, you know, at the end of a session where you've had to really work to get everybody engaged and stuff, you're pouring more of yourself into the into the camera, aren't you? And you. It's. It can be, can be pretty exhausting, which I, which is interesting.**

**So coming back to the AI thing, I mean, you mentioned a couple of things. You hired yourself as tutor to explain grammar, and then you had to summarize Latin and Greek and philosophy texts and stuff like that. Now, that's presumably pre AI. Would you use AI now to do that kind of thing or help with that kind of thing?**

**Tiana: Yes, I do. I use AI to translate all of my Latin and Greek texts. The people over in the UK will probably know this as well, being in Dublin, they have a very good classics department too, is that I use Scaife Viewer for a lot of things, which is attached to the Perseus catalog, and this uses GitHub actually, which is another form of AI, and it's all of these free translations. Because the great thing about working with textbook from 2000 years ago is it's not in copyright. So everything's online, and that's what they're using, the, you know, notebookLM, that's the type of stuff that they're using to train these AI models, as well as all the things that are freely available online, and any ancient medical text you can think of, you will probably find it online on Scaife Viewer. And here's an example, today I was starting off a chapter for my PhD, and I was having to translate this manuscript from, like the 10th century, which talks all about medical terminology and exorcism and possession, because that's my very weird niche area. And I had already translated it myself, and I had it taken, it had taken me about two days because it's Medieval Latin, which is not my area, to translate this, and it just took me forever, and I went, why am I doing this? There's no point me doing this. I put it into AI and it translated the whole thing. And then I asked it, can you tell me the modern scholars that are talking about this specific volume? It provided me with five academic references that I went and verified. It also then provided me with journal articles as well that I went and verified. The translation was pretty accurate in comparison to my own. The only difference was that there was a couple of phrases and sentences where I went, that's, that's not how I would phrase it because the Latin is not representative of that. But it was so quick and so fast, and it helped me write my 600 words quota that I had to write today on my chapter and also provide me with other sources that will now, you know, get me to the next one. And that's what I use in my workshop.**

**So in my workshops, I show the students a whole bunch of different AI tools that they can use, such as NotebookLM, Goblin Tools, which is more for executive functioning and time management. I state those specifically when students use Goblin tools, this is not something that you use for your assignments, it's more something that you use to quickly write an email to your professor because you know you want to use it. Right?**

**The other sort of tools that I also use is I show them how to use systems, like, for example, Zotero with ChatGPT, putting some of your notes into ChatGPT to sort of get a better understanding, because let's be really honest, there are some journals and there are some articles out there that are so poorly written that only computers can understand them at this point. And that's why I like NotebookLM, and that's what we talk about a lot in my sessions, is I show them, okay, how do you use Zotero with Chat GPT, how do you use it with NotebookLM? How do you integrate Obsidian and personalize Obsidian, which is like a note taking vault system, and also integrate that into AI systems? And then we also look at things like, you know, Goblin Tools, which is a fantastic free tool that a lot of people use, and I highly recommend to donate to the site as well because all of these free AI tools that I show to my students are often that they're free, but they're on the back side of somebody else's work too.**

**Joe: Fantastic. I, I mean I do a lot of similar teaching of, of AI tools to students, to staff members of institutions and whatever. One question that keeps coming up, and I'm interested to kind of hear your take on this as well, is, is kind of like if we teach people who are learning a subject, AI, do they ever actually learn the subject or do they, does the AI kind of do all the lifting for them? You know, you could translate your Latin text because you have Latin even though it wasn't your flavor of Latin, you know. But you know, if I asked Elizabeth to go and translate that Latin text, I don't think Elizabeth probably has your degree of Latin.**

**Elizabeth: Not at all.**

**Joe: She'd probably, she'd come to me and say, Joe, which AI tool should I use? And I'd say, well, drop it into this or whatever and it would translate it for her, but she wouldn't know Latin. So how do we bridge that gap between the incredible power of the tools that we have available to us now and the underlying learning that we need to take our students through, whether they're neurodiverse or not?**

