Brenna Clarke Gray:

Hello and welcome to You Got this!, a podcast about teaching, learning, community, conversation, and your digital life, made for everyone at Thompson Rivers University. I'm your host, Brenna Clarke Gray, coordinator of educational technologies, and this podcast is a project of your friends over at Learning Technology and Innovation where we support the whole campus community. I record this podcast into Tk'emlups te Secwepemc within the unceded, traditional lands of Secwepemcú'ecw where I hope to learn and grow in community with all of you. And today I'm thinking about getting my hands dirty. Let's get into it.

It's a little bit of a different episode this week. Instead of a feature interview, I've got a couple of mini interviews and I also got to go to the Makerspace and record some audio of people using the tools in there. It's a really fun listen, I think, but also it just got me thinking about the power of hands-on learning.

This is a place where I am very much, ooh, do I say, not as I do. I'm really bad at hands-on practical things. I love messing around with the digital, and in fact, I think hands-on play with digital tools is probably the most important thing that I offer to the community here. Giving people space to figure out what tools work for them and play with them. But for some reason, as soon as you move me out of digital technologies and into analog technologies, well, let me tell you a story.

About, oh God, more than a year ago now, I signed up for something called the Crochet of the Month Club. I know, just shut up. I've always wanted to learn how to crochet and I can knit, but for some reason, whatever the one-handed witchcraft is that happens with crochet, I just can't do it. The crochet of the Month Club, you pick a project that you want to do, in my case, an Afghan in beautiful shades of gray, and you sign up for that and then they send you the supplies that you need to create, I don't know, three or four squares a month. It's supposed to introduce you to various kinds of, I guess they're called stitches in crocheting, different ways of crocheting squares. And at the end you attach them all together and you have an Afghan.

It was over a year ago now. I don't have an Afghan. I have 11 sealed, padded envelopes and one open padded envelope. It's not that I didn't try. I swear to God I tried. And it's not that I don't intend to go back to it. One day, I promise. But ah man, I am bad at being bad at things. It really stresses me out.

I think that's actually, I think it's a good quality to have when it comes to helping people because I understand how uncomfortable it is to be bad at things, I really do. I understand it in a really visceral way. And one of the things that I have learned in this job is just how important it is to model being hands-on with tools. We support a lot of e-portfolio projects out of our office, always works 110% better when instructors also have a WordPress account and are also playing around with the e-portfolio rather than just talking about it in a theoretical sense. It really signals to students that there's value there. So don't get me wrong, I get it.

And also, [inaudible 00:03:39] actually messing around with stuff can be really scary. And I think that's why I enjoyed my time in the Makerspace so, so much this week because there is just such a vibe of creativity and play and joy. It's really inspiring in there. If you haven't been, I really encourage you to go in there and mess around and check it out. But until you do that, maybe you want to hear a little bit more about it. I'm going to let my new friends from the Makerspace tell you more.

Ellis:

My name is Ellis and I am actually a Makerspace ambassador, a student ambassador, which is very fun. They pay me to be here, which is cool because I'd probably be here anyway. And that was in fact actually one of the things that I said in my job interview. I was like, "You might as well pay me to be here because

I'm going to probably just be there anyway." I use the space for a lot of different things, mostly just crafting and decompressing, which sounds really weird, but I do a lot of research and lots of papers and I want to not think about research and papers sometimes. And I come in here and I print little things on the 3D printer or design little things on the 3D printer software, words are hard. But then I also use the Cricut a lot for heat transfer vinyl. I use it for stickers, I use it for everything.

What else do I do in here? I learned how to sew in here.

Brenna Clarke Gray:

That's cool.

Ellis:

I love the embroidery machine and I now can kind of troubleshoot when it decides to be a jerk, so that's lovely. I actually have been able to use my own sewing machine now, which I could not before, and I was terrified of it, so that's really cool. But yeah, I've learned how to sew, completely from the ground up in the last year and I'm still not very good at it, but it's much better than I used to be and that's very exciting.

Kirsten:

My name is Kirsten. I am a third year communication student, third, fourth year communication student in the Bachelor of Arts program. And I am also a research assistant here at Makerspace, as well as being a teaching assistant to one of our professors. So I do a lot of things, but Makerspace is a great space to come and let that creativeness out, whether it's for an assignment or not, it doesn't matter. You can come and do whatever, learn new skills, try out new technologies. When I first started, I really liked Beat Saber on the VR because it was nice to just be physical and be in the virtual reality is always super cool.

