ROOT & STEM

A STEAM Resource for Educators in a Digital World

FALL 2020 • ISSUE 2

The New Era of **Health and Wellness**

Good Medicine

Comic by Richard Van Camp and Kyle Charles

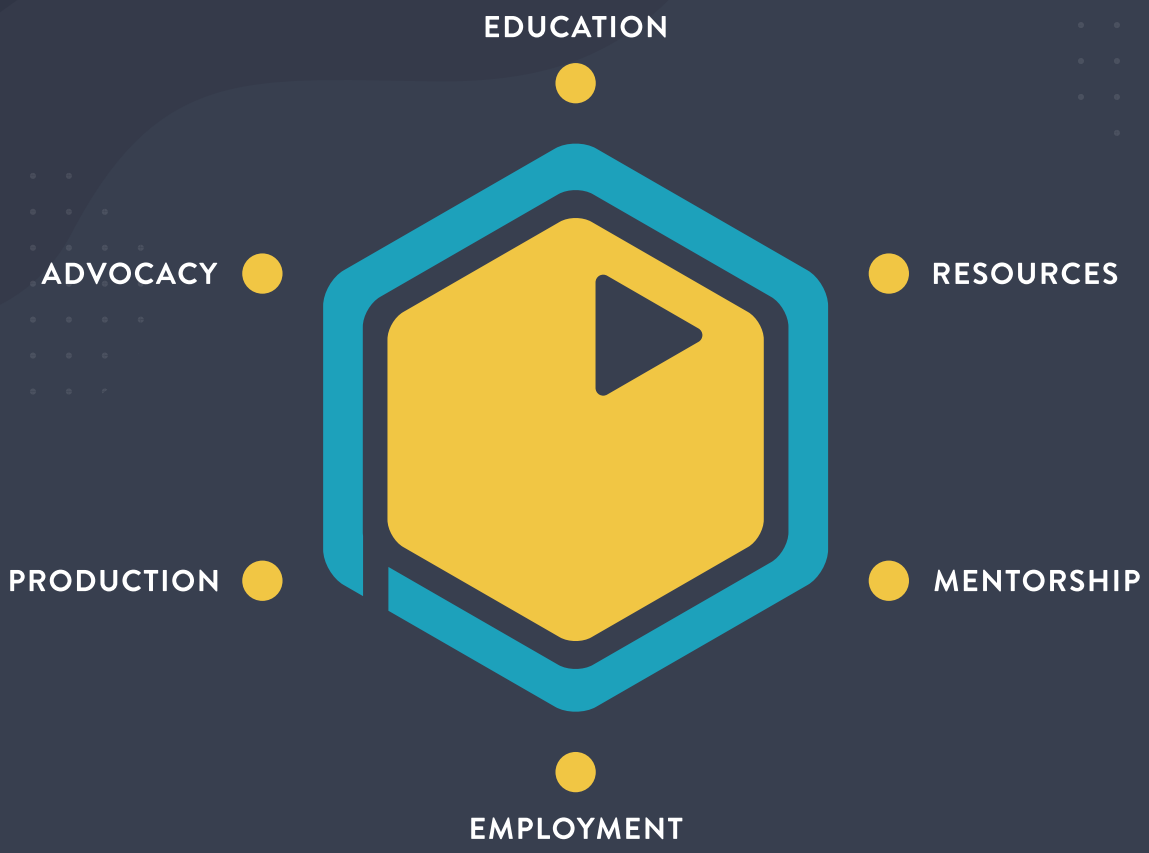
LUCID

Music for mindful vibes

Healthy Gaming

AAA tips to unlock wellness

+ Plus comics, games and over 10 pages of teaching resources!



PINNGUAQ
LIFE CYCLE

Pinnguaq follows a life cycle model to support the core phases of a person's learning journey in STEAM education. We strive to provide educators and students with opportunities and resources each step of the way.

To learn more about what we do, visit our website at

pinnguaq.com

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ROOT & STEM

ABOUT PINNGUAQ

The Pinnguaq Association, a not-for-profit organization, incorporates STEAM into unique learning applications that promote storytelling, health, wellness and growth in rural and remote communities. At its core, Pinnguaq embraces diversity and creates opportunities in order to empower all people.

DIGITAL TAXONOMY

Computer Science Education is more than just coding. A comprehensive approach to it includes learning skills and competencies from each of the areas listed below. Look for the following icons at the end of each article for suggested curriculum connections. *Reference: Learning for the Digital World: A Pan-Canadian K-12 Computer Science Education Framework. 2020.* ***k12csframework.ca***


CODING AND PROGRAMMING


COMPUTING AND NETWORKS


DATA


TECHNOLOGY AND SOCIETY


DESIGN

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Canada

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The new era of **health and wellness**

In March 2020, just as we were beginning to put together our Health & Wellness issue, the world changed. It didn't take long to see just how far-reaching the effects of COVID-19 would be on every aspect of our lives, including education. With schools closed across the country, the importance of digital delivery gained new urgency. Remote work became the norm, but for anyone with kids at home, it was clear from the outset that juggling work and family time while stuck inside would present major challenges. As educators, we were forced to rethink how to use technology in meaningful ways that help keep communities safe, healthy and engaged.

As with so many other things, the meaning of health and wellness has gained new dimensions during the pandemic. On top of the immediate biological threat, the WHO is **concerned** about a potential wave of mental health repercussions due to elevated levels of stress and anxiety. Increasingly, educators will be asked to play the role of steward and counsellor, in addition to fulfilling their customary task of sharing knowledge.

Rising to the challenge means using both heart and head to adapt to new ways of caring for one another. Maybe that means wearing a mask. Maybe it means downloading a contact-tracing app onto your phone. Surely, our response to this changed world will require both technological innovation and a renewed commitment to our collective health. COVID-19 has underlined both how digitally connected we are as a society and how deeply human health is rooted in the well-being of the planet and the natural environment. It has highlighted structural inequities that are built into our systems, and which must be addressed. It has shown us the need for new kinds of leaders.

This issue of *Root & STEM* introduces a number of innovators whose projects are challenging established ideas about how the role technology plays in keeping us healthy. We take a look at a B.C.-based project that is forging new ways to make and distribute prosthetic devices. We meet a company that's using music and machine learning to develop safe mental health treatment that is accessible on a smartphone. We hear from a former Pinnguaq intern about how makerspaces are providing space to share knowledge and understanding in the North. We are proud to feature a new, original comic by Richard Van Camp and Kyle Charles—a beautiful, personal story reflecting on the kinds of medicine that are rejuvenating for body and soul. And at the end of the magazine, you'll find more than ten tear-out pages of practical resources for educators. This issue, the focus is on using digital tools to explore both the positive and negative impacts of digital media, as well on inviting students to explore issues surrounding wellness and identity.

We hope these stories will inspire and empower students to be digital creators and innovators whose unique ideas can help us find different ways to imagine the world. The path forward will not be simple. For every workaround offered by technology, there are new impacts on us as users. As the world changes, we must be willing to adapt, see issues from new and different perspectives, and—most importantly—to keep humans and nature at the centre of conversations about tech.

– Ryan Oliver

Richard Van Camp

Our Grandpa's Story • *Page 26*

Richard Van Camp is a proud Tłı̨chǫ Dene from Fort Smith, Northwest Territories. He is the author of 24 books in just about every genre. You can visit him on Facebook, Twitter, Instagram and at **www.richardvancamp.com**. Mahsi cho!

Kyle Charles

Our Grandpa's Story • *Page 26*

Kyle Charles is a writer and illustrator who lives in Edmonton. His work was featured in Marvel's *Indigenous Voices* issue, as well as comic series including *Roche Limit: Clandestiny* and *Her Infernal Descent*. He has also written and illustrated short stories for magazines such as *Heavy Metal* and *On Spec*. When not busy at the drawing table, Kyle spends much of his time teaching comics to local students. He is a member of Whitefish Lake First Nation.

Bonnie Scheidel

Health Points • *Page 32*

Bonnie Schiedel has been writing, editing and producing content for print and web in northwestern Ontario for 20 years. When she's not pounding the keyboard, she enjoys canoeing, camping, snowshoeing, skiing and exploring Thunder Bay with her family.

Dave McGinn

The LUCID Project • *Page 18*

Dave McGinn is a reporter for *The Globe and Mail*. He writes about fitness trends for the Life section and also reports for Globe Arts. Prior to joining the *Globe*, he was a freelance journalist, covering topics from trying to eat Michael Phelps's diet to why the Joker is the best villain in comic-book history.

Mary McDonald

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Mary McDonald is an educator, writer and media artist who loves to collaborate. She creates poetry films, augmented reality art installations and other kinds of participatory media. Her most recent project includes a geolocative sound collage composed of fragments from World War I letters. Mary has a BEd, specializing in special education and language literacy, and has recently completed her Master's of Educational Technology degree through the University of British Columbia.

Wendy Barber

Lesson Plan Author • *Page 39*

Dr. Wendy Barber is a Health and Physical Education Associate Professor at Ontario Tech University, and has been a passionate advocate for healthy children and youth for over 25 years. Her research interests include physical and health education, wellness and human potential, teacher development and how digital technologies can improve health education outcomes.

