LARA RAFFERTY: Welcome to Dianne Herft who is going to be talking to us about UDL strategies for inclusive animation.

DIANNE HERFT: Hi. Thank you. My name is Dianne Herft and I'm of average height, I'm wearing a green dress and black boots and happy accident is my glasses also match. They have green frames.

So today I'm just really going to talk a little bit about my journey. And it was really nice to see, in all the talks before me, that there's quite a few people starting this journey with me as well. So some of the universal design for learning principles that I've tried to put in place in the animations that I build, just to make them a bit more inclusive.

We know that universal design for learning is founded on the idea that education should be adaptable to accommodate the diverse needs and the different strengths of the many types of learners we've got out there, and it's so important for this to be inclusive and accessible because it really ensures that all our learners, regardless of their abilities, can access that content and really benefit from it. And I find animation is just a really nice way to engage students. It makes learning more interactive and dynamic, and you can really tailor it to meet the diverse learning needs that you have. I find it's a nice way to sometimes just introduce students to topics that might be otherwise a bit complex or, you know, long winded, and then once you've engaged them, once you've got their interest then you can do that deep dive.

Basically, starting this journey, it was probably about a year ago that I really reflected on my own learning journey and the realisation that I didn't really excel in my studies until I discovered an alternative way to learn. I mean, I moved countries, I moved schools and I just didn't engage with the traditional methods of what I was being taught and how I was being taught. And I wasn't a bad student, but I didn't know that I could be a good one.

It was not until I moved to another school where the educators understood there were different ways to deliver their content, there was different ways that students learnt that I really started to excel and enjoy what I was learning.

So this kind of inspired me to go, okay, I want to help others learn in unique ways, empower them to reach their goals, do what they need to do to get to where they want to be. So the initial steps, I started researching universal for design learning principles, which is still ongoing, participating in training on accessibility standards and the many workshops. I think my first one was led by Ronny here which kind of set me on my journey. The university here, the central team is just amazing. They run so many things throughout the year and the community of practice groups have all been invaluable to my learning. And then I started just beginning with initial projects that started to incorporate a little bit of universal design for learning principles. And again, the very first one again was with Ronny and Teresa and Jacinta, where we basically started to create, we created a really short animation which started talking about just the principles behind universal design for learning. Nothing complex, just to introduce people to that. I will share that with you in a few minutes if there's no technical issues.

One of the first things when I look into creating any animation or any design work is trying to ensure I'm choosing accessible colour palettes. Things like ensuring sufficient colour contrast is really crucial for accessibility, avoiding reliance on colour alone to convey my message. I wouldn't just put, for instance, a green block, which in my head means go or start. And then choosing colours. Again, this is something that I learnt putting this presentation together from Ronny I'm still learning, still a journey that colours that are more conducive to learning, orange is supposed to promote better focus, blue better mind flow. So there's all these little things you can do to enhance your content and make it more accessible and inclusive.

Another thing I always try and do in my animations is incorporating the visual cues. So having patterns and symbols along with that colour to really convey that message and get that content across.

So as I mentioned, enhancing that visual accessibility. Colour contrast is really important. It's really key for individuals with visual impairments and it will help all your learners to distinguish the content better. The two examples that I've got on the screen is from an animation that I was working on. And like with anything, when you've been working on it too closely, sometimes you miss things. So I took a step back and came back and I realised the yellow and the green were not great. They were both really bright colours and the contrast wasn't fantastic. So what I did, I ran it through one of the many colour check algorithms you get online, but it's also important to note that these aren't perfect either, but they just give us the foundation.

So after experimenting, testing out a few things, I finally settled on the deeper magenta and the black and it's definitely better than the green. There's always room for improvement, but the contrast is a lot better and easier on the eye.