But I fell in love with the Cricut. I even have my own at home now. I loved it so much I got my own. Embroidery is so cool. We actually have an embroidery software where you can design your own images, so whatever you think of, you can probably make on our embroidery machines. And of course, I work here, so I got to do some really fun, creative, communication jobs while I was doing all of these things, so I've been quite lucky. But it's a great space. I tell my students to even come here and just unwind. I do anything here. It's a lot of fun.

Brenna Clarke Gray:

Can I ask what it is that you are working on right now?

Kirsten:

I am currently cutting out leaflets for the Shamrock Soiree that my student club is putting on. We are TRUSU Swing Dance, and we are collaborating for a live music band, so we get to cut that. We're also moving to support more and more clubs in the space as well. We're going to have, hopefully, a bit more of that infrastructure set up so clubs can even come and use the space.

Serena:

Hi, my name's Serena. I go by they/she. I'm also a Makerspace ambassador in here. My job is to orient people who come in, faculty, staff and students, and help them create things and just have a good time in here.

Brenna Clarke Gray:

Did you make the T-shirt yourself?

Serena:

Yes, I did. These are our ambassador shirts that I kept forgetting to wear, and then today I was like, I have to remember. So we all made our own shirts that have our names on one side and our pronouns on the other. It's always a fun time here.

Sarah Porter:

Hello, my name is Sarah Porter. I am a library worker at the TRU Library and one of the areas that I work in is in the Makerspace as one of the Makerspace staff. What my title is at TRU is library client service associate. I work on the service points at the library and I do other library work, but one of the areas of the library that is also my functional area is the TRU Library Makerspace.

Brenna Clarke Gray:

Oh, fun. Okay, so I won't say you have to do a whole day in the life, but what does a typical shift look like for you when you're based in the Makerspace?

Sarah Porter:

I started at TRU not too long ago actually. Just as the space is new, I'm also new to TRU and the Makerspace. A typical day at the Makerspace for me would be, if I was working on a service point, it would be interacting with students, helping them get started on some of the technologies. Maybe they need a little help finding the tutorials that we have, or sometimes it's troubleshooting technology. If there's, for example, the 3D printer is doing something funny, we'll take a look at that. And generally that would be what I would do. Otherwise, other work that I do for the Makerspace is I also help run the TRU Makerspace Instagram page.

Brenna Clarke Gray:

Oh, I love the Instagram page. I follow it.

Sarah Porter:

Oh, nice. Oh, I'm so glad to hear that. As you can see, it's a little bit of an experiment, the Instagram page, so it's been through a little bit of different looks, but I try and keep everyone informed what's going on at the Makerspace, promote events that's across campus that would appeal to people in our Makerspace community. So if you ever have anything that you're filming or making, please tag us at TRU Makerspace on Instagram.

Brenna Clarke Gray:

I'll make sure I link to that in the show notes for sure. Yeah, I think it's really fun. I love seeing the different projects, the stories in particular I think are really well done. Do you have a favorite? I was going to say, do you have a least favorite technology to work on? But that's not fair. Do you have a favorite technology to work on in the Makerspace?

Sarah Porter:

Oh, that's hard because we have so many cool things. If I had to say my least favorite would be time because I don't have enough time to try everything out. But it's been pretty cool because we've been getting a lot of new technology in the space, so I think just trying everything out has been my most favorite thing to do while in the space. Most recently we got a 3D scanner that's a handheld scanner, so not only does it scan really large objects, but it'll also scan them in the color that they are. Recently, well quite a few of our students have been trying it out and it's been cool to see people scan their full bodies.

Brenna Clarke Gray:

That is cool. I think when I was down in the Makerspace just checking it out the other day, if you don't know anything about Makerspaces, you probably close your eyes and you picture a 3D printer, some computers. I didn't realize there would be so much textile stuff, like the embroidery machines, and it didn't occur to me that there would be so much, I don't know, maybe artsier stuff. I guess I picture a Makerspace as being a really technology driven space. Not that those aren't technologies, but there's a crafty vibe to the Makerspace that's really fun.

Sarah Porter:

I feel like some people have this perception that technology can be very daunting. It can also be very thought of as a kind of a male dominated space, especially STEM. I get the sense that society sees technology that links to more feminine arts, maybe that's not the right word, but yes, stuff like that gets considered not as technology, so we do have a lot of technology that isn't STEM, robotics cool stuff. We do definitely have our button maker, our sewing machines, our embroidery machines, which are just as cool as the more fancier 3D printers and what have you.