Alyssa Amell

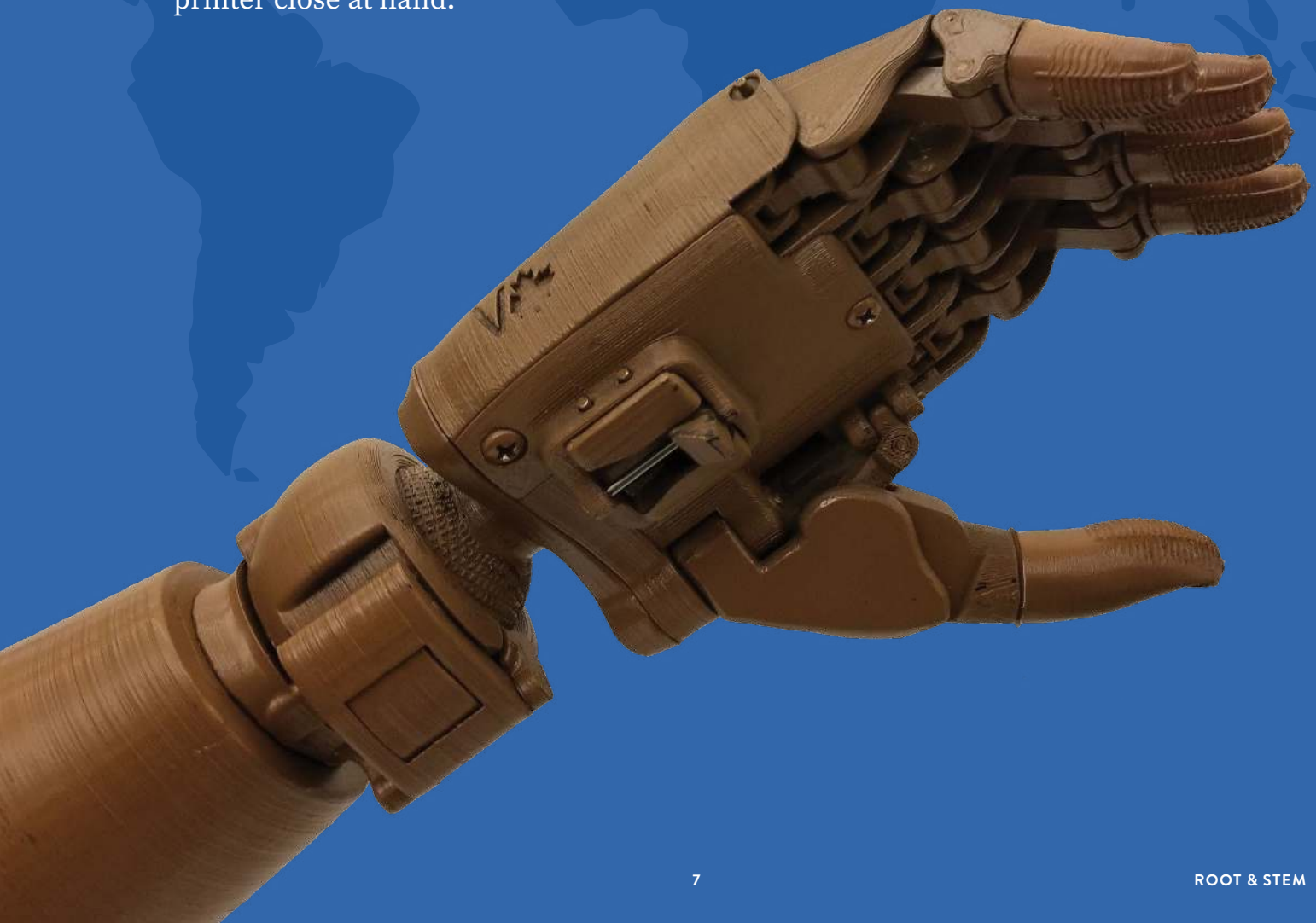
Tutorial Author • *Page 39*

Alyssa Amell is an Indigenous artist and an arts advocate. She believes being close to art is very important and that it doesn't have to be on paper or on a computer; rather, it is something we experience all around us. When we love art, it becomes an extension of our hearts and how we express our thoughts and ideas about the world. Every thought becomes an idea for a new creation.

Handprints

BY SARA CATION AND JOEL MCCONVEY

Students at the University of Victoria's Biomedical Design Lab are giving a hand to rural and remote communities… literally. While fast, reliable access to prosthetic devices can be difficult to obtain in communities outside urban centres, the process becomes much easier when you have a 3D printer close at hand.



Photos courtesy of the Victoria Hand Project

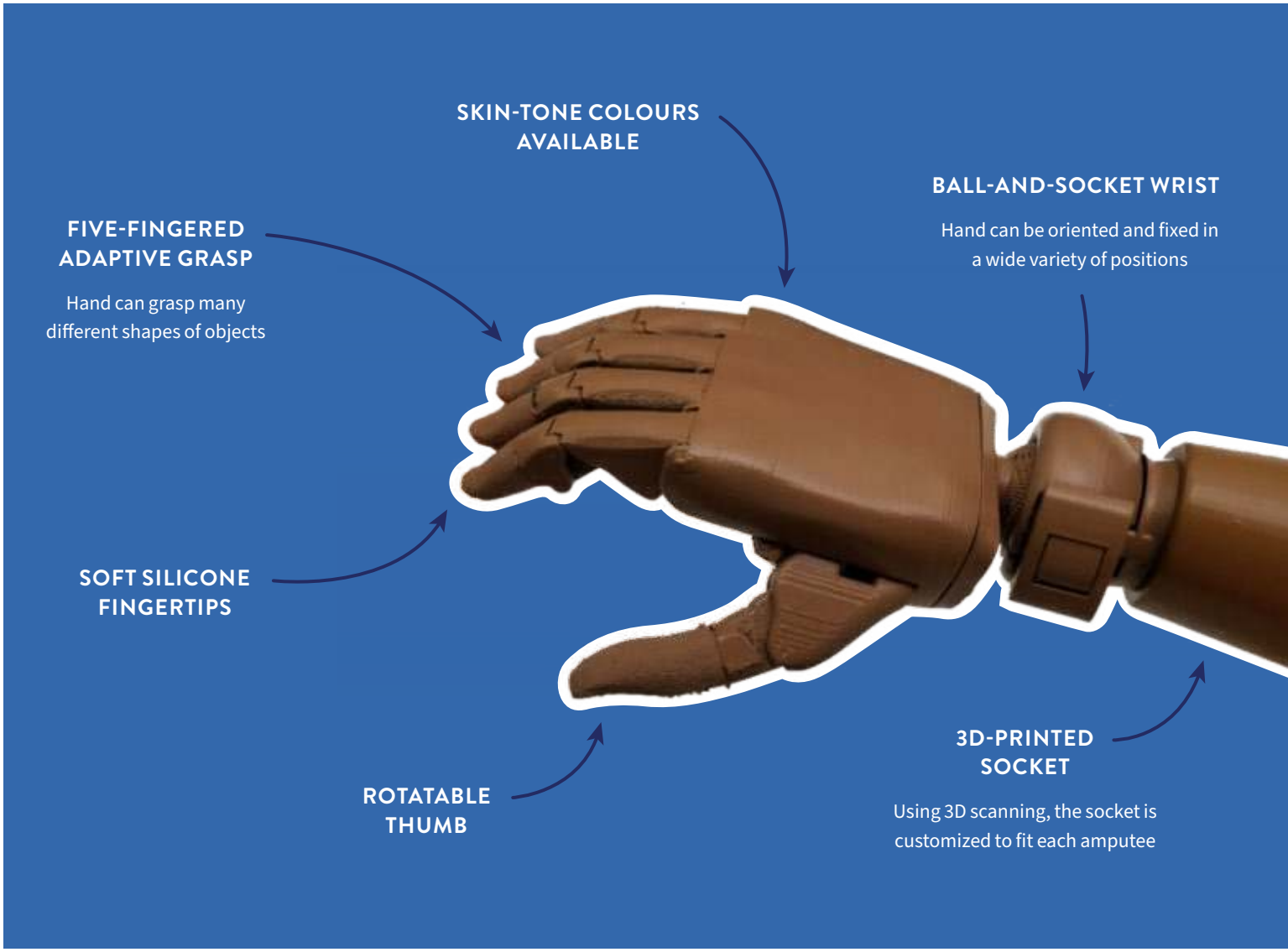
The Victoria Hand Project (VHP) began as a research initiative in 2014, when some students at UVic wondered if they could use 3D printing technology to reproduce a prosthetic hand designed by Nick Dechev, Director of the university's Biomedical Engineering Program. When trials of early prototypes proved popular with communities in Guatemala—so much so that they were asking to keep the hands—Dechev saw the opportunity to create more of them for amputees living in places where access to medical technology can be a challenge.

"Guatemala became Nepal and Cambodia, and then Haiti," says Michael Peirone, VHP's Chief Operating Officer. "Our most recent [programs] are in Egypt, Uganda and Kenya."

With its international work progressing, VHP started getting asked why it wasn't working with communities in North America. Enter the TD Ready Challenge, an initiative that funds organizations that develop "innovative solutions for a changing world." The challenge's theme in 2019 was Better Health, and the judges thought VHP's work fit the bill, awarding them C$1 million to expand their operations across Canada and the United States.

Rather than positioning itself as a product provider, VHP includes training in its model, with the goal of enabling communities to develop their own sustainable manufacturing operations. They provide 3D printers, designs and support, but the skills are developed on the ground.

"All the work is done by people in the community," says Peirone. "We didn't really want to go into a country for a few weeks, fit a bunch of prosthetics, leave, and have nothing



happen for a while. We want it to be ongoing, so it helps in creating jobs in the community—and a sense of pride, because people are using this cutting-edge technology themselves to produce prosthetic devices."

The hands are made from polylactic acid (PLA), a highly bio-compatible plastic, which means it can be in contact with human skin for long periods of time without causing discomfort. Using a process called photogrammetry, in which multiple DSLR cameras take pictures of an object from many angles, the VHP team generates 3D scans of plaster casts of the wearer's affected limb, which allows the sockets to be custom fitted. The prosthetic hands feature functions like a rotating wrist, a locking feature for carrying bags or gripping objects, and adaptive grasp, which allows fingers to conform around objects of different shapes and sizes. Each device costs less than C$150 and takes 40 hours to print and assemble.