**Tiana: That's a really good question. So I am a big believer in changing keeping. I want to call them old school assessments even though I don't think they're old school, like essays, for example. I come from a humanities background, so at the moment there's been a lot of questions or around do we keep essays? Do we not keep essays? And I think essays are fantastic. That's how you learn how to argue. But of course a lot of students are now going to tools like NotebookLM and ChatGPT and putting in journal articles and putting in entire books because we don't teach them how to read the journal articles from the get go. We just expect them to know how to deconstruct it. It wasn't until my third year in a course that I was taking, I was in the advanced arts program, so I transferred from normal arts program to advanced arts, which was more research based and it wasn't into our third year that we had a course about research methodologies. And my feedback for that was why were we learning this in our third year? We should have been learning this in our first year. Because the entire basis of the course and this is pre AI was about, you know, how journal articles and scholars work within these research frameworks. They work within a feminist framework or a Marxist framework or, you know, again, a positivism. I cannot say that word ever. So not trying to edit that out, but I did not know that. And I went, why am I learning this after three years? And so we expect students to come with all this pre built knowledge and then get frustrated at them for going and using these tools, but are not teaching them how to deconstruct the knowledge. We're not teaching them about research frameworks or methodologies. These are called peer reviewed because there's only a certain amount of peers that can review it.**

**My master's thesis, the only person that could read my master's thesis without looking at any other, you know, books or texts or get any other contextual knowledge is someone who passed away many years ago. So, it's something that's incredibly niche and I think where we need to start teaching people about that, you know, that gap that you were mentioning is why don't we question these sources? So if you are, if you are a student and you are a lecturer and you're encouraging your students to upload into NotebookLM to help you, why don't you set the essay question about the audio that you're hearing, right? What about, what is it about the AI systems? What is the AI system picking up on and what is it not picking up on? Did it summarize the text? Well, did it make it easier to understand? Did it make it harder? Where are the biases in the text? Because we know that these large language models are all coming from human beings too. So that's what I want to see is I want more people to start discussing that part of AI and also the why. Why do you think students are going to it? Because it's a cognitive load issue. They're taking a lot of reading. I think because I already have many years of training, I always critique and question texts that I'm reading and especially do it with AI. And that's why I think we have to be teaching things like research frameworks and methodologies in their first year and teaching them about, you know, the different types of approaches that academics will take and what type of framework that they're working in so that when they go to upload something into ChatGPT, they can then see that for themselves based on what ChatGPT is responding to them as well.**

**Joe: I agree. I mean, I agree from a functional perspective, it's just very difficult to get students excited about a research methods course.**

**Tiana: That is the problem. It's hard. It's a hard one to do. I think one of the main challenges that I see with students and what I also see is some of the, you know, anxiety and fear from lecturers around the use of AI is that people aren't learning. They go, they're not learning, right? They mustn't be learning. And that's when we do need to have discussions around changing assignment structures. You know, it's perhaps slightly easier in my area in history and classics because there's a lot of misinformation online about historical events. But, you know, we see the same with the medical, health and medical sciences too. And I wrote a publication a few years back about computational propaganda and how YouTubers are using very outdated textbooks from the 1900s and doing these 20 minute videos about how the Roman Empire was, you know, white and that it's always been white and it's all multicultural DEI stuff that's influenced these academics. When we know as a classicist, we know that's not the case. We know that that's inaccurate information, and so what I would like to see is perhaps an assignment or assessment that asks that question. How do you deconstruct this video? Where has this video gotten it right? Where is this video gone wrong? What is the AI model saying in response to these videos? And maybe trying to, to bridge that that way. Right. You're still writing a traditional essay, but you're writing and critiquing the current Internet space, I guess if you want to call that, you're critiquing the algorithms too. For example, on TikTok, why are you now getting all of these TikTok feeds as soon as you go into something and what's your comment section like? As opposed to your friend doing a group assignment? Right.**

**How about you all do a group assignment and see if you all get the same comments on a video? I can guarantee you won't.**

**Joe: Yeah.**

**Tiana: It's those sorts of things that I think that's where we need to start having those conversations and changing those assessment instructions to incorporate and critique and evaluate AI when it gets it right. Because it does get it right sometimes, and it is better at reading things than humans and versus when it gets it wrong. And okay, if it's gotten it wrong, why is it getting, why is it getting it wrong? Is it because the language model or is it because of the biases of the people that coded it?**