With the designing animations, one of the things as well, if there's any text in my animations or in the design work that I do, it's so important that I'm doing what I can to improve that text readability. So choosing fonts which are nice and clear, that we've got plenty of spacing between the characters and the lines to really improve our comprehension, and it really help learners again with various visual abilities, you know, reading preferences including dyslexia. Again, the example I've got is from an animation that I did. So the one furthest to my left, it's really pretty, it's flowing. I mean, it looks great from a distance, but I know my brain instantly disengages with that. It's just overwhelming. I don't really want to read that, whereas the one closest to me on my right, it's a lot clearer, it's easier to read, there's great spacing between the lines and I'm much more willing to engage with that and that's what we want to do. We want to keep our students engaged. We don't want to turn them off from what we're trying to teach them and the message we're trying to send. I know there's lots of really pretty and really fun fonts out there, but my advice would be keep it simple and just ask yourself a question, if you were trying to read something, if you were trying to learn something, what kind of font would you prefer to be reading?

One of the things I've really started to try do lately is not only focus on the engage, but giving students different ways to represent themselves and just express what they're learning. So in addition to the animations that I'm producing, I'm also trying to provide those multiple learning formats. Whether that could be another infographic or documents, or with all animations there will be transcript and captions making the auditory content more accessible to students with hearing impairments. But by providing these multiple formats, and even different interactives, like quizzes or simulations, it's just really ensuring that all learners can access and engage the learning material in a way that they just might prefer. So the examples that I've got here again was an animation that I worked on for one of our nursing courses, and then I created the infographic you see below which then I also turned into an interactive and then I also created a really simple AR simulation as well to go with that.

Now, they all contained the same information, it was just giving the students options for different ways they might want to engage with that content. So again, the benefit here is that it's really just going to facilitate that deeper understanding and you're catering to varied learning preferences, and hopefully promoting a more inclusive learning environment. I'm now going to share the animation, hopefully, if it works, that I did in collaboration with Dr Ronny Andrade Parra, sorry Ronny if I pronounced that wrong, Jacinta Jones O'Meara and Teresa Dowding. We'll just see if this plays. Perfect. We might get captions on if we could as well, please.

[VIDEO]: Empowering Education: Access for All. In today’s fast paced world of education its [inaudible]. Did you know that over 4.4 million people in Australia have some form of disability. That’s 1 in 5 people and many of these disabilities are non-visible.

DIANNE: I think the audio is a bit… is there something we can do to rectify the audio?

[VIDEO]: When things aren’t accessible, the burden ultimately sits with me to rectify the situation, and I get further and further behind my peers. RMIT student with vision impairment. Let’s explore the key principles of accessibility and make [inaudible]. The first principle is Equitable Use. Just like a well-designed pen that fits comfortably in any hand our resources [Inaudible]. Next, we have flexible use. Imagine a buffet offering a diverse range of food options, each person can choose what suits their preferences.

SPEAKER: The movement of the imagery, can that be triggering to people?

DIANNE: We definitely try to make it not too rapid when we can, and, yes, definitely there's never going to be a perfect solution. What I'm trying to do is to implement them slowly, baby steps, and try and make it as inclusive as I can. And yes, if we get a report that someone says it is triggering to them, that's something I'm always happy to look at, review and then work on in the next animations for sure. We might restart that if we've got time.

TECHNICIAN: Is the video quiet, the actual video itself?

DIANNE: No, it shouldn't be.

I'll basically talk to the end point, but that's essentially been my journey in how I've been trying to implement some of the universal design for learning principles. As I said, I'm still very much learning as I go, and I'm counting on feedback from students and educators, as scary as it is to put yourself out there, but I think it's the only way I'm going to keep improving. And the only way that I feel I want to focus more on is not only on building those animations, but providing those multiple learning platforms as well for students to give them more of an inclusive learning environment. I'm not sure if we're going to have much luck with this, but we'll see. Here we go.

