

Trudy Smith:

Hello and welcome to this week's NextSense Institute podcast. My name's Trudy Smith and I am your host. Really excited to have this year's host of our blind and low vision masterclass series, Peter Cracknell, who's joining us to talk about the series, but also to talk a little bit about his background in assistive technology. So welcome, Peter, can you please introduce yourself to the audience?

Peter Cracknell:

Thank you, Trudy. Hi, I'm Peter Cracknell and I'm what's called a vision technology specialist for Quantum Reading Learning Vision. So what does that mean? Well, a vision technology specialist will be focusing on mostly electronic technology that assists blind people with low vision, but can include low technology as well. So I work with people across all age ranges from very young, from three and four, all the way up to 104. So that's with families, people who are at school, university, in employment and in retirement as well. A little bit about Quantum. So we started in 1980, as a research and development company and a manufacturer of brail technology. Have expanded into other the fields of low vision and so on as well. And three years ago, we were actually acquired by Vision Australia. And so we're a separate business division of Vision Australia. I'm based in Brisbane, but I do have a national role supporting my colleagues internally, but also my teacher colleagues, especially with braille and screen reading technology across the whole country.

Trudy Smith:

Right. Thank you for that. How did you get started in assistive technology, Peter?

Peter Cracknell:

Gosh, yes. How did I get started? I don't know. When I say by accident, I was actually working in the theater in London, back in the eighties, mainly front of house. And at that time back in 1989, back in London, the government imposed a disability directive that all public spaces should be accessible. And as I was front of house, the theater management department that fell on me to look at the accessibility of the theater I was in and suggest improvements, which I did every year or so. And we did. English National Opera did actually instigate some major accessibility improvements so that we could encourage people who had a range of disabilities to come to the theater. And that's where I actually got involved with disability in general. I then saw advertised a job, very simple advert, it said, "Do you think you could teach blind people to use computers?"

Trudy Smith:

Deceptively simple, I suspect.

Peter Cracknell:

That probably threw a lot of people off and I was just intrigued because of course I'd met blind people through my work with English National Opera. I'd obviously learned a bit about braille and audio production so that we could communicate with our patrons and so on. And I also, at that time, was very interested in computers and I was actually doing some teaching of computers to support my colleagues at English National Opera. And I thought that's a great combination. And so I applied and was then employed by Telesensory UK for a couple years there in London before I made the migration to Australia in 1996.

Trudy Smith:

So great to have you in Australia and working for Quantum. I would be remiss if I didn't ask what changes international opera made to make it more accessible.

Peter Cracknell:

The first thing, and this is actually interestingly often true of a lot of the disability field, is obviously the first thing we think about is mobility access. So we looked especially at how people in wheelchairs could actually be accommodated. And I think that's very true of the way we think about disability is that oftentimes the obvious disabilities, such as mobility disabilities, are the ones that people think of when they think of disability. The less obvious ones, like inability to read, they're not visible disabilities. They have a significant impact on people's engagement and community engagement, quality of life. So that became increasingly clear to me what we were addressing the mobility, we were addressing some of the hearing issues. We put some hearing Sennheiser systems in, so that people who were hard of hearing could have amplification in any seat of the auditorium, and there was 2000 seats. It was a very big theater.

Trudy Smith:

Very big theater. Yeah.

Peter Cracknell:

Actually I think one of my London's largest, the Coliseum is one of the largest theaters in London. But then increasingly it was about how do we help people who are blind to enjoy the opera in our communications and so on? So we set up a newsletter in braille and audio so that we could transmit information about upcoming events to people who were blind and with low vision. So that's also where met Sir Colin [inaudible 00:06:15] for the first time. At that time, he wasn't Sir Colin, and so of course himself and others really inspired me about the possibilities for people who were blind to succeed and participating in public life.

Trudy Smith:

It sounds like really fascinating work. And I think you've probably alluded it a little bit to this, but why is assistive technology so important?

Peter Cracknell:

I think assistive technology perhaps throws us off a little bit, it sounds highly technical. And we think about motorized wheelchairs and eye gaze tracking devices, we think about those things. We think about Stephen Hawking and his communication devices, very high tech things. But I think we forget that all of us use assistive technology. So for example, I use assistive technology in two ways. So, I wear hearing aids and I wear glasses.

Trudy Smith:

As do I.