**Joe: One of the tools that you mentioned earlier on was NotebookLM and I know Darren had a few questions around the use of NotebookLM and kind of stuff, so I'm going to throw that one over to Darren.**

**Darren: Yeah, I'm fascinated by, you know, that, that unpacking of, you know, students utilizing this and that they're not learning. Look, it offers such great tools as well, and you've, you've touched on that ability to format shift to simplify some information, to, to condense this down or give me a different perspective on this, I'm not quite getting that threshold concept. I don't have that background knowledge that you think I have in some of this space and I need this explained to me differently. And just the sheer, overwhelming amount of information they're expected to process. And I know, like Thomas Tobin touched on it in one of our previous episodes as well, that we're packing so much into our courses now because there's so much information, so that cognitive load that we're adding on for students in that space and you know, one of my goto's is certainly is NotebookLM that's there just to help with that sheer volume, but also explicitly going through with some students and saying, well, what's the critical thinking you need to do by the sources you're putting in? What are you asking it to do? Don't take it for granted. And there's clear warnings that it could hallucinate.**

**One thing that I am fascinated with, which is that ability to format shift and to generate an audio discussion. And I've just seen students jaws drop and they're like, oh my God, it's a conversation. I can listen to a conversation. I can understand a conversation. It's questions and answers. It's questions and answers. Two people conversing versus the lecturer that was just Sage on the stage lecturing at me, just telling me everything I need to know. And that was it. Joe, as a sage on the stage.**

**Joe: You know, let me just jump in there because, because breaking news yesterday, Gemini, which is, you know, Google is part of NotebookLM, is part of Gemini and Google, Gemini added the ability to convert any document into a little podcast as well. So that was only available in NotebookLM up until yesterday. It's now available in the Gemini tool as well. So you'll see one of the options in Gemini now gives you when you've uploaded a document into Gemini, you can just say, turn it into a podcast for me so you don't even have to go into NotebookLM now. And they also added a new Canvas kind of editor that saves stuff straight back into Google Docs as well. So just a little IT tech update there before we go over to Tiana to answer the question.**

**Darren: Look, and that's, I suppose the pace of what's happening, but that ability to turn things into a discussion that would have involved having, you know, a couple of academics sit down or a couple of tutors or have that discussion around what, what are you actually looking at here? What does that mean? How do I simplify this information? So I'm really interested from the students that have been using it and within the study skills workshop that's there, it's simulated voices and they do it really well. But it's always very positive as well. You know, it comes across with a certain positive tone. It's very upbeat, it's, wow, this is fascinating.**

**It can be most boring subject in the world. And I've had a student say, I would have dropped out of this class because the lecturer puts me to sleep, but Notebook has kept them in the class because they're like this I can engage with the academic, I couldn't. So I'm just wondering what have the experiences been from the students?**

**Tiana: The same. When I show them to students. It's the jaw drop. It's the oh my God. And all I can say is, my God, I wish I had this when I was doing my Honors year, my Honors year, I had to read so much. And when people say, oh, is it hard doing a PhD or a Master's? I was like, not in comparison to my honors year. That broke me, I almost got shingles, well I did get shingles. It was so stressful because I had to read and read and read these huge amounts of texts and also start preparing for a thesis as well on what is the topic I'm doing now for my PhD, which is quite hard.**

**And I'm very happy, Joe, that you brought up Gemini as well, because I just recently used Gemini too, and it's one of the tools I'm going to talk about in the upcoming webinar and I found it fascinating because the area that I study is so, so, so niche. I was very surprised at Gemini's results and what it gave me. And that's because I think again, we're coming out of copyright from the 1900s, so quite a lot of those academic articles from JSTOR are now freely available and are being trained by AI.**

**Joe: I mean, Google's had the Google Books project for years where it's been digitizing old books. So you may be getting some of the benefit of that, but these books have been digitized.**

