Episode 101: Makers Making Change, Assistive Technology | Shanelle Gillman

Manisha Ramlu 0:08

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Manisha Ramlu 0:33

Thank you for joining us today, Shanelle. Do you want to tell us a little bit about yourself and what you do?

Shanelle Gilman 0:40

Sure. So my name is Shanelle Gilman, and I'm the Western Regional Coordinator with the Makers Making Change program, which is a program of the Neil Squire Society. So primarily what I do is a lot of this, a lot of talking in different ways. So sometimes it's outreaching to centres or families, and they're learning about what kind of assistive devices are available on our website. And then my other big portion is that I do a lot of work where I go into schools or after school clubs, and we actually teach youth and students on adapting devices. So they're soldering and they're building the devices that can be donated out. So that's kind of a little bit about what I do at Makers Making Change, and we'll get into the details of the program, it sounds like, further on today's call.

Manisha Ramlu 1:04

Awesome. Love it. Thank you for sharing that. Yeah. So let's start at the beginning. What actually first drew you to this work, and how did your journey lead you to Makers Making Change?

Shanelle Gilman 1:36

Yeah. So I have been with Neil Squire for over nine years now in a few different programs. So I was in university, still in Regina, and saw an opportunity to be an assistive technology intern, and that was kind of perfect to match up with the hours needed and what I had available with schooling. And then from there, I've just kind of moved through some of the different programs at Neil Squire, things that have evolved over the nine years as a not for profit organization, and now move full time into the Makers Making Change role.

Manisha Ramlu 2:05

Awesome. Wow. So for our listeners who may be new to Makers Making Change, can you kind of give us an overview of what the program is all about and its impact that it's had?

Shanelle Gilman 2:14

Yeah, and so I'll explain a little bit about Neil Squire. So that is the big organization you'd be hearing about. So Neil Squire is a national not for profit organization. Neil was actually kind of like our first client. So Neil was attending the University of Victoria back in the 1980s and he was in a car accident where he sustained a C1 brain stem injury. So Neil had a relative named Bill Cameron who kind of had that first idea of like, "Is there something we can make or create or design in assistive technology that could help give Neil some independence again?" So from Neil's accident, he was paralyzed from the neck down, and he was unable to breathe or speak independently. He had the piece in his throat to kind of help with that. So they work to create a joust. So this was like a mouth operated sip and puff device. So Neil still had a little bit of use around his mouth. So the sip and puff was kind of the mindset of, if you take a breath in and a breath out, it was translated into Morse code through those sip and puff commands, which was able to give Neil a way to communicate independently again. So at Neil Squire, we have many different programs. If this is something you're interested in exploring, I definitely recommend to any of the users to go check out the website. The Makers Making Change program is all about almost like, similar to Neil's story of like, "Is there new assistive technology that can be created or improved upon that is under what we call like an open source umbrella to help bring down the cost of assistive tech?" So if you explore our library, you're going to see a lot of like, 3D printed adaptions of assistive devices. But the unique thing is similar to Neil, a lot of the devices started with that story of "I wish a piece of technology existed that could help me do X." So we still have this mindset today where people can submit what we call design challenges so that space of "I wish something existed that can help me open water bottles," for example, and then through that, we do have a small engineering team, but a lot of our devices and files actually come from just volunteers, hobbyists in the community that want to tinker. They like designing, and they want to just kind of help support the community. So from there, a device is built and a file is built where people can play around and see if the device works. Now what open source means is that it falls under Open Source Licensing. But how I like to describe it is that it's never a finished product. So if I made a bottle opener and you needed it a little bit bigger or a little bit smaller, that you can access this file and we can make alterations to it to match the user. So being able to maybe put your name in it, maybe it's a specific Gatorade bottle that you're trying to open the top of which is a little bit wider than like a standard water bottle. These alterations can

happen to these devices. The other cool thing is that they're all freely available on the website. So maybe you don't have a 3D printer, but you know your local library has one, or, you know, a friend who has access to one, they can go on the website, they can download the bottle opener files and they can print it themselves with just the cost of materials.

Manisha Ramlu 5:26

Wow, super accessible. Wow, that's super powerful as well. Thank you for sharing that.

Shanelle Gilman 5:32

Yeah, so it's kind of a funky way to describe it, because we are a national not for profit across Canada. We are out doing events in the community. But I think the cool thing about this is that everyone across the world needs assistive devices. So we have different people messaging that they may have made adaptions to it, or people willing to share files or being able to see that devices are being printed all across the world, which is so cool to see, but primarily in Canada. We're here to kind of help support those device requests. So anyone can go on and request a piece of device, and it could be again, us as staff or just a volunteer maker in the community, who attaches themselves to build it, and everything runs without cost of materials. So when you click into our device, not only will you find like the STL if it needs to be 3D printed, but we try to provide as much information so anyone who come across could maybe see the bill list of materials to build an assistive switch that needs parts to be ordered, and there's instructions to walk through on how to solder this device themselves. So it's very much set up that anyone can kind of maybe take a device and run with it themselves and help to get it out into the community.