"One of the advantages of 3D printing," says Kelley Knights, one of VHP's student engineers, "is that if one of the parts of the hand breaks, we can print out a replacement pretty easily."

VHP has yet to determine which communities in Canada it will work in. However, in looking at which partnerships in Canada would make sense, they're looking closely at cities in the North.

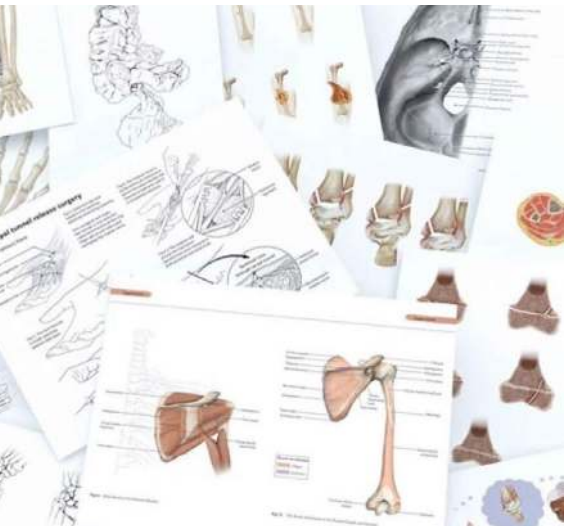
"Looking at some of these northern communities, even the capitals, they don't really have prosthetics centres," says Peirone. Although rural and remote communities in North America are new territory to VHP, Peirone says experiences with overseas partners have prepared the program for working in a wide range of conditions, and the project team is ready to put its knowledge to work at home.

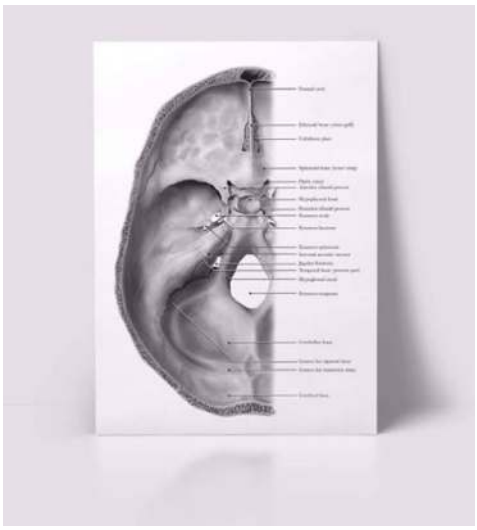
"I feel like our strength really comes from having done this around the world, eight times now. If we were to try this [expansion] without having done that first, it would be a lot harder. Now, we have a training procedure in place, and we're really excited to get this project going."

Beyond hands, VHP is also in the research stage of designs for 3D-printed scoliosis braces. All in all, they're poised to change the way that prosthetic devices are designed, made and distributed—and for that, they definitely deserve a hand. &

CODING AND PROGRAMMING

TECHNOLOGY AND SOCIETY





A variety of illustrations by Stefanie Kuzmiski

Medical Illustration

Drawing Art and Science Together

BY STEFANIE KUZMISKI

The scientific method comes with a certain vocabulary. For example, it prioritizes objectivity, research, impartiality and rationality. These terms seem to be an awkward fit in the world of contemporary arts and culture, which tends instead to value ideas like multiplicity, plurality, and a destabilization of dominant conceptual frameworks.

In his well-known "Two Cultures" essay of 1959, the English novelist and chemist C.P. Snow argued that it is the separation of these cultures—sciences, and what he called the humanities—that is the major obstacle to solving the world's problems. Snow thought this gap would be bridged by a "third culture" of scientists and literary intellectuals communicating and working together.

For the most part, this has not happened. The arts and sciences still often operate at a remove from each other. But medical artists help to narrow this gap.

As medical artists, we have the privilege of drawing together multiple perspectives. We are tasked with communicating ideas and teaching by using visual representations—through the creation of pictures, infographics or animations. Our work is to take scientific concepts and produce pieces of art that are both informative and visually interesting. But we are also in a position to unite the different values and ideologies of the sciences and the arts.

We are not only artists or scientists; we are also teachers. It is important for us to look to the arts as well as the sciences to inform our work. Medicine is laden with a history of objectification and dehumanization of its patients, who have often been treated as test subjects rather than individuals. In our current moment, biases continue to manifest themselves in medical illustration. The best art is art that seeks to be inclusive. The best science strives to be the same.

Medical art should aspire to humanize its content. There are traditional aspects of the arts that are invaluable to research. Valuing social commentary means artists are more likely to integrate wide-ranging cultural issues or take up lines of inquiry that are devalued by others. The development of new and increasingly prominent forms of communication and dissemination (such as the increasing prominence of telecommunications and our culture's constant access to stores of online information) could help to bring scientific knowledge to a wider audience. Taking into account the larger social influence medical illustrators can have, it is exciting to have the opportunity to create educational content that is at once scientifically accurate and socially conscious.

Often, it is the unseen world that draws people to the sciences. Science offers a rulebook for finding answers to the world and how it works, and laying down the framework for our understanding of the universe. The profession of medical art is an extension of this desire for discovery. By collaborating with scientists and physicians, we give conceptual ideas a more grounded, visual context and, hopefully, make those concepts more accessible to a wider audience. We must balance the information we are communicating with the most effective and humane ways to communicate it. In this way, medical artists can both focus on patient education, and contribute to academic research. &

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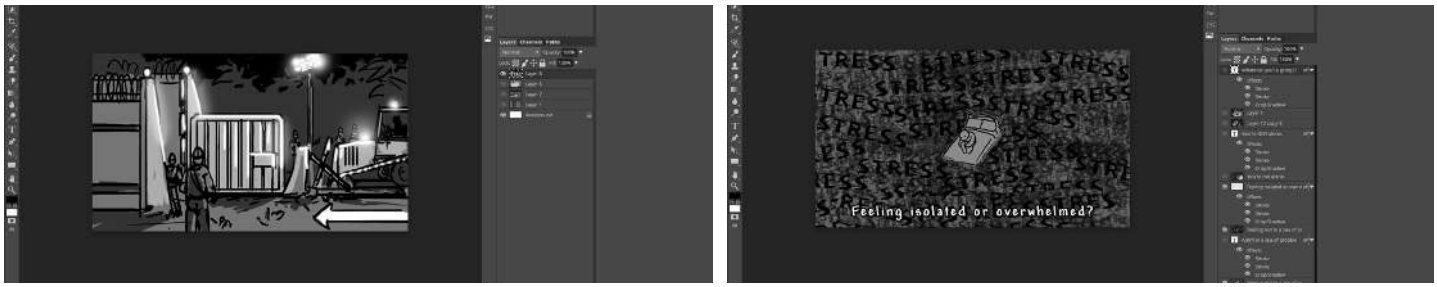
***Stefanie Joelle Kuzmiski**, BSc, MSc, CMI, is a board-certified medical illustrator who specializes in visualizing unseen worlds. Check out her work at **vernacularstudios.com**.*

TECHNOLOGY AND SOCIETY

DESIGN



Screen shots from works-in-progress

Making Videos for Kids Help Phone

BY PINNGUAQ STAFF

In 2017, Kids Help Phone (KHP), a free resource that provides mental health support and counselling via telephone or the internet, noticed that Indigenous youth were using the service in relatively small numbers. Given that many Indigenous communities continue to struggle with the mental, emotional and spiritual harms caused by colonialism, this suggested the need for KHP to take a new approach in connecting with Indigenous youth.

The idea behind KHP is relatively straightforward—provide a place kids can call for help, 24/7. But it comes with a ton of complex challenges, many of which are magnified for rural and remote communities. How do you let youth know you're there and how to reach you? How do you get them to trust you enough to dial your number or send a text? What happens when they pick up a phone to call you, but their cellular service is out?

As a way to answer some of these questions, KHP formed an Indigenous advisory council to oversee the launch of a full Indigenous strategy. This led to the development of ***Finding Hope***, KHP's 2019 action plan for supporting First Nations, Inuit and Métis youth.

"There's so much discrimination in the healthcare system across Canada," says Deanna Dunham, KHP's Manager of Indigenous Initiatives—a position created as part of the strategy. KHP has Indigenous counsellors, but for some callers, privacy may be a major concern. "The anonymity that young people have when they reach out to our counselling services means we don't know that they're Indigenous unless they tell us," Dunham says.

Racism and insufficient access to reliable digital services are, unfortunately, all-too-common experiences for many Indigenous communities. On top of this, KHP's consultations with 180 Indigenous young people across the country revealed an additional barrier: not knowing the service exists in the first place.

"The majority of Indigenous youth we consulted with didn't know what Kids Help Phone was," says Dunham. "They'd never heard of us." **Results** varied across the country, but clear trends emerged in terms of what young people wanted out of a support service. Youth emphasized the importance of confidentiality, and of having support workers who treat them with respect and kindness—counsellors who don't make assumptions about them, and who can meet them on their own cultural terms.

They also wanted clarity.

"Youth wanted us to be absolutely clear in every aspect of what we do," says Dunham. "[They wanted content] that could demystify our services a little more and explain exactly how to use them."

To develop content to address these needs, KHP approached the Pinnguaq Association to facilitate collaborative workshops, in which student interns would collaborate on scripts for a series of animated videos explaining KHP's services.

Conducted by Ian MacLean, Pinnguaq's resident artist and animator, the four-day online workshop provided paid training in digital video development for eight young people who expressed interest in growing their creative skills. Using **Google Jamboard**, a virtual whiteboard that users contribute to simultaneously in real time, the group brainstormed ways to help get KHP's message across in a clear and engaging way. To create storyboards and demo animations, they used **Photopea**, a free, HTML5-based photo editor, and **Wick Editor**, a free online tool designed for "making games, animations and everything in between."