**Tiana: Yeah. So my area is, there's a lot of books in my area that are just, you know, out of publishing, don't have access to them. I have to use the digital versions. But in terms of notebookLM, I get the same results from students. It's a, oh, my God, I cannot believe that this exists. This is going to be so helpful. But the way that when I teach how to use NotebookLM, so I talk about NotebookLM in my note taking strategy workshop and I also talk about it in my drafting and revising strategy as well workshop. And so here what I say to them is, look, the podcast is great. It's fantastic. Where I want you to be critical of the podcast is use it as a soft launch into the deeper reading. Right. For example, I had to read this journal article on, I've got it in front of me, Elements of Medical Epistemology. And whilst it was a really helpful journal, it was not written in a way that I could understand it and grasp it. And I just thought, I really need to do these dishes right now. I'm gonna chuck it into this notebookLM and I'm going to put it on. And it generates, you know, 24 minute podcasts and it was able to explain things to me clearly so that when I went back to do that deep reading, I went, okay, yeah, I'm getting this, I'm understanding this. And I also use NotebookLM for some of my, you know, sort of summaries too, of my ChatGPT conversations. When I've had to use ChatGPT.**

**I am one of those people where I will use AI systems, not every day, not all the time. I use it when I'm just feeling that cognitive overwhelm, when I'm feeling like this is not working for me right now, I need a different version, I need an accommodation here. And so I will accommodate myself and I will go to NotebookLM, Gemini and, you know, also ChatGPT. And so I will take my notes, my from my Google Doc, which are often from ChatGPT, if I'm trying to understand a very hard philosophical framework. For example, I put a lot of the Stanford Encyclopedia or philosophy website links into NotebookLM because I have to all of a sudden, when I've come across this philosophical part in a text, I have to understand where it comes from really quickly in order for me to understand it. So I'll put that in NotebookLM. It generates a podcast for me on circular reasoning. I understand the podcast. Cool. Yep. Get it. Go to the scholarly source, do my reading. I've got the background knowledge. And oftentimes I'm then able to do that whilst I'm doing something else, which is great for someone with ADHD.**

**I can be on my treadmill and listen to this podcast. I can go and clean parts of my house. I can be writing an email or doing something else and have it in the background. And especially for me, in my area, I look at the construction of social reality. So I use John R. Seales social reality framework and I'm trying to apply that to medical ideas about epilepsy and demonic bodies in the 13th century. So it's not been done before. And so I've needed AI to help me understand Searle’s framework and something that was done over a thousand years ago as I try and make sense of the two, because my brain is firing too quickly. I understand it and I know I understand it, but as soon as I've got it, whilst I'm sitting here reading my text, normally it flies out versus when I'm using the AI systems, it's just easier to manage.**

**Joe: That's amazing. It's always fascinating to hear how different people set their learning systems up, isn't it? You know, the way that you assemble a set of tools, whether they're AI tools or whether they're not, you know, you use Obsidian. I use Notion for my kind of, you know, note taking because it's a place to squirrel everything and then you can, you can get at it and stuff like that. But your use of kind of the text to speech generation for doing that kind of quick, give me a general understanding. Yeah. Then provides you with the background knowledge to jump into something deeper yourself. That's really interesting. I'd never really come across that, you know, as a, as a, as a way of executive functioning, if you like. That's a really useful kind of snippet I'm taking out of today. Thank you so much.**

**Tiana: And I would definitely say that I have a few of students that are, especially for those that have dyslexia, they find NotebookLM to be incredibly helpful because it allows them to understand something from an audio perspective, which makes it then easier to go and read the journal or the chapter because they've got the background, the context, versus trying to figure out all of the parts as they go along. And so I think it allows actually for a deeper learning to occur rather than just a surface learning. And less frustration, less anxiety, when they know that they can wrap their heads very quickly around something. Because I think we're also seeing a generation where we're being exposed to so much information on a daily basis that the cognitive overwhelm is coming into every aspect of people's lives, not just, you know, in their studies or in professional lives, but we get phone notifications, we have to talk to people, and we're just exposed to a lot of information on the daily, you know, Instagram and reels and all of these things. And so being able to just slowly step into something as opposed to just sitting down and then trying to force yourself to read it, is not going to be helpful.If these tools exist and then you know how to use them correctly. I think that's the really important part, is knowing how to use these tools correctly and to question them.**