Manisha Ramlu 6:41

Wow, that's amazing. And to find these, you know, templates and information. Is this all available on the website?

Shanelle Gilman 6:50

For sure. Yeah, so again, a little confusing. If you go to our Neil Squire website, it'll take you there. You'll learn a lot about all of the programs at Neil Squire, right? For Makers Making Change, we have our own website that shows the assistive devices library, so in there, you can browse through categories, as well as being able to just see devices being added into the library.

Manisha Ramlu 7:09

Okay, cool. Thank you. And from your experience, what is like the coolest, most innovative device that has been made so far?

Shanelle Gilman 7:18

I feel like I change what my favourite device is, but I do like to highlight we have one device on the library now. It's called the blister pack opener. So if you know what I mean when I talk about like the our medicine come in those blister packs. So again, this was designed just with that mindset of being able to punch through. The materials can be difficult, so it helps to punch through. And then they added a little cup that catches your pill so you're not just punching it there and having to fly across your room. But I think the coolest thing is how all of these really do start with that idea. And we might think it's a small idea, but then sometimes we see how people can find multiple uses for it, or just this, the different way that this can help with that accessibility from maybe it's a hobby that they're trying to do, or different things. There's no real limitations on the specific devices into our library, you can see we have something called a felting needle holder that started with a hobbyist to more high tech devices that help with switch access on, like our tablet. So it really ranges with what you'll find, but there's no statement of the I need something that can help me with x. Any of those ideas can kind of be posted there.

Manisha Ramlu 8:28

Wow, that's wonderful. And question for you specifically, in terms of the volunteers, if anyone wants to get involved, if they want to help out, how can they do that?

Shanelle Gilman 8:39

Yeah, so primarily, we have a few different ways of accepting new volunteers. So if you were someone that had a 3D printer and you're like, Oh, this is lovely. I wish I could print things to kind of help with my community. We have a 3D printing section on our website where we put in, like, bulk requests. So that is a great way to kind of get helped with the 3D printing side. If you wanted to be a maker in your community, that's the other way you can sign up. So creating an account on the website is an excellent place to start, and then you can maybe see some requests in your community and seeing what is maybe needed out there. We also do have an array of public events that kind of pop up across Canada too. That's a great space to come in, whether it's at like a booth style do you just want to see the devices? Or maybe you want to attend an event where you get to solder and go through the instructions with us? That can be an opportunity. So it kind of ebbs and flows as they come but those are three great ways to start to kind of see about the program.

Manisha Ramlu 9:34

Okay, wonderful. We will definitely list the website and stuff in our episode details, so everyone knows where to go, awesome. So we're going to go on to the next question. So as

a Western Region Coordinator, I imagine no two days are the same. What does your role typically involve? And what are the most rewarding or challenging parts of it?

Shanelle Gilman 9:59

Yeah, so exactly, no two days are the same. But you can always catch me talking or communicating with people in some format, so that can be answering emails or working with clinicians to figure out what is needed in the community, taking that information, and then the next day I could be at a school, and we're building the device that those occupational therapists were requesting. So it's very much, I would say, a lot of hands on in the community, running events, learning what's needed. I do a lot of ordering parts, answering emails, kind of running around with those different things. The biggest thing I find is because there's so many provinces is trying to delegate and do that. So I'm based in Calgary, Alberta, but we do have staff across the provinces too, so being able to help support more events locally in the western region.

Manisha Ramlu 10:50

Awesome. Yeah, I can imagine can be difficult with, like, the time difference and yeah, stuff. All right. So one thing you've shared is how much you value the devices. Is there a specific, like, story or moment that stands out to you where a device really made a difference in someone's life? I'm sure they're all, like, really, really beneficial to these individuals. But is there something that kind of stands out to you?

Shanelle Gilman 11:16

Yeah, we run a campaign, this upcoming year will be our third one, where we run something called Hacking for the Holidays. So with this, we have goals to fundraise money, to be able to donate out adaptive toys and switches for families across Canada at no cost. This is, I think, a really cool space, because yes, they might have access to the toys and switches, maybe with the occupational therapists or maybe at the centre that they're going to but these toys and switches at home allow for that engagement there. And I think there's just always something special when we're delivering a toy, and you can see the kiddo's engagement by pressing the switch, and if the bubbles are blowing, or they're making their Bluey start singing a song, or the different ways, that is a piece that I think is exciting every single year, no matter how many times you see it.