The resulting videos, which can be viewed on KHP's social media channels (@KidsHelpPhone), are an example of how digital storytelling can build relevant skills, as well as give young people a way to work together to help others in need of support.

"I really enjoyed it," said Xanthe, one of the workshop participants. "I loved engaging with the other members of the group and learning together." &

TECHNOLOGY AND SOCIETY

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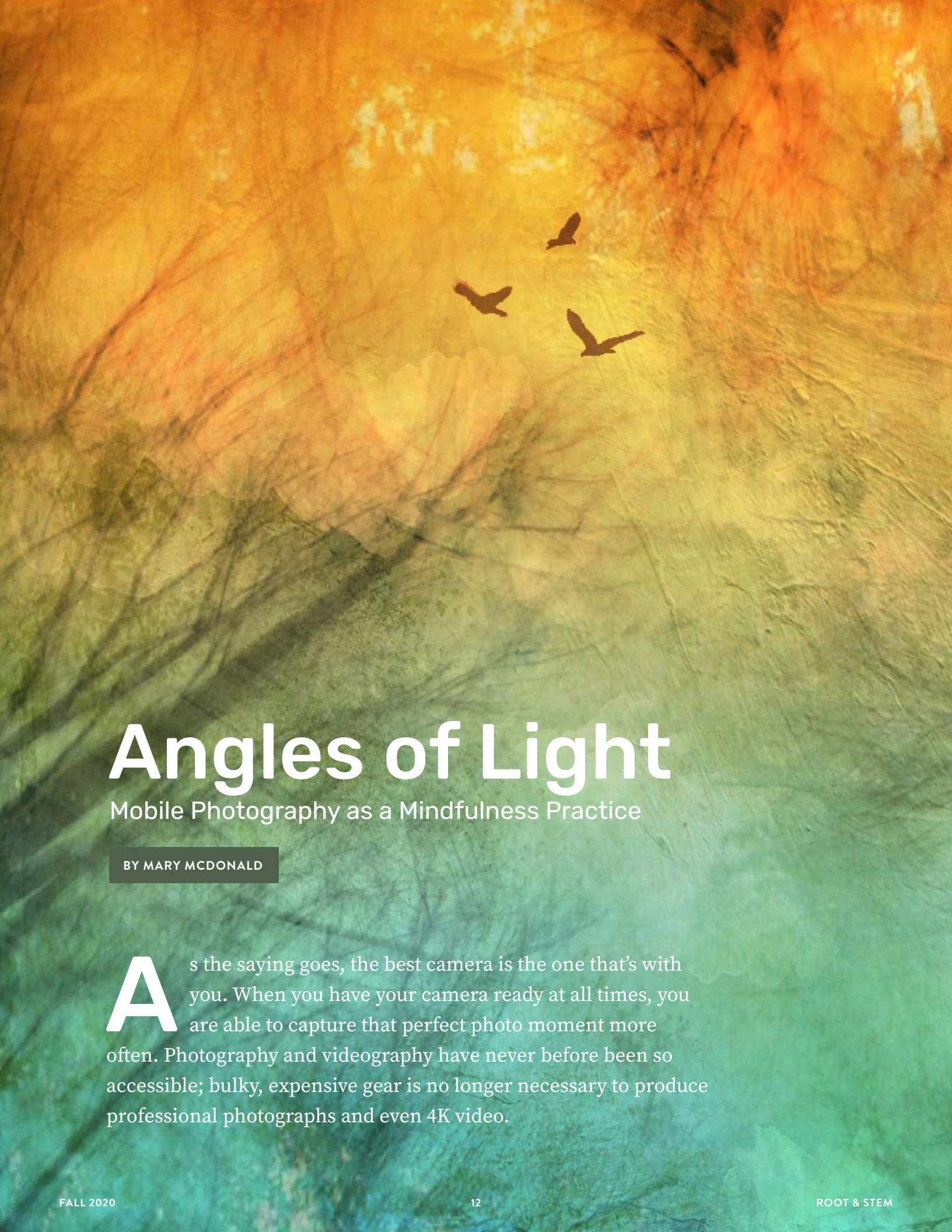
To learn more about Kids Help Phone, visit **kidshelpphone.ca**. To learn more about Ian's workshop, visit **pinnguaq.com/stories/kids-help-phone-workshop-with-pinnguaq**.



Angles of Light

Mobile Photography as a Mindfulness Practice

BY MARY MCDONALD

As the saying goes, the best camera is the one that's with you. When you have your camera ready at all times, you are able to capture that perfect photo moment more often. Photography and videography have never before been so accessible; bulky, expensive gear is no longer necessary to produce professional photographs and even 4K video.

A still from a long exposure "live photo" by Mary McDonald

The quality of smartphone cameras has opened the doors wide to creative expression, for both professional production and personal exploration.

Mobile photography has become a daily practice for me and I find it richly rewarding. The art of photography lies in the eye of the photographer. The art of seeing is the practice of looking for colours, textures, shapes, lines and angles of light. I find I have begun to notice these small details more frequently. Looking through this internal lens and discovering these transitory moments of beauty that surround me is very beneficial to my mental health and well-being. I become fully absorbed once I enter this world of composing and framing photos and videos. I slip into a peaceful, mindful state, immersed in trying to recapture what I see with my phone camera.

Smartphone cameras work best in settings with good lighting. One of my greatest pleasures is to get outdoors into natural light and search for photographic treasures. I love photographing close-up and macro shots of flowers, plants and tree bark. Macro lenses allow you to put your camera right onto the surface of the subject, delving right into its world. Being so close to the object I am photographing means I am drawn in to the smell, the texture, the sound of the moment as well. Paying attention to these everyday moments can be a powerful antidote to stress. Taking this practice into your daily life brings aspects of mindfulness that thread through your day.

Author and photographer Tammy Strobel's book *My Morning View: An iPhone Photography Project About Gratitude, Grief & Good Coffee* describes her daily practice of photography as a way to cope with a difficult time in her life. Her book is filled with serene, beautiful images of her morning coffee mug set against the surrounding natural environment, and is a beautiful testament to the mental-health benefits of creating.

Accessories and gear available for smartphone photography and videography increase the possibilities for creating and are much more affordable than the equivalent gear for traditional cameras and video recorders. Generally, mobile photo- and video-editing apps are intuitive to use, and are much more affordable in both cost and time investment than traditional editing software. Social media platforms complete the cycle by offering the opportunity to publish, share and even sell your work.

The list of accessories and tools available to mobile photographers is always growing. Phone camera gear is also quite compact, portable and truly mobile. I can fit my entire set-up in a small backpack, which is perfect for both travelling far as well as simply walking to the nearest park or stepping out my door into the garden.

Essential Mobile Gear

For the Smartphone

- Macro lens: a lens to mount on your smartphone camera that allows you to focus the lens from a very short distance, resulting in images that are equal in size to or larger than the subject in real life
- Smartphone mount for tripods: these mounts grip your phone and have a standard attachment that allows you to connect your phone to both traditional and mobile photography tripods and gear
- Tripods (both tabletop and floor): great for both photography and video, they allow you not only to steady the camera but also to access angles and shots that might not otherwise be possible
- Gimbal (Dji Mobile): just like a gimbal for movie cameras, a hand-held smartphone gimbal allows you to stabilize your phone and take panning, dolly, subject tracking, and other shots previously reserved for professional video cameras
- Bluetooth shutter: allows you to trigger the photo or video remotely, eliminating the shake that may come from touching your phone screen and allowing you to take photos and video at a distance from the camera
- Microphones (Sennheiser Clip Mic and Shure Motiv): these microphones connect via the lightning port on the smartphone and allow you to capture professional quality sound

Other Mobile Digital Gear

- Insta 360 one X: captures 360° photos and videos
- Zoom H3-VR 360 microphone: captures 360° sound recordings

Take Advantage of the Unique Capabilities of Smartphones

Every good photograph tells a story. That story might be about the juxtaposition of colour, line, texture, angle of light, or the emotion or action unfolding before you. The smartphone camera is perfect for catching unexpected moments, getting into small spaces, shooting from different angles to change perspective, and to really focus on the story you want to tell. iPhone Live photos can be shared as still photos, short videos, gifs or long exposures, and can also be combined into longer videos. The Motion Photos feature available on some Android smartphones will produce a still image or an animated gif you can share. Most phone cameras now include the option to record slow-motion and time-lapse video, and record in high-definition (HD) and 4K.

Screencasting and screenshots allow you to bring a mixed-media effect into your work. Anything you create in another app on your mobile device can be screencast and recorded as video or screenshot as a still image to be edited into a photo or video. For one poetry film, I screencast a drawing app that mimicked painting with silk ribbons of light and superimposed this video footage as a layer blended on top of other video footage. The possibilities are almost endless and require only a dash of creative inspiration, a willingness to play, and some deft manoeuvring between apps.

Mobile Editing Tools

There are many free and low-cost apps that allow you to edit your photos and videos in traditional ways as well as some that offer more creative editing options. Many of these have built-in tutorials. "App smashing" is the art of progressively editing the same video or photo through different apps, and can create some astonishing effects. For a full list of my favourite mobile editing apps, visit **pinnguaq.com/stories/angles-of-light**.

How and Where to Share Your Photos

There are countless ways to share your photos via social media. A dip into Instagram, one of my favourite ways of sharing my photos, reveals a huge array of photos and artwork by a range of creators, from professionals to casual snappers. Flicker, Shutterfly and Google Photos make sharing whole albums with family and friends or even the world quite simple. Anyone can become a Getty contributor and sell their photos through the associated Getty platforms. The application process is simple and once you have been approved you can upload as many photos as you wish. You can also share and sell through Eye Em, 500 px and SmugMug. You can choose to share your photos with the world and make them free to use with Unsplash or by posting them on Flickr with a Creative Commons license. Film festivals to which you can submit your videos can be found through FilmFreeway.com. With a free account, you can upload and submit your films to festivals around the world.