**What I actually really like about NotebookLM, too, is the interactive beta mode. So you can actually also stop it and have a conversation with it, which is when I think, oh, how does this, how does this even exist? Right? I. I'm still sometimes blown away that this exists in such a short amount of time. And I do think we are at the precipice of a, you know, again, a technology uprising that we, we saw with the advent of the printing press. Don't get me wrong, there's so many. There are lots of problems with AI, there's ethical problems, there are environmental problems. I'm well aware of those things. But in terms of this context for neurodivergent people, for people who have problems with executive functioning, being able to generate a podcast from a journal article about elements of medical epistemology, get bored halfway through the podcast, or start to divert from the podcast, press the interactive mode and then go, what's the main summary? What's the main point that I need to get here and for it to tell it to me then and there? That is incredible when we think about it. Really incredible.**

**Darren: It's one thing, and I'm glad you touched on that. I've got some students using the interactive mode and describe the audio notebook as that macro level. We're giving you the macro level first. The learning happens at the micro level, where you get into it, and then getting the students to even have it, ask them questions to throw in there and say, look, I'm stuck on this. Can you give me three questions and listen to my answers and give me some feedback and it will do that and then draw them back, back to the original conversation. You know, having students be able to just ask what's on their mind at the time in a safe space as well. There is no such thing as a bad question.**

**Elizabeth: So I'd love to know, as both an academic and an advocate, what changes would you like to see in higher education to make it more inclusive for neurodivergent and neurodiverse students?**

**Tiana: Overall, I think the first change that could occur is more staff training around neurodivergent conditions and how they appear, what a normal study day might look like to a neurodivergent person, especially having perhaps some more conversations around academic integrity and the use of artificial intelligence. Like these tools, you know, we know that students are using them, and I think there's always perhaps maybe a little bit of an assumption there that the students are using them incorrectly or that they're not going to be learning, and I think it's natural, it's human nature to have some fear and anxiety around this brand new thing, especially when we really know how it works. Sometimes if you're not, you know, a coder or you have, you know, no background in linguistics or anything like that, of course it's going to be, you know, again, a little bit, you know, anxiety building there.**

**But the way that I see it is that AI is here. It's helpful for a lot of these students, especially students with executive functioning, especially students like myself who it takes me a long time to, you know, read material or, or my brain works too fast, so to have it in different accessible formats, you know, I just recently used Gemini and asked it about my thesis topic, which is pneuma, which is essentially a Greek word for, you know, spirit and life and air and all of these things, and it gave me a 4,000 word research report. And it's actually given me some sources that has been really helpful for my thesis that I wouldn't have picked up, even with all my knowledge of, you know, Boolean operators, I wouldn't have picked up these sources.**

**So there is a lot of great things, of course, there are environmental and ethical issues and that this is part of it. It's about learning how to use it better, having these conversations, creating policies, which the University of Adelaide has already done, so we do have, you know, a really, you know, I think it's a really great policy where we've kind of created rubrics and tables about the different levels of use of AI that students can or can't use according to their course coordinator. And I think that's always the best, you know, conversation to have with your course coordinator. How do you think I'm using it? And again, just having those open and honest conversations. And my. I guess my historical example is that Plato wrote about how Socrates was scared when people were writing on clay tablets that everyone was going to forget memory. They were like, nope, you won't be able to memorize anything if you're writing everything down on these clay tablets.**

**But imagine if we didn't have the clay tablets, all of the things that the clay tablets have led to, right? All of the ways that we used to write, we used to have manuscripts and then the printing press, and all of these things have led to more innovation. And that's an amazing thing. But with it, of course, does come learning curves. And so we need to learn and we need to adjust, and that's my message to people, is to have those conversations, don't assume that a student is using it incorrectly. Ask them how they're using it, and then start your conversations from there. And I think it's really great that we have these tools now to help students that are not yet diagnosed. Right. You know, if I had these students, these as if I had these tools even five years ago, would have made a huge difference to my stress levels and to my executive functioning, and it would have been, you know, really helpful for my overall wellbeing at the time versus not having them at all.**

**Elizabeth: I love that, Tiana. And really recognizing that, you know, learning is not just about getting to a point where you've absorbed that content and you can do things with it. It's also about that effective experience, what the emotional experience of that learning journey really is, and how much that shapes and plays a role in how that learning even takes place.**