Peter Cracknell:

That's right. And that is assistive technology. And optometrists often talk about how uncorrected vision is the leading cause of blindness in the world. And that is technically true, but it's such a simple technology that we don't think of it as technology. So another way we could talk about elevators being assistive technology. So that's what I mean, it's obviously important to all of us. But for people who had a severe disability, a mobility disability, or a reading disability, if one

could imagine not being able to read for example. The implications you think about it are so vast for employment and for enjoyment of life, that it is just almost inconceivable if we didn't have it. And this is why assistive technology such as braille for example, is just so liberating for people to have access to literature and information, of course. When one would not have that access in any other way, this pre-audio recordings and so on, pre-computers, that was one of the most liberating things that came out of the [inaudible 00:08:58] period and has been truly liberating for blind people and continues to be.

Trudy Smith:

Yep.

Peter Cracknell:

So, yes. Why is it important? It's everywhere and it's liberating. It's independence and it's engagement.

Trudy Smith:

Absolutely. Yep. Agree with all of that. What's your favorite piece of assistive technology? Obviously you use hearing aids and glasses. But you get to engage in all of the fabulous resources that are available. So what's your favorite piece?

Peter Cracknell:

I've thought about it Trudy, because I've seen so many different sorts of assistive technology, high tech, low tech. And when I think about the devices I've seen in my particular field, I think about the ones that have some of the longevity to them, ones that continue to be useful. And I thought about it long and hard and obviously electronic magnifiers, they've been absolutely revolutionary for people. But when I was thinking about it, I thought, no, what's a device that seems to keep on keeping on and is still useful? And I'm thinking something like the clear reader. Now, the clear reader, I'll hold one up to the microphone.

Trudy Smith:

Through the power of radio, we're going to show you what this looks like.

Peter Cracknell:

For those that can see this, the clear reader is about the size of the radio, a kitchen radio, but it has a camera that looks down at paperwork and some great tactile buttons. So a blind person can place a book or a brochure underneath the camera and physically locate a button, press it. And within a few seconds, it's speaking out loud in a very clear voice through the speakers. So why do I like that? Well, I like it because the design was deliberately familiar to people. It wasn't confronting, it resembled a radio. So I think that's a crucial factor in assistive technology. You don't want to put people off and you don't want to make people look different and you want it to work. So it's reliable, it performs a very good function for reading any printed material. It's engaging for people and it has been keeping on for some years now. So yeah, that's probably my favorite piece of technology.

Another thing, and again, it's not high tech, it's low tech. Again, I'm holding it up to the microphone Trudy. It's this thing called the draftsman kit. And it's just basically a platform with a piece of acetate, just a piece of flimsy plastic, on a rubber board that a blind child can use a

regular Biro to draw tactile shapes and then feel them back again. It seems so simple and toy like, but one of the things I think that we forget about out the interaction between sighted people and blind people is that it shouldn't be a one way street where we give them materials to consume. That's the way it often is done. But isn't it wonderful when they can produce and communicate in the other direction. There are very few opportunities for that to happen for blind children, and so I think things like the draftsman kit, not electronic, just very simple, very immediate, very spontaneous. It's a great space where we can learn together, sighted and blind together. So that's a simple example, the draftsman kit.

Trudy Smith:

I think you've chosen two things that really heighten, as you talked about earlier, the importance of giving independence. And also that not being different. I think anyone between the age of eight and 22 is mortified if they appear different to everybody else. And even though you may be blind or have low vision, and you can't see people looking at you, you know that people are looking at you and comparing you as different. And so things that look normal and like everybody else is always going to be much more appealing to that audience. Isn't it? That getting around that need to be like everyone else.

Peter Cracknell:

Yes. It is a very important factor especially in that secondary school group. So we often see primary school children very engaged, very well supported and very enthusiastic. Then something happens at 13.

Trudy Smith:

I think every parent in the world would tell you that Peter.

Peter Cracknell:

Yeah. Some of the students carry on and they continue to be very independent and engaged, and those children will always succeed. They're just very self motivated and they don't care. They know why they're there and they're just going to achieve it. But the majority will need a lot of careful handling. It's so easy to lose a child, they just close up. And so the job of everybody else, teachers, teacher aids, parents and people like myself, occupational therapists, should always be really paying attention to that very human element as well.

I think we all understand that some children will not just use technology, but they just won't use the regular classroom materials that they are meant to be using. So then when you add in the fact that they have a vision impairment and they need a special telescope to look at the board, or they need a screen reader to speak in their ear or a braille display, it's so identifying. And the very first thing we need to do is to include the class, include the teacher aids, everybody else in that whole process. So it becomes a positive thing that everybody can see how cool the technology is and they want some themselves.