Brenna Clarke Gray:

Yeah, they really are. And it's so neat to see them alongside each other. These are all just things you use to make stuff. There's a really kind of democratic sense of the technologies in the space. They all have their purpose.

Sarah Porter:

And I think one of the coolest things is seeing some of the students use multiple technologies to do something cool. Jordy will use the 3D scanner to scan and then 3D print items or he'll 3D model and Blender and do that, which is more what you typically think of when you think of Makerspaces. But we also have another student named Manny. He's been working on a huge project. He's been doing embroidery projects for his collection, so he's been embroidering hoodies and making music in the recording studio and blending that in together to make his show.

Brenna Clarke Gray:

You have a really neat view of the Makerspace because you get to see, really in a concrete way, what people are coming in and doing with the space. Do you find that there's a common drive that drives students into the space or are they all coming for different kinds of reasons I guess? I'm just curious, outside of courses, I know that some students are assigned and working in the Makerspace in that kind of way, but for the students who find their way there on their own, do you see any commonalities there or is there a lot of diversity in what brings people in?

Sarah Porter:

Oh, this is a good question. So Frank, the Makerspace librarian, is very deliberate on what curriculum comes through the space. Typically a lot of students who are here are here because they want to be, even if they are working on an assignment, they're working on it because they have thought up this idea and want to do a podcast or what have you. Otherwise, what drives students to come here? It's their own creative passions, I feel like, is what makes students come here.

We have quite a few students who are passionate about making music, so they asked Makerspace to provide more music related items in our... You may know this. Our recording studio used to be a podcasting studio. So we added a Focusrite, a keyboard and a digital audio workspace so that they can make music in the space. And it's really cool that Makerspace is able to collaborate with students to bring them what they need to enhance their learning.

So mostly you just see a lot of passion, where maybe they come in for the first time because, oh, I need to make a bunch of buttons for my club. And then they're like, oh, actually that's pretty cool that I see a Cricut. And then they'll start trying out the Cricut just to see what it's like to make a sticker and then it kind of snowballs from there is what I find.

Brenna Clarke Gray:

That's cool. I love how responsive the space is and has been to student needs. I think that a lot of times students come and they have to exist in the spaces that are created for them. They don't have a lot of opportunities for co-creation when they're in a typical classroom, so it's cool to see a space on campus that really is dedicated to meeting students where they are and providing them with the tools that they need to do whatever it is they want to do, within or outside of curriculum needs.

The listenership for this show is primarily faculty and staff. I would love us to have more student listeners. We'll get there one day. I wonder if there's anything that you wish other staff at TRU or faculty at TRU knew about the Makerspace? If you could communicate one or two things out to the community as a whole, what would that be?

Sarah Porter:

For staff and faculty who want to use Makerspace, I would let them know that Makerspace is for you, too. It's open to all staff, student and faculty members, so please come drop in if you have the time. Our hours are 10:00 to 4:00, Monday to Friday, and we'll be open in the summer too, so hopefully when summer's here you'll have a bit more time. I guess another thing is, I think we're planning things for faculty and staff too, so keep an eye out for that.

Brenna Clarke Gray:

Well, I'm going to keep all the contact information for the Makerspace in the notes today so people can follow it. And I have to tell you, I'm working up the nerve to come in and ask someone to help me learn how to use the Cricut machine, because I think that they are so cool and the things people make on them are so cool. So that is, that's my professional development activity. Get up the gumption to come and try to make something in the Makerspace myself, instead of just talking about it.

Sarah Porter:

Yeah, totally. And a lot of our technology has great tutorials on our website. I think a lot of them have been made by either student ambassadors or staff members previously. If you go to our website, makerspace.trubox.ca and you click on using technology and then, for example, click Cricut, it will take you to great making your first sticker tutorial. And if you ever get stuck, please feel free to ask a staff

member. Sometimes something like the Bluetooth is a little bit finicky and we're really happy to help you navigate the guide as well. And if you have any feedback, please let us know.

Brenna Clarke Gray:

Okay, this is awesome. And I have no excuse now, so I will be in. And Sarah, I just wanted to thank you so much for your time today. I'm really grateful for you taking a minute to have this conversation with me.

Sarah Porter:

Thank you for inviting me. I appreciate having a conversation with you.

Tasha:

Hi, my name's Tasha and I'm using the Makerspace to 3D print a project.

Brenna Clarke Gray:

For school?

Tasha:

Yeah, for engineering design class.