**So I think there's some really exciting things in this space, some really positive things when we think about how AI might actually support learners. And I think that's something that all of us can take forward, is really not just thinking about how we're designing content, but who are we designing it for and how are we designing it so that people can get the best out of that learning experience, whatever that looks like. So considering we're probably just at the very beginning of this AI journey, if we imagine where it could be in a couple of years time, we are right at the start. So if there's one thing that our listeners can take away from this, let's imagine that perhaps they maybe haven't explored AI yet, or they haven't explored AI for supporting the neurodiversity of the students in our learning environment. What's that one thing that you'd like them to take away from this conversation?**

**Tiana: I think the one thing is to have a conversation with all your students, maybe put up an anonymous survey, you know, put up a Qualtrics survey or a Microsoft form and you know, ask them the question in an anonymous format, how many of you are using AI and how are you using it? Because I'm wanting to know, I want to know how you're using it, and some students will be, might be very honest and then you might get a better idea of how they are using it.**

**And I think the other thing that's really important here is don't also assume that every single student is using AI. I've met plenty of students who are way younger than me who do not have any idea that they can be using AI or how effective it can be or how helpful it can be for them. So that's the other thing is that even though, you know, maybe in, perhaps in our own little bubbles, we keep thinking, oh, everyone must be using it because I'm using it and I'm doing this and I'm doing that. Don't assume that either. That's really important too because I have come across plenty of students that don't use Grammarly. They, they still, you know, like myself, they still go and check everything themselves. I had to convince plenty of students in my time as a learning advisor to use Zotero as a referencing management system, which I love. I'm a big fan of Zotero and I would show them how to use it and they were like, oh, this is going to save me so much time because they were still doing their references by hand. They were still sitting there and typing it out, and this was with the invention of ChatGPT, this was only a year ago.**

**So that's the other message that I also want to get across is it might appear on the surface as though everybody is using this, and then there's lots of anxieties that come with that. How are they learning? Are they going to keep learning? How do I adapt to this? But I do think we're really right at the beginning of all of these conversations, and so we're probably not going to be able to really have those answers about students effectiveness and how they learn for a good couple more years.**

**Darren: Yeah, and I think you've touched on something really important as well, and what I'm seeing with students and while they may not be using it and some of them may not be using it as well because they're picking up on the conversations around it. You know, AI versus AI, the academic integrity versus artificial intelligence and a lot of what they hear is just the noise in the space around academic integrity. And some of them are just fearful of even touching these tools. They feel they're under a microscope already. You know, the trust has gone out of the system largely post COVID. So there's a lot of fear and I think the discussions we have around these tools and the way that we talk about them with students and you're right, is, you know, is central.**

**Look, we could keep talking for a long time, but I'll just say thank you very much for that discussion and for joining us on ILOTA Things and for sharing this fantastic work that you've been doing in your insights and for the students that you've been working and supporting neurodivergent students. And I think we keep learning from the students, and we need to keep learning from the students. So, you know, your time today is very much appreciated.**

**Now, I will note you've got an upcoming webinar on ADCET as well, and I'll encourage everybody to join in that webinar that's looking at ADHD and the use of these AI tools, et cetera. And we'll provide links to that into the show notes as well. So for those listening to this after that, we do publish the recordings and our webinars and things as well, so you'll still be able to catch up and find out more about that and your previous webinar, which I've mentioned in here, which goes through unpacking the whole study skills process. So thank you very much for joining us today.**

**Tiana: Thank you. It's been a pleasure.**

**Joe: So, thanks so much for your time this morning, evening, wherever we are in the world, Tiana, I could listen to you all day. I wish I could sign up for your course. I really, really would love to sit through that because it sounds like there's so much stuff. But we do have to wrap up for this episode.**

**So as always, everyone, you can get in touch with us for feedback** [feedback@ilotathings.com](mailto:feedback@ilotathings.com) **or visit the website at** [www.adcet.edu.au/ilotathings](http://www.adcet.edu.au/ilotathings)**.**

**So thanks everybody for listening again and we hope you can join us next episode as we continue to explore ILOTA Things. So till then, take care, keep on learning.**

**Darren: Bye.**

**Elizabeth: Bye.**

**Tiana: Bye. Thank you.**

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