Trudy Smith:

Absolutely. Yeah, and that is a very good selling point. Peter you're, as I said, our blind and low vision masterclass presenter for this year and we. That begins on the 6th of May, we've got six topics that I can't wait for. What are you looking forward to sharing in the series?

Peter Cracknell:

Well, I think I'd say it's not really just about the current technologies, it's really about that interaction about how do we actually successfully put them in the classroom and also for older people too. How do we do that best? And so, for example, there's the issue of trialing equipment trying at home in the classroom, and including all the stakeholders at that point. That's very important. We're kicking off with that really about trials and recommendations. That's going to be the first topic. So it's very much not just about me meeting with a vision teacher and a child, it's including a parent, including the assistant principal, whoever else that needs to be part of this making it work. And then of course discussing not just the equipment, but it might be the perfect piece of equipment for the task in hand, but the child is going to trash it. So maybe we need to get a plan B sometimes. But we need to take in all those things, those real practical things.

The second topic I'm talking about alternative input. And what I mean by that is for people that can't use QWERTY as a typing input method, other alternatives, and there are. And so we'll be looking at that, especially in the area for deaf blind people. There are many factors there that we need to consider. And also this whole issue of people who have a degenerative disability, where they haven't engaged with technology, but they need to later in life. So we have to talk about ways that these people can engage. How do they input, how do they output, using the technology?

I've already touched on a little bit with you just now about acceptance and inclusion in the classroom. So that's something that I'm very interested in. We'll be really covering that in the third topic.

And in the fourth topic, I'll be talking about reading. That's not the obvious issues of reading, which obviously if one is blind, one cannot read print. But there are many people who are not blind that struggle to read print. And sometimes it's a cortical issue. Sometimes it's an issue of dyslexia or some similar condition. But I've observed over the years that there's a whole range of clues that people give when they're looking at print. I have them in front of an electronic magnifier, and they're struggling to read. And I go through a series of steps to try and identify what their issue is. And then of course, that could lead to some solutions, perhaps.

I think the next topic, which is topic five, about adjusting the instructive method to suit individuals. So again, that obviously applies in a classroom situation, but it very much applies for older people too. So, many times I've seen elderly people who will throw up a whole heap of barriers to accepting technology or solutions. The obvious one is, I'm too old for all this stuff. So it's a very common situation. I'll have family saying, "Mom, you really should be looking at this stuff because I'm not here all the time. And for your medication, you have your correspondence to read and so on." So there's a lot of psychology in helping people come to feel comfortable with making a change in their life and embracing something that is unfamiliar.

So the person who's introducing the technology plays a really important role and they have to have some life experience. They really do. And I see this all the time with young optometrists, for example. I do actually do some lectures to young optometrists at various universities, and it's just fascinating to see how they interact with real people. They come to a clinic with the clipboard and all the measurements and acuities and so on. And they in front of them is an 82 year old bushy coming from [Warwick 00:20:37] or somewhere, and he cracks a joke and it's usually rude. And I can see that the young optoms, they're just glazing over. They need to

understand that they need to relax people. It's not just about measurement, it's very much about human engagement.

Trudy Smith:

Absolutely. Those relationships are so important.

Peter Cracknell:

Yeah. And the sixth topic is about bimodal approaches. So this is about technology that combines auditory feedback and visual tracking as well. So there's two parts to reading, there's an auditory way of reading, and some people they learn very well that way. And other people really do not learn very well that way. Some people are highly visual. There are technologies that can combine the two, so that we can adjust the amount that's auditory and the amount that's visual with magnification and contrast and so on. And we can also combine it so that you can actually see words being spoken as they are being spoken so that you can actually identify the word.

This is very helpful for people with reading difficulties related to dyslexia and other learning disabilities. And it's something that we can tweak and adjust to the individual so they get the best results. I'll be looking at how some of the technologies that we designed for vision impaired people can flow through to people that don't have a vision impairment, but can still benefit from those technologies. I think that's the basic areas that we'll be covering. I'll be using a lot of anonymous case studies as well. So I'll be referring to real people, but not by name, because I think that really is very important that it's not just theoretical, it's actually about real life situations.

Trudy Smith:

No, it's going to be exciting. And we're looking forward to our first session next Friday, 6th of May. Sessions are running from 12:00 to 1:00 over the next six months. So, looking forward to hearing more and digging deeper into this Peter. But thanks for your time now. Both giving us a little bit insight into who you are, but also the content. So thanks for being with me today.

Peter Cracknell:

Thank you Trudy.