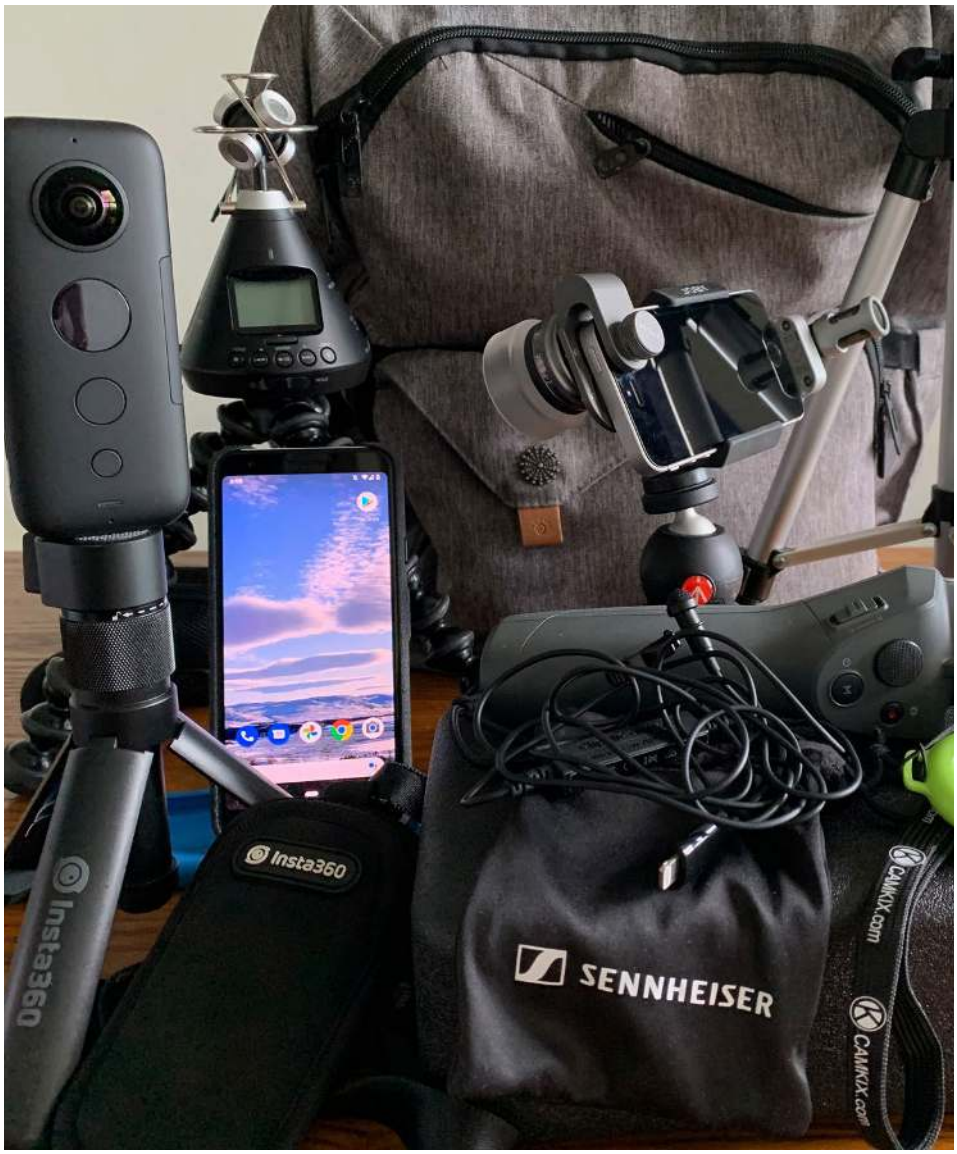
Advances in smartphone cameras in combination with social media platforms provide opportunities for accessible, affordable photography and video creation. Websites such as the iPhone Photography School are full of free resources that can help you develop your skills. Via the web, you can easily share your work with an audience that reaches beyond friends and family. Every person has their own story to share. Share your world with your smartphone camera. &

Resources: *iPhone Photography School (iphonephotographyschool.com)* • *Community resources for River Revery (riverrevery.ca/story-wall/community-resources)*

COMPUTING AND NETWORKS

TECHNOLOGY AND SOCIETY

DESIGN



From left to right: Insta 360 One X 360 camera; Android phone; Zoom H3-VR 360 microphone on Gorilla tripod; Sennheiser Clip Mic; Dji Osmo Gimbal (Dji Mobile); Mobile phone with attached Ztylus macro lens and Shure Motiv MV88A mic; Joby universal phone mount; Manfrotto tabletop tripod; Bluetooth shutter; Amazon Basics tripod

Educators are tasked with ensuring students are equipped with skills for tomorrow's world. **Coding** is just one area of learning that encourages students to **explore, break down and work through challenges.** To create a game, interactive story, animation or artwork in Scratch, you must assemble code that tells a Sprite exactly what to do—an exercise that helps develop computational thinking.

Starting from Scratch

How to Get Going with MIT's Free Visual Coding Language

BY BECKY WRIGHT

"Learn to Code."

You might have heard that advice before, from those who believe that knowing code is the new literacy. Many of us would like to be more knowledgeable about the programs and algorithms that power our lives. But where to start?

From Scratch, of course.

Scratch—as in the free visual coding language, which uses building block-style coding to allow users to create animated stories, interactive games, simulations and artwork. Developed at the Lifelong Kindergarten Group at the MIT Media Lab, Scratch introduces users to basic coding principles and helps them develop computational thinking skills, while bringing creative ideas to life. With more than 56 million users around the globe, Scratch supports a vibrant community of creative people, who have shared millions of projects.

Scratching the Surface

Scratch organizes code you can use into **Code Blocks** that represent various categories, such as Motion, Looks, Sound, Events and so on. Using the **Code Area** as a kind of tabletop, users drag and drop colour-coded blocks from the **Block Palette**, putting different combinations together—almost like a jigsaw puzzle—to control a **Sprite**, an icon or avatar that performs actions in a project. (The Scratch editor automatically starts with a **Cat Sprite** for all projects.) You can see what the Sprite is doing on the **Stage**—the area to the upper right of the code area, where the sprites perform their actions.

Having both the code area and stage visible at the same time allows users to test their code easily and debug any problems.

Computational Thinking

You can add or remove sprites from your project in the **Sprite Pane**, a white area located beneath the stage. Click the cat icon in the bottom right corner, and you'll find the **Sprite Library**, which allows you to select from a variety of different sprites, or upload your own file.

On the stage, you will see your code come to life. Think of this area just like a Broadway stage that actors perform on. This is where sprites follow the coded commands you have put together in the code area. It is also the background of your project, and you can customize it by adding different backdrops from the **Backdrops Library**.

Command Central

When you tell Sprites exactly what to do by giving them a set of commands, you're creating a **Program**. A program is a group of commands that are presented in a specific order. Think of a program like a recipe you follow to bake a cake. The blocks can be clipped together to make a script, and just like the steps to baking a cake, the order of the blocks is very important. The easy-to-use interface makes it simple for users to rearrange blocks and test the results. To start a program or test code, click the **Green Flag** located above the stage. (To stop your program click the **Red Stop Sign**.)

You can make your stage full-screen by clicking the button with the four arrows in the top right corner above the stage.

Finally, once you've finished your creation you can save it by clicking on **File > Save To Your Computer.**

Conclusion

Once you are familiar with the basic Scratch working environment, you're ready to begin exploring the millions of possibilities the language presents to users at all levels. And don't worry about being late to the game; during the lockdown of 2020, Scratch activity spiked, as many who had to stay home looked to discover new skills or tools. Accessible, easy and fun to use, Scratch is primed to continue growing into a fundamental tool for learning code. **&**

CODING AND PROGRAMMING

For videos, lesson plans and tutorials on Scratch skills and activities, visit **pinnguaq.com/learn/scratch-basics-series**.

Katinnganiq

Community, Connectivity and Digital Access for Life Promotion in Nunavut

BY MARIA ALEJANDRINA COATES

For the Government of Canada's 2019 Smart Cities Challenge, Pinnguaq partnered with a group of Nunavut-based organizations to submit a proposal on behalf of the 25 municipalities in Nunavut. Their objective, as outlined in the government's challenge statement, was to address how communities could implement protective and preventative measures to reduce the risk of suicide in Nunavut—which is 10 times the national average. Specifically, the challenge required applicants to propose a plan to "increase the amount and accessibility of peer support networks, educational resources and creative outlets that promote positive mental health to all Nunavummiut."

The resulting proposal—*Katinnganiq: Community, Connectivity and Digital Access for Life Promotion in Nunavut*—was ultimately awarded one of the challenge's C$10 million prizes, and has now been formalized as a Nunavut-based not-for-profit organization called the Katinnganiq Makerspace Network (KMN). KMN's mission is to implement and administer the project: a multi-faceted effort to create a network of both digital and physical community hubs (makerspaces) in up to 25 communities in Nunavut, offering opportunities for youth to connect and share knowledge, learn skills through culturally sustaining activities, and to express themselves through creative outlets as pathways to mental wellness.

In part, the project has been designed to refocus the narrative on positive foundations in Nunavut communities—mental wellness and "life promotion"—through the creation of spaces where learning is achieved through exploration, collaboration and creative play. Over the past few decades, makerspaces have grown from a niche movement into a vibrant, widespread culture, often characterized by its combination of digital fabrication, open hardware, software hacking and traditional

Hands-on learning at the Iqaluit Makerspace

crafts, built on an ethos of innovation, openness and skill sharing.[1] Makerspaces in Nunavut offer gathering places for people of all ages and backgrounds to come together to share, learn, create, experiment, play and have fun. They offer a safe, communal space to bring youth and elders together to exchange knowledge, access tools, work on projects, learn new skills, share stories and create their own experiences in their own language.