Brenna Clarke Gray:

Cool. Can I ask what it is?

Tasha:

It's going to be a robotic painter arm.

Brenna Clarke Gray:

Holy cow. That's really cool. That's awesome.

Ella:

Hi, my name is Ella and I am working on the same project as Tasha.

Brenna Clarke Gray:

I want to know more about what it does.

Ella:

This robotic arm is supposed to move and paint a canvas fully, and it can also carry boxes. We're working with a construction company, Acres Company, for a scholarship win.

Brenna Clarke Gray:

How cool is this? Oh my god. I hope you guys win. That's awesome.

Ananya:

Hello, my name is Ananya and I'm working as the same project as with Tasha and Ella.

Brenna Clarke Gray:

Tell me about the Makerspace and this project. Would you guys be able to do this if you didn't have access to these resources?

Ananya:

I don't think that I would be able to do it without Makerspace, because for the robotic arm, we need to 3D print all the parts we needed for it. So building it with cardboard will consume a lot of time. So I think Makerspace 3D printing will help us. And I guess, yes.

Brenna Clarke Gray:

I really hope you guys win, a lot.

Ananya:

Yeah, thank you so much.

Twyla Exner:

Hello, my name is Twyla Exner and I'm an assistant teaching professor new to Thompson Rivers University. I teach in the department of Communications and Visual Art, and I am doing projects in the Makerspace with my sculpture classes.

Brenna Clarke Gray:

This is cool. I am really curious about what kinds of things the students are doing, how the Makerspace works into their workflow, how you work on that assignment as an instructor? How's the process going? Feel free to start anywhere with that giant question.

Twyla Exner:

Okay, sure. In my course, part of what we're learning about is monuments and public sculpture. Around that, students really have a lot to think about. You might be familiar with the recent and not so recent reckoning around public sculpture and monuments. There's a lot to think about in terms of who owns public space, what rights and responsibilities do we have as artists, as citizens, as creative people in responding to that space? What deserves to be commemorated? What deserves to be shown? What is creative freedom versus consideration of people in this really complicated time that we live in?

So we examine those questions. First, within our curriculum, we look at a lot of different examples of public art and monuments, and we look at, of course, all of the political implications around the removal of public art pieces or monuments as well. And then the students are challenged to design a public sculpture or monument of their own, something that they believe deserves to occupy public space to activate community, to appear within the public imagination. What does that mean?

So students are challenged to create their own artwork and then they sculpt it using really traditional methods. So we build a little armature, which is an interior structure using tinfoil and wire, and they cover that with a modeling clay, plasticine, which is oil based modeling clay. They sculpt all their details, so they're learning the practical sculpting skills related with working with those materials. And then we

go to the Makerspace. The Makerspace allows us to scan those handmade sculptures that they've made. Once those scans are complete, we can do any kind of editing that we need to to those now existing 3D models.

From there, we can take that model and we can do a few different things with it. I've had a couple of classes in the Makerspace and we're exploring a couple or a few different modes of working. One is to take that 3D scan of the sculpture that they've made and then use 3D modeling program, I used Adobe Dimensions with my class, but there's a number of different programs you could use, to place their sculptures or monuments within a setting. That means going online and finding a copyright free photograph of a space where they imagine their sculpture could go.

And then what we can do is take that 3D model, import it into that software on top of that photo, place the model, adjust the lighting, and then have that printable, or you can view it online, digital image of a sculpture placed within a context. Because of course, the whole point of this learning unit is thinking about not just the thing that we want to make, but also the place that gives it significance or meaning. That is one thing that we've explored in collaboration with the Makerspace.

One thing you can do once you have that scanned 3D model is 3D print it. Using the printers available in the Makerspace, students can choose to take that object, which was once handmade out of plasticine, and then through that scanning, digitizing process, have that 3D model, print it on the 3D printer, and then have it out of a different material. So it's just thinking about, in terms of art making, thinking about how multiples are produced, which historically, still today, is mainly through mold making, but now of course we've got those 3D printers to reproduce objects as well.

The third and most recent exploration that I have going on with these students in the Makerspace is to explore how we can put these 3D models in VR. The first version I was telling you about was a 3D model in a static image, and what could be better than activating that further? So right now and with the support of a Makerspace grant and a student research assistant that I have, his name is Jackson Lethor. He is working with me to help me learn the technology to import those 3D models into a VR environment, so that we can then have students put on the headset, enter that VR space and walk around their model.