[VIDEO]: Empowering Education: Access for All. In today’s fast paced world of education its [inaudible]. Did you know that over 4.4 million people in Australia have some form of disability. That’s 1 in 5 people and many of these disabilities are non-visible. By ensuring accessibility we can empower everyone to access knowledge effortlessly. When things aren’t accessible, the burden ultimately sits with me to rectify the situation, and I get further and further behind my peers. RMIT student with vision impairment. Let’s explore the key principles of accessibility and make content useable by everyone regardless of their ability. The first principle is Equitable Use. Just like a well-designed pen that fits comfortably in any hand our resources, materials and equipment should cater to learners of all abilities. Next, we have flexible use. Imagine a buffet offering a diverse range of food options, each person can choose what suits their preferences. Similarly, our learning materials should provide various formats such as text, image, video and data tables. This allows learners to customise their experience based on learnings. The third principle is Simple and Intuitive, much like signs and directions on a roadmap our learning should have a clear structure making them easy to understand and use. Lastly, we have Perceptible Information. Just as visual cues help us navigate in unfamiliar places our [inaudible].

DIANNE: Apologies, it's not usually that glitchy, but that's essentially the work I've been trying to do, and with the support of my leadership team and, like I said, our central team has been fantastic with supporting that. And it's just what I want to keep doing, keep building on. This is a fabulous community to be part of, so thank you for having me.

LARA: Thank you. Terrific presentation. We have got time for a few questions. Jessie up the stairs again. Coming to you in a moment.

SPEAKER: Eventually I will stop asking questions. What I'm trying to understand is the intersection between UDL and WCAG, so the Web Consent Accessibility Guidelines, because I've been made aware previously that flip cards, accessibility wise, are again triggering. And I totally get your point and it's to the point that a lady said earlier, I'll build the ocean, make the ocean, and then as I get feedback I'll downsize whatever. Where's the intersection between what UDL is and what I'm...the basis of what you've designed there is in alignment to WCAG.

DIANNE: A lot of it again, like I said, is stuff I'm still learning on and trying to understand, but the basics, even with just the font, making sure the font is clear and the colours are okay and the spacing, things like that as well, like I said, it's things I plan to learn more of and incorporate. There is so much of the journey that I've begun, but it's very important to try and link those two together and I think sorry, Ronny, did you want to follow up on that?

SPEAKER: Hello? I just want to say, I just happen to be RMIT's WCAG resident expert, so let's chat during lunch.

LARA: Happy coincidence.

SPEAKER: Yeah, because it is a complicated conversation and what Dianne has mentioned is part of WCAG. But knowing what the criteria are under stuff about animation is a bit tricky, so let's chat.

SPEAKER: Really lovely presentation. Thank you so much. I'm over here. I really admire your work. Thank you so much for sharing that. I think that there's a lot in universal design for learning that goes under the radar and I am a big fan of your work, Ronny. Danny Hamilton, hello. I just wanted to ask, your approaches you've really picked up a high value moment in the learning sort of pathway. What's your thinking around where you make those decisions of where to go for a high impact animation?

DIANNE: Well, I think it's a lot as well when working with the academics that we engage with, I think a lot of what I've realised is the content that they have, they have so much knowledge that they just want to put it all in there. So I think what I'm trying to do, like I said, is like find ways even when I'm working on scripts with them, usually they'll have 500 words, and I'm like "No, we need to try and condense that down. I know it's hard, you've got so much", but that's where I want to make impact. Just drawing students in, opening that gate, opening that doorway, and then once you get them in, then you can take them down the journey and explain the topics. That's how I kind of decide alright, let's do this.

Right now I'm working on another animation, and to carry it further to make more of an impact, right, once we finish that animation, let's build an interactive, a branching scenario, again to get your students to impact how they're learning, to have them follow on from what they've seen in the animation and now put it into practice and experience that. That's kind of I'm not sure if that's the answer to your question, but that's pretty much how I decide what's going to be the most impact, or hopefully, in discussion with the academics that I'm working with always, but yes.

LARA: While we're wondering if we have any more questions in the room, I have just got one from online that I will throw into the mix. Our online colleagues are virtually in the room too, aren't they?

DIANNE: Yes.

LARA: How effective are animations for neurodiverse learners?

DIANNE: That's something that we would love to get more feedback from students. I couldn't really say to that off the bat without having stats to look at. So that's, again, when I mention getting feedback from our academics and our students, that's something I'd be really interested in getting where possible. So hopefully stay tuned. If we get that feedback, I'd love to be able to pass that on to you.