What are commonly referred to today as "21st-century skills"—things like critical thinking, problem-solving, innovation, creativity, collaboration and communication—have been and continue to be the guiding principles built into Inuit Societal Values, known as Inuit Qaujimajatuqangit or the "Inuit Way of Knowing." These are:

- **Inuuqatigiitsiarniq**—respecting others; relationships and caring for people
- **Tunnganarniq**—fostering good spirit by being open, welcoming and inclusive
- **Pijitsirarniq**—serving and providing for family or community, or both
- **Aajiiqatigiingniq**—decision-making through discussion and consensus
- **Pilimmaksarniq/Pijariuqsarniq**—development of skills through practice, effort and action
- **Piliriqatigiingniq or Ikajuqtigiinniq**—working together for a common cause
- **Qanuqtuurungnarniq**—being innovative and resourceful
- **Avatimik Kamattiarniq**—respect/care for the land, animals and the environment [2]

The KMN intends to support education and well-being by integrating makerspaces as central hubs for digital and STEAM-based activities that amplify these Inuit Qaujimajatuqangit principles. Collaboration, creative problem-solving and knowledge-sharing will be key tools for achieving the goals of addressing social inequity with respect to the digital divide in Nunavut. The project will build on community and individual strengths and capacities while using digital connectivity to create opportunities for intergenerational knowledge transfer and language revitalization. Relationships to the land and environment will be emphasized.

The makerspace network will provide safe, nurturing, welcoming social hubs for Nunavummiut that:

- **Provide imaginative and engaging programs** including recreational, extra-curricular learning and skills acquisition (leadership, technology, interpersonal); the arts (performance, visual, music); traditional cultural/language activities; peer mentoring; Elder mentoring; and coaching
- **Leverage digital connectivity** where youth have opportunities to connect within communities and across Nunavut's 25 hamlets, share knowledge and express themselves through access to digital tools and technological know-how in new telecommunications technology
- **Integrate community support**, including wellness services, where youth can access social and community services delivered on a "whole person" basis in makerspaces

KMN's purpose is to is to enable and empower children and youth to embrace the future with confidence, armed with new coping skills and tools, so they can build a personal sense of belonging, meaning, purpose and hope through participation in STEAM activities. &

TECHNOLOGY AND SOCIETY

[1] *Taylor, Nick, Ursula Hurley and Philip Connolly, "Making Community: The Wider Role of Makerspaces in Public Life" (conference paper, Association for Computing Machinery, CHI Conference on Human Factors in Computing Systems, 2016), 3 (accessed 15 February, 2019)* ***www.researchgate.net/publication/298058205_Making_Community_The_Wider_Role_of_Makerspaces_in_Public_Life***

[2] *Education Framework: Inuit Qaujimajatuqangit For Nunavut Curriculum. Nunavut Department of Education, Curriculum and School Services Division, 2007. Web. Accessed 8 Jul. 2018.* ***www.gov.nu.ca/sites/default/files/files/Inuit%20Qaujimajatuqangit%20ENG.pdf***

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For more on the evolution of makerspaces in Nunavut, see page 25.

The **Katinnganiq Makerspace Network** is slated to launch operations in the fall of 2020, supporting community-led makerspaces with start-up funds and ongoing administrative and logistical support. For more information about the project, visit **katinnganiq.com** or follow developments on Facebook **@NunavutKMN.**

THE LUCID PROJECT

Medicinal Listening

BY DAVE MCGINN

Aaron Labbe was in his second year of studies at SUNY Fredonia's School of Music when he suffered a mental breakdown so bad it caused a heart arrhythmia. He was rushed to hospital, where he spent three days in intensive care and nearly a week in the cardiac unit. Doctors initially thought Labbe had a heart issue.

PHOTOS COURTESY OF LUCID INC.

Then they misdiagnosed his case again, telling him he suffered from panic disorder. He was prescribed the antidepressant Zoloft, a decision that would have disastrous consequences: doctors didn't realize Labbe suffers from bipolar disorder, which requires that Zoloft be taken with a mood stabilizer to avoid triggering episodes of mania.

"I spent basically two years in a severe manic state," says Labbe, the founder of Lucid, a Toronto-based software company that uses music to help people with mental health issues.

Halfway through his fourth year at the conservatory, Labbe was briefly institutionalized. Thankfully, during his stay, a psychiatrist correctly diagnosed his condition. But doctors told him he would likely have a difficult life, going so far as to say he would not even be able to hold down most jobs. He cycled through a range of medications before finding one that wouldn't make him throw up. He found work at a Shopper's Drug Mart, a job that came nowhere close to fulfilling his ambitions.

"I was longing to do something with my career," Labbe says.

Music had always been his dream. And, after what he'd been through in the mental health system, he now had a goal for what he wanted to do with it.

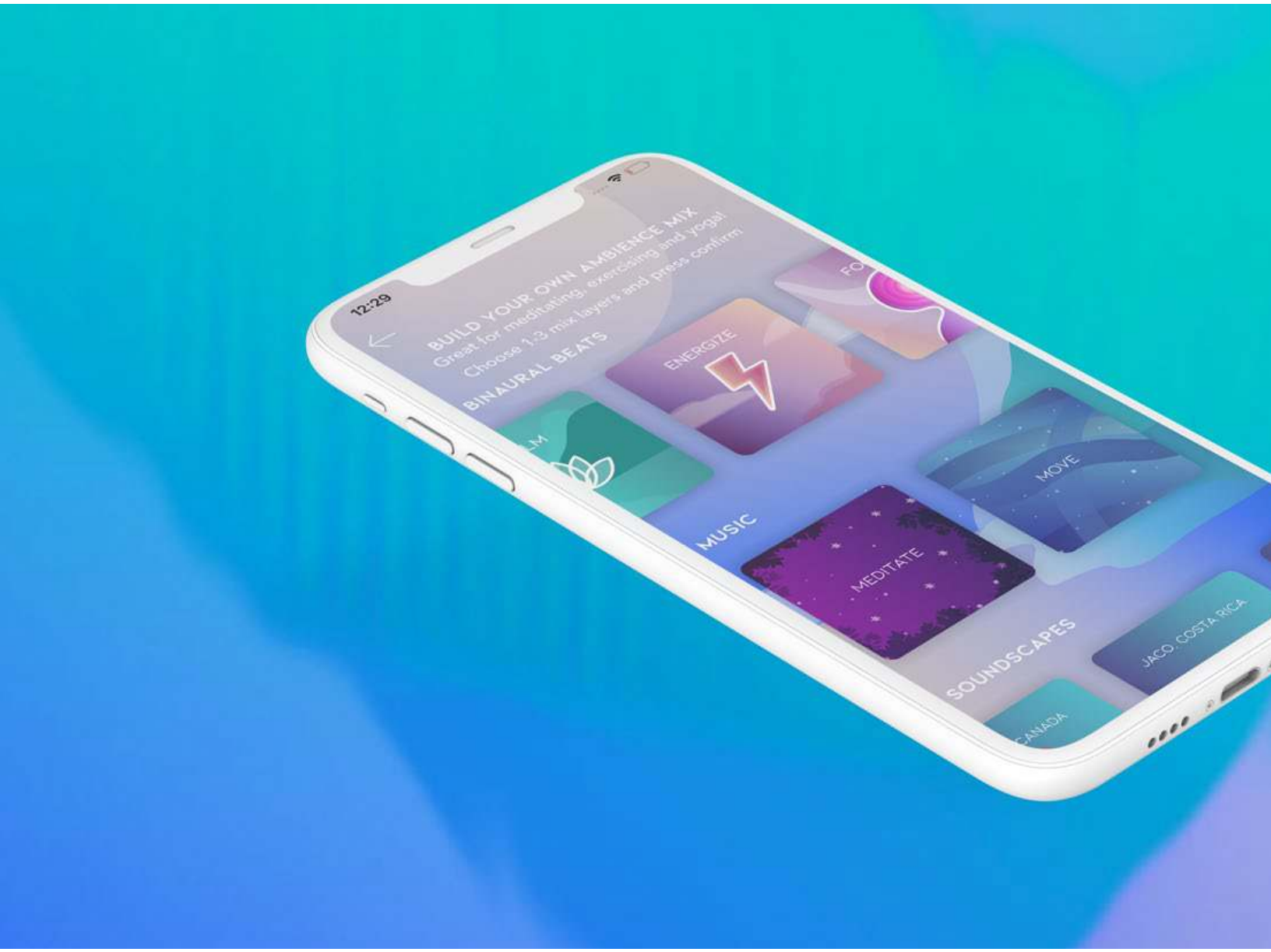
"I decided I wanted to dedicate the rest of my life to fixing the system that had done so much harm to me," Labbe says.

Algorithm & Blues

Over the next several years, Labbe dedicated himself to understanding how music can be used to treat mental illness. While music therapy has long been used to help reduce anxiety and improve people's sense of well-being, Labbe approached the subject as both an artist and an engineer. His results so far point to a promising option for people who are looking for an alternative to the mental healthcare system, and want treatments tailored to them as individuals.

"There are people who are suffering because they don't have a better alternative to medication," Labbe says.

Born and raised in Welland, Labbe didn't discover music until he was 13 years old. His



parents had divorced, and he was living with his mother in Buffalo, New York.

"I was lucky enough that the school district had a really good music program," he says.

Labbe was drawn to drums and other percussion instruments, especially the marimba. He eventually earned a degree in music production and audio engineering from the conservatory, despite continuing to struggle with his mental health.