What we are working towards is how to take potentially any environment and get that in VR and then get the sculptures in place. Ideally, you could take kind of any location that's Google mappable, import that location, and I don't know how to do this yet, we're still, Jackson and I are still working on it, import that Google mappable space into the virtual reality environment, bring in that 3D scan of that sculpture, place it, adjust the lighting, put on the headset, be able to go and actually navigate it.

Brenna Clarke Gray:

Oh my God, that's so cool.

Twyla Exner:

Yeah, yeah, it's really cool. And I think too, about application for students. That as we think about what is the role of an artist and what is the role of somebody who might make or propose to make public art, having the skills to put together something like that in order to sell and prototype your idea is really valuable.

Brenna Clarke Gray:

I'm fascinated by all the different possibilities. The one concept, the idea of thinking about monument and how monument functions, you've been able with the resources of the Makerspace to take that in a

bunch of different directions. What do you think the students are gaining out of that kind of hands-on engagement with these different tools?

Twyla Exner:

The Makerspace really offers not only tools and resources, but also people. It's this idea to be able to connect with others who have really exciting ideas. I personally would not have thought about placing the sculpture in VR prior to connecting to the Makerspace because I'd never engaged with VR before. And so not only is it having the tools there, but also people to talk to and say, "Hey, I'm working on this really cool project." And then have them be like, "Wow, that's amazing. Did you know that maybe you could do this with it?" And then building those connections from there.

For students, I think it's really exciting to be able to see how to translate something from a very analog practice. In sculpture, in most of visual arts at TRU, we're really still focused on historical hands-on practices. So being able to take those skills that we build up, that tradition of working in the history of art and building things with your hands, and translate that into a digital realm without having to learn how to code or learn how to sculpt directly in a digital program. This is still something that was made by hand and is just transformed through the scanner, so it's not like I had to teach them how to use Blender so that they can build digital sculpting skills. It's great if they want to do that and lots of students do have that area of interest, but this is just taking something that's more traditional and then bringing it through that tech process to modernize it, with still keeping things very accessible to students and to beginners.

The other thing I really like about working with the Makerspace is, I'm totally fascinated by the outcomes of this project, what students feel belongs in public space. And the project doesn't really stop with my students. Part of having the Makerspace grant and even just myself being in the space or my students being in the space to use the tech, is that they get to talk to other students about what they're doing and we can also bring up these conceptual areas of interest and really political social dialogue around current events and how we engage with our communities and what art means within those spaces.

One of the hopes of going through this process with the VR and working with Jackson is to produce some materials, kind of like a blog post. The Makerspace has blogs, tutorials for lots of their equipment, and putting that out there as a prompt to any student to respond to and continue that dialogue around both the conceptual underpinnings of the project as well as just seeing you never know where things will go from where they start. As I said, I never imagined putting these things in VR when I walked into the Makerspace and just wanted to scan something. But that's what's so wonderful about Makerspace is that they're all about this what if kind of realm of possibilities. There's not any one way of doing things or thinking about things. And so if you can just go into the space and open yourself to do the processes and ideas and people that move through it, you just never know where things are going to go, which is really exciting and such a great resource for students and faculty and staff at TRU.

Brenna Clarke Gray:

Oh, that's a perfect place to end it, I think. Twyla, that was excellent.

That is it for season three, episode 16 of You Got this! As always, if you want to write to us, you can email me, I'm bgray@tru.ca, and I'm also on Twitter and mastodon.social @Brennacgray. In both cases, that's gray with an A. All of our show notes and transcripts are posted at yougotthis.trubox.ca, and of course you can always comment on individual episodes there.

I'm going to leave you today with a Tiny Teaching Tip, and I bet you know where I'm headed. It's end of term. We're getting there. And as we start to think about putting our toys away for the year, I wonder if

there's ways you can imagine to give your students more hands-on opportunities to mess around with your course material. Now, depending on your discipline, some of us already do this in spades and that rocks, but I'm curious for those who teach in more maybe theoretical areas or if you have to teach a lot of memorization kind of stuff, what are some opportunities where your students can get their hands dirty, muck around and play?

If there's one thing I learned this week by hanging out with my friends in the Makerspace, it's that there are so many different kinds of opportunities for learning when we really allow ourselves to get into a space on a new technology, analog or digital, and really just mess around, make mistakes, experiment. It's a really joyful thing. You think about that, I promise to think about getting back to this crochet project and we'll talk to you soon. Take care of yourselves and each other. Bye-bye.