Manisha Ramlu 12:03

Wow. And I also love how like collaborative this program is. Can you kind of walk us through the process, and you talked about it a little bit, but is there any other ways that members of the community and volunteers and makers can kind of co-create these tools?

S**hanelle Gilman** 12:22

Yeah, and we actually have a new program funding that just started a few months ago called clubs that care. So this is another unique way how we can describe it, is that a Canadian living within the age ranges of 15 and 30 can apply for what we're calling a micro grant. So it's a little bit more hands off, us on staff, but we kind of help support these club leaders in running events. So they get the opportunity for $3,000 to purchase a 3D printer, purchase the tools, like a soldering iron, the parts that they would need to build. And their goal is to engage 10 volunteers and build 20 adaptive devices. So it's just like another unique way to kind of further push the program out and be able to really help engage leaders who maybe have that same bug and they're interested in 3D printing or STEM or any of these programs and just want to help build assistive devices. So that's a new, unique volunteer kind of opportunity that we'll be running for the next two years.

Manisha Ramlu 13:22

Wow, that sounds incredible. I'm curious to know, how many assistive devices do you guys have currently? Do you have a number for that?

Shanelle Gilman 13:31

Yes, so in our assistive devices library right now, we have 213 items.

Manisha Ramlu 13:36

Wow, that's amazing. And more to come.

Shanelle Gilman 13:40

Yes, it's always evolving and changing, and more getting added to it.

Manisha Ramlu 13:46

And so is there any devices or assistive tech solutions that are really popular at the moment, and kind of where do you see, you know, the future of this field heading in the next few years with technology developing so much?

Shanelle Gilman 14:00

Yeah, and I think it's almost something that's evolving every day, which is so cool to see, even from when I started at the program, how my first printer just took longer to do the actual printing compared to my printer now, and how much faster you can get the exact same device off the print bed, is something really cool to see of this idea, like you said, of evolving and changing. The biggest tackle I'm always facing on the outreach side is just in the way that toys are changing every every year, because a new toy becomes popular and

then you can't purchase one from the year before. So that's something actually really cool that we engage a lot of our youth volunteers with doing is seeing if there's a new toy, and if they're willing to build instructions on how they made it switch accessible, so that we can share that out with maybe other volunteers or community members. So just another piece of this evolving, changing way, but it's so exciting that it is evolving and changing, and new solutions are always coming.

Manisha Ramlu 14:59

Absolutely. And of course, with all this, you know, innovation, there are still barriers, whether it's cost access or even awareness. What are the challenges you see at the moment and kind of, what do you think that needs to be changed to make assistive tech even more accessible for individuals?

Shanelle Gilman 15:20

Yeah and what, like you said, one of the biggest things we see as in my role, particularly, is the cost of just shipping. So one of the things that we're trying to do to help with that is this mindset of, can we find a local maker who maybe has the skills and are able to take it on, because our devices are lower cost with 3D printing and the different ways, and it's just that other way to help eliminate that barrier that might exist, to help with shipping costs.

Manisha Ramlu 15:45

Right, and especially with, like, stuff that's going on with Canada Post, like, there's always, you know, those limitations as well. So, yeah, absolutely. I think if there's local makers, that would be super beneficial.

Shanelle Gilman 15:56

Yeah!

Manisha Ramlu 15:59

I think we, like, went through all of our questions, is there anything that you would like to share? Is there any events that's coming up that you want our listeners to kind of know about?

Shanelle Gilman 16:08

Yeah. So we are always evolving and changing, and we have different things popping up across Canada with events. So the biggest thing that I'd like to say is, if you are wanting to learn more about Makers Making Change, for sure reach out to us. I always find my favoruite spot to start is to take a scroll through the assistive devices library just to see

what's out there. If you're more interested in, maybe you're a teacher and you want to host an event in your classroom, or you want to see the next steps, reaching out to us regional coordinators to kind of see if that is a possibility for the next year. We are always more than happy to go and welcome into new schools or new classroom environments. Again, the other kind of piece we have is, if you're in a corporate position and you wanted to maybe do this as a unique style, as a team builder activity, we often, sometimes will be able to come in with the tools that way, and the corporate event pays for maybe the toys, and then we're able to give them out for free. So there's a few different streams. I think the best thing to say is that we're more than happy to talk through any questions, comments about the program and about an assistive device, or how to kind of get started as a new volunteer.

Manisha Ramlu 17:15

Okay, awesome. Thank you. And I hope our listeners are listening to this, and we have a lot of event bookings for you all, and that way we can, you know, spread the awareness. And I think that's all on my end. Yeah, thank you so much for joining us today. We really appreciate it and appreciate your insights.

Shanelle Gilman 17:36

Yeah. Oh, perfect . Have a good rest of your day, and feel free to reach out to us.

Manisha Ramlu 17:41

Okay, will do.

Outro 17:42

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