Looking back on the breakdown that changed his life, Labbe says it was preceded by years of various mental health challenges, including anxiety and difficulty balancing his mood. After he'd been correctly diagnosed and had decided on the course of his career, he enrolled in Ryerson University's new media program, where his interest in applying his arts background to solving science and engineering problems was heavily encouraged.

The collaborative nature of the program meant Labbe was able to learn about neurology and artificial intelligence while working with peers from a wide range of fields, including biomedical engineering, which became a key component of Labbe's work.

"I think art and technology intersect a lot of times in ways that we don't really think about," he says.

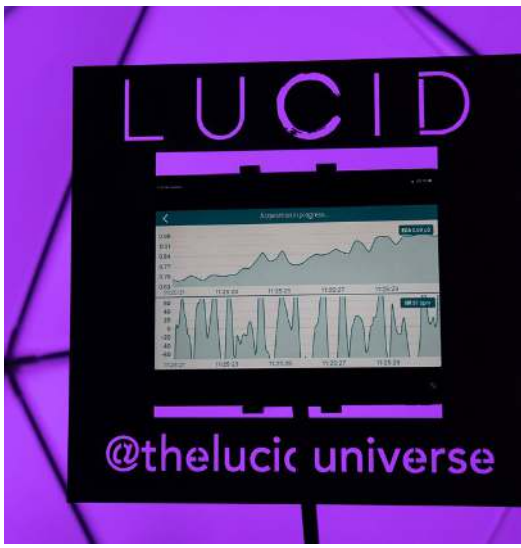
He called his thesis project Lucid, a name inspired by wanting to help people's thoughts become clear. In this model, users lie down inside a small geodesic dome, wearing headphones and an electroencephalography reader (EEG), a device that records brain waves, on their forehead. Soothing light appears on the dome, and music begins to play, with layered ambient sound.

The key, however, is an algorithm Labbe created, which plays different music and ambient sounds in direct response to the user's brain waves. The result is a completely individualized experience.

The algorithm, Labbe believed, held the promise of helping countless people who suffer from anxiety. As he explains it, Lucid's technology creates a "beat frequency" that syncs with a user's brainwaves, then slows them down, helping to soothe and calm a racing mind.

With the Lucid prototype complete, Labbe toured art galleries to test its potential.

"I kind of treated the art gallery as a lab," he says.



Lucid's ability to bridge art and science is clear from the range of venues that have taken an interest in the project. For example, both the Ontario Science Centre and Nuit Blanche Toronto, an annual celebration of contemporary art, have commissioned Lucid exhibitions. In 2019, Labbe took the installation to Europe, where Lucid won the prize for Startup of the Year at the Wallifornia MusicTech event in Brussels. (A full list of Lucid's past exhibitions is available on their website, www.thelucidproject.ca.)

As more and more people experienced Lucid, the results were "overwhelmingly positive," Labbe says. Yet, while the project clearly seemed to help reduce anxiety and improve overall mood, there was still one major problem: if Labbe wanted as many people as possible to benefit from Lucid, he would have to find a way to deliver the experience in a much more accessible way than a travelling installation that could only accommodate one person at a time.

Good Vibes

When it was incorporated in 2017, Lucid was just Labbe and the company's co-founders, Zach McMahon and Zoe Thomson. With the company formalized, the trio dove into research and development work, to figure out how to scale the fundamental experience of Lucid and make it easily accessible to a large number of potential users. Today, Lucid employs a dozen people, including engineers working on machine learning, cloud computing and musical composition. But it would take the team nearly two years to solve the scalability problem. The solution, an app called Vibe, was launched in January 2020. Vibe strips Lucid down to its core elements—and, in several ways, improves upon it. While it is designed to help people with a range of issues—it promotes better sleep, sharper focus and improved energy levels—its main focus is helping to alleviate anxiety.

"We're trying to build a product that can provide intervention, wherever you are," Labbe says.

Users begin by indicating their current mood on a grid that suggests various emotions and psychological states, such as sad, bored, worried, excited and tense. The app then creates a personal playlist

composed of nature sounds recorded with a binaural microphone and mixed with layers of music to create an immersive, spatial audio experience for the listener. The app also offers personalized playlists of short clips of music from across genres, layered with auditory beat stimulation—a technique that uses particular frequencies to create an "aural illusion" that operates at the same bandwidth as the electrical activity in our brains. The tones that are generated may have the ability to help induce certain mental states, and to reduce anxiety in particular.

When the music has finished playing, users are once again asked to enter how they're feeling. By capturing this information, the app is able to learn how effective it was. The more a person uses it, the better the app understands what kinds of music work for them.

"It's a machine learning system that basically measures your responses to music and learns what musical features work best for you," Labbe explains. "It makes getting to relaxed states much easier."

Theoretically, he says, someone could use the app to be soothed by thrash metal, or any other music of their choice. In its current incarnation, Vibe doesn't have any heavy music.

"But once we get other content licences going, this will become a possibility," he says.

Connections

Since the Vibe app was launched in January 2020, more than 7,000 people have installed it on their devices. Data collected by Lucid shows just how successful the app has been.

"We're decreasing anxiety on average by 60 per cent. We're increasing positive emotions by 55 per cent. It's working," Labbe says.

To better understand just how effective Vibe is, a pre-clinical study involving 120 people who suffer from anxiety is currently being conducted at Ryerson University. When that study is complete, Lucid will conduct a randomized control trial of 150 study participants in conjunction with the Centre for Addiction and Mental Health (CAMH).

"In order for us to change the system, we have to work from within it," Labbe says.

Having the added credibility of these studies that demonstrate Vibe's effectiveness will also help it stand out in a burgeoning marketplace. Worldwide, the mental health apps market accounted for US$587.9 million (about C$770 million) in 2018. It is expected to grow to nearly $3.9 billion by 2027, according to the market research company Absolute Markets Insights.

Lucid's current target demographic is people who are using technology to help themselves with health issues, Labbe says.

"Particularly 18- to 32-year-olds. That group tends to use apps to optimize their life," he says.

It's no wonder many people in that age range and others are turning to apps to help with their mental health. By age 40, nearly half of everyone in Canada will have or have had a mental health condition, according to the Canadian Mental Health Association. At any given time, between 25 and 30 percent of people have mental health issues. Most have low-severity anxiety and depression, says Dr. Farooq Naeem, chief of General Health Systems Psychiatry at CAMH and one of Lucid's advisors.

"For those people who have the low degree and severity of those kinds of problems, this is quite remarkable," he says of Vibe. "You can address the mental health needs of a large number of people through this sort of platform."

Indeed, people who suffer from anxiety typically face two main difficulties, Naeem says. One is that people who want to get treatment from a therapist usually face waiting lists that can be months long.

"We don't have many therapists. We don't have many mental health professionals," Naeem says. "Even in a big city like Toronto, we don't have many therapists to help people." That lack is amplified in rural and remote communities, where the number of options may be more limited.

The other problem is that many people don't want to seek out a therapist, whether because they can't afford to do so, or they feel that the stigma is still too great, despite changing social attitudes. Marginalized communities may feel even more hesitation, fearing institutional bias or racism.

"We have plenty of evidence to suggest people prefer interventions where they


LUCID
Created by:
LUCID

Aaron Labbe, founder of Lucid

don't have to see a mental health professional," Naeem says. He believes anyone facing either limited access to, or concerns about, in-person counselling could benefit from using Vibe to address mild anxiety. In an age of physical distancing, amid concerns about an impending mental health crisis in the wake of COVID-19, a mobile, musical tool for mental health seems tailor-made for the moment.

Learning Music

There is a long tradition of using music therapy to improve mental health. Indeed, several studies have shown that it can be used to reduce generalized anxiety disorder in children, helps reduce levels of depression in cancer patients, improves the quality of life for people with dementia, and decreases the perception of pain in people with short-term pain and those suffering from chronic arthritis, among many other benefits.

But what makes Vibe unique, Naeem says, is that it's constantly learning a person's preferences so it can adapt itself to deliver a customized experience.

"Any kind of intervention is more effective if it is individualized," Naeem says.

Labbe, who experienced what he calls a "we-still-know-better-than-you-do" attitude during his time in the mental health system, wants the products he and his team make to be as individualized as possible. He's particularly interested in how wearable technology could add to customization, and if it could be used to gain other biomedical indicators, such as a person's heart rate.

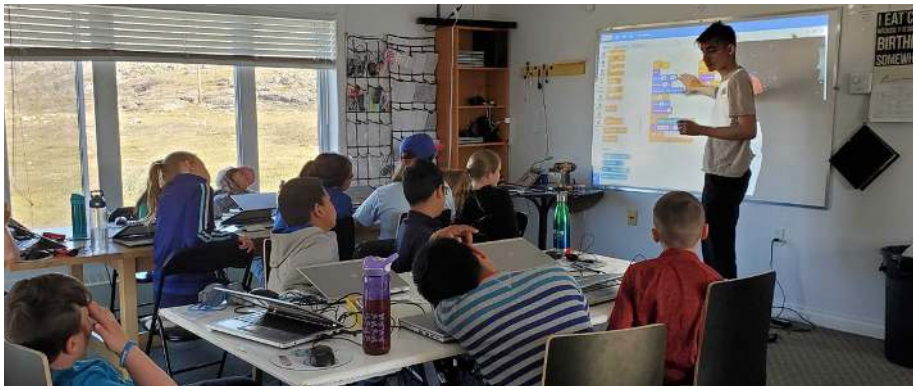
While he and the team at Lucid are currently concentrating on helping people with anxiety, Labbe believes the potential for using music to address health issues is endless. Next, he hopes to see if Vibe or something similar could be used to help people with depression. He's also curious to explore how his company's melding of art and technology could be applied to people living with from dementia and Alzheimer's disease.