SPEAKER: I enjoyed that. The fast pace is critical for visual. I'm interested to know the connection of audio in this because we've now entered AI so we've got this computer-generated voices that do a lot of the heavy lifting for us, like Hans Zimmer, well known director, quoted as saying "music is the wings of a film". So is there a connection with the power of the music or audio, human speech?

DIANNE: Well, I use a combination of both, but in this particular one, this is an AI voice that I used, but for most of them I do try use one of our voices or, you know and sometimes the academics I've had academics go, "No, this is great, I want to use an AI voice", and sometimes they can get a bit carried away, so we have to explain that even with the AI voices, you need to be really careful because you do get the really bad ones and the really glitchy ones. It's about trying to find that balance between what is still easy to understand, it's clear, you know, and you just want to make sure that at the end of the day it helps deliver your message and it only adds to your animation or the message you're trying to say. So you never want to put anything that takes away. Even the background music, it's always set at a much lower volume than the speech because you don't want to confuse those auditory senses as well. You just want the background music to kind of uplift gently and then have the main focus on the audio.

SPEAKER: AI might be the answer to this anyway. My question is about alt text, and when I was doing my presentation and going through and you're doing the alt text and the more not the more detail like there's a level of detail you need. And so I was thinking doing that, how do you alt text a video or an animation? Because you can have a transcript, but the idea of the animation is you've got things happening and you're illustrating the ideas, and to alt text that on top of the transcript would be such a complicated job. Have you thought

DIANNE: There isn't really a way to alt text that I've discovered yet in animation. When we do the script, that usually will have the visual ideas. And in fact, I was thinking about that today because I'm working on an animation where we've got the script, and there's a part where the patient just indicates no, he doesn't really speak. So that's not going to be in the transcript. So I was like how do I put that in in a way that somebody with auditory or visual they can understand that the patient is saying no? So I think that comes down to being a bit more descriptive in our transcripts and just saying this is where Mr Johnson shakes his head and says no, and then, yeah, the captions as well. But so far as I know, I don't think we can do that part in the animation on top as well, but I could be wrong. There's new stuff happening every day so you just don't know what's been developed recently.

SPEAKER: I guess AI will fix that in the future. It's all good.

DIANNE: Most likely.

LARA: This could be our last question.

SPEAKER: I was actually going to respond to the other question answer the other question about neurodiversity. Lived experience with neurodiversity and have done research in that other thing. Very quickly, people with audio spectrum who are like get overwhelmed by a lot of audio will need to have it turned off. Those who get a lot will want it turned up. The people with over visual stimulation will not want to look at it, those who get will. I think it's just important that there is flick switches for audio on and off and there's always a text transcript. So if we think also about people for ESL languages, I've done a lot of research with learners on digital technology for over 20 years. If it's not assessed, they're probably not looking at it anyway. If it's not formative assessed. So you've got to think about the effort you put in there. But if it is assessed, it's absolutely got to have multiple versions and then otherwise you're going to have holy hell of problems there.

So in terms of the captioning, it would just be always so much more effective to have an alternate format than to try and bastardise an animation which is appealing to a certain type to make it texty. I can assure you the people who need text will read a transcript and the people who are audio impaired will be speed reading it at three times the speed and making all of us speaking people feel like dumbos because they're so awesome at that. So I think it's just important to keep in mind that none of these technical things are fixed. They're all very much about they're going to speak to certain people or not and we need to provide that choice and come back to also that understanding of assessment.

And the importance the student places on the thing is very different in different contexts, so we can make judgments about our time investments accordingly.

DIANNE: Thank you. I agree completely.

SPEAKER: Hello. I was just wondering what software you use to create your animations?

DIANNE: So at the moment I'm using Beyond. So we have done a little bit with Adobe character animate, but mostly these ones are all in Beyond as well. You are a bit limited as well by what they offer that you can and can't do, but in general it's a really nice I find it's a nice software to help piece together bits of stories and also part of, you know, making it accessible and inclusive is how I talked about not making really long winded videos that people will disengage. I find it's a nice little gateway to doing that, using it that way. Thank you very much, everybody.