"What we want is to be a medicinal music company," Labbe says. "We want to see how far music can go, in all facets of health." **&**

CODING AND PROGRAMMING

TECHNOLOGY AND SOCIETY

DATA



Teaching students to code

A Place that Makes You Want to Learn

Where: Pinnguaq Iqaluit Makerspace in Iqaluit, Nunavut

BY MAC PAVIA

I grew up with ADHD, and I never felt as though I fit into the public school system. I always seemed to be focused on something other than what was going on in class, like dreaming of ways to build forts in my backyard or how to build a robot that would sort my Lego by size and colour. This meant I wasn't always the best student, and I was quite worried that I might not graduate. But when I heard that a makerspace was opening in Iqaluit, I realized that it was something that was missing from my life. It was a way to follow through on my ideas, no matter how outlandish they might have seemed.

When I began working at the Iqaluit Makerspace, a lot of things started to change for me. I'm not exactly sure what it was that made me mature and change so much, but I feel it had something to do with the fact that I now had 20 children looking up to me, viewing me as one of their teachers and an influencer in their lives. When I first started at the makerspace, we had young students who had no idea how to use a computer. By the end of the school year, they were able to help out some of the newer participants. They had discovered a passion for coding and problem-solving.

Through those children, I began to feel a little more inspired myself—to understand that I needed to work harder in school and on myself if I was going to be able to provide these kids with the things I wished I had access to when I was their age. Working at the makerspace made me want to learn—and to share my passion for how these spaces can improve community education.

During my final year in high school, for my major project in Social Studies, I was asked to identify a problem in Nunavut and come up with a solution. By this time, through my work at the makerspace, I was absorbing information about different approaches to learning. This experience provided me with the topic for my project: I located several disconnects in Nunavut's public education system, and suggested a possible framework to fix them—namely, that having more makerspaces in the territory would benefit youth and the communities they live in.

A shortfall of school systems is that they sometimes fail to provide an environment that motivates all youth to learn. After my initial research, I came to learn about the concept of the "growth mindset." Essentially, this holds that an individual believes that, through hard work and determination, they can become smarter than the smartest person in their class. The opposite is the "static mindset," when someone believes that no matter how hard they work, they will never change nor grow.

My experience with Pinnguaq has shown me that having a makerspace in a community can engage and inspire youth and increase their interest in learning. Drawing on that idea, I formed the hypothesis that the public school system in Nunavut could be doing more to cultivate a growth mindset among its students. My theory was that, by opening more makerspaces, we could supplement students' [public school] education by providing safe and encouraging spaces where they are able to fail and learn from their mistakes. My final design for the plan also included having the Elders of the community work with youth participants. (Similar work has been done in Cambridge Bay, around Elders teaching the local language, Inuinnaqtun, to youth and anyone else who is interested in learning it.)

Through my work at the Iqaluit Makerspace, I made every effort to create a safe, encouraging environment where kids could feel free to express their ideas. I've met many children who've found something they enjoy doing, whether it's science, technology, engineering or the arts. It is my hope and belief that, through my work in makerspaces, I might be able to inspire the next great astronaut or artist. &

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Mac Pavia *began working with Pinnguaq as a student intern at the Makerspace in Iqaluit, Nunavut, running after-school programs for youth and coordinating summer camps. He is passionate about robotics, coding and digital art, and is currently a graphic design student at Mohawk College and an avid photographer. You can check out his work at* ***macvisual.ca****.*

See page 16 to learn how some of Mac's ideas are being brought to life by the Katinnganiq Makerspace Network.

TECHNOLOGY AND SOCIETY


MY BOY, DO YOU EVER WONDER WHY YOU *LOVE* SMOOTHIES SO MUCH?
EVERY TIME I SEE YOU DOWN ONE OF MY FAMOUS SMOOTHIES, I ALWAYS THINK TO TELL YOU A STORY OF OUR FAMILY,
ABOUT THE VERY *FIRST* SMOOTHIE YOUR GREAT-GRANDFATHER, ***WEDZEBAH***, EVER SLURPED.
IT'S A DOOZY.
GRANDPA TOLD US THIS STORY IN ***TŁ̨ICHǪ*** (DOGRIB) WHEN MY HAIR WAS BLACK, BEFORE YOU WERE BORN. IT WAS TRANSLATED BY YOUR ***EHTSI***, ROSA.
A LONG TIME AGO, GRANDPA WAS HUNTING WITH HIS DOG TEAM, WHICH WAS HELPING HIM HEAD WAY UP NORTH INTO INUIT TERRITORY. GRANDPA AND HIS DOG TEAM, WHICH WAS ALL HALF-WOLF, WERE HUNTING FOR CARIBOU OR ***EKWO***, AND THEY WERE LOOKING FOR WHITE FOX. AS THEY TRAVELLED FARTHER NORTH, GRANDPA AND HIS DOGS COULD SEE A SNOWSTORM FAST APPROACHING.
TO THEIR SURPRISE, ***EHTSÈE*** AND HIS DOG TEAM WERE MET BY A FAMILY OF *INUIT* HUNTERS WITH THEIR DOG TEAMS, WHO WERE ALSO TRYING TO HUNT FOR CARIBOU AND WHITE FOX. ALL OF THEM COULD SEE THAT THE STORM WAS ALMOST UPON THEM.


GRANDPA SAW ALL OF THE WHITE FOX PELTS THAT THE *INUIT* HAD IN THEIR SLEIGHS.
THE *INUIT* HUNTERS COULD SEE MY GRANDFATHER'S .30-30, STEEL KNIFE AND AXE.
WHAT THE *INUIT* HAD WERE BOWS AND ARROWS AND SPEARS, HE SAID. THE HEAD OF THE *INUIT* HUNTERS EXPLAINED THROUGH SIGN LANGUAGE THAT THEY HAD TO MOVE *QUICKLY* TO BUILD AN *IGLOO*. MY GRANDFATHER WAS INVITED TO PLAY HANDGAMES AND EAT WITH THEM.


GRANDPA SAID THAT HE WAS AMAZED AT HOW QUICKLY THE INUIT COULD MAKE SHELTERS, NOT ONLY FOR THEMSELVES BUT FOR THEIR DOGS. ***EHTSÈE*** KNEW HE HAD NO CHOICE BUT TO JOIN THEM. HE WANTED TO SEE HOW THEY LIVED *INSIDE* THE IGLOO THEY HAD JUST MADE. HE *ALSO* WANTED WHITE FOX FURS FOR HIS RETURN HOME.
THE ***INUIT*** HUNTERS BUILT WALLS OF SNOW FOR THEIR DOGS AND FED THEM AND MY GRANDPA'S DOGS FROZEN FISH AS THE STORM OVERTOOK THEM.
INSIDE THE IGLOO, GRANDPA SAID, THE ***INUIT*** HUNTERS AND THEIR FAMILIES WENT RIGHT TO WORK. THEY HAD FOOD, A STONE ALTAR FOR FIRE. THEY WERE ***SAFE***. THEY WERE ***WARM***.
THROUGH SIGN LANGUAGE, THE ***INUIT*** SHOWED MY GRANDPA HOW THEY PLAYED THEIR VERSION OF *HANDGAMES*. IT'S A GAMBLING GAME THAT INVOLVES HIDING A SMALL OBJECT OR OBJECTS AND THE OPPOSING TEAM HAVING TO GUESS YOUR FINAL MOVE. THE HUNTERS WANTED MY GRANDPA'S GUN, HIS KNIFE, HIS AXE. HE WANTED THEIR WHITE FOX FURS. MY GRANDPA WAS ALSO HUNGRY. HE HAD NO CHOICE BUT TO WAIT OUT THE STORM WITH THE INUIT AND PLAY THE GAME.
THEY BEGAN TO PLAY AND, ***IMMEDIATELY***, MY GRANDPA FELT THE SPIRIT HANDS OF THE HUNTERS REACHING INTO HIS *THOUGHTS*. THEY WERE USING THEIR *MEDICINE POWER* TO LISTEN AND SEE WHAT ***EHTSÈE'S*** NEXT MOVES WERE IN THE GAMBLING GAME. GRANDPA USED *HIS* MEDICINE TO PUSH THEIR HANDS AWAY.


THEY PLAYED. REMEMBER: GRANDPA WANTED THEIR FURS. THEY WANTED HIS WEAPONS AND TOOLS.
THE MISTAKE THE *INUIT* MADE WAS THEY FED ***EHTSÈE*** MUSKOX ENTRAILS. HE SAID WHEN HE SQUEEZED THE JUICE INTO HIS MOUTH, IT WAS *DELICIOUS*, AND HE GAINED THE STRENGTH OF THE LAND THROUGH THE MUSKOX. IT REALLY HELPED HIM AS HE WAS SO HUNGRY. IT HELPED HIS ***MEDICINE***.

HE LET THEM WIN THE AXE AND KNIFE. HE KNEW IF HE LOST THE *.30-30* IT WOULD NOT BE GOOD. HE NEEDED THAT TO LIVE AND GET HOME.

AS THE STORM PASSED OVER AND THE GAME FINISHED, THEY EXITED THE IGLOO TOGETHER AND WERE HAPPY THEY HAD BEEN ABLE TO MEET EACH OTHER. THEIR DOGS WERE ALSO SAFE AND READY TO GO HOME.

MY GRANDPA SAID WHEN THEY LEFT THE IGLOO TO RETURN TO THEIR HOMES, THEY DID NOT TURN THEIR BACKS ON EACH OTHER.

JUST TO BE SAFE, THEY WALKED THEIR DOG TEAMS AWAY FACING EACH OTHER UNTIL ARROWS AND BULLETS COULD NOT FIND A HOME.

YOUR GREAT-GRANDFATHER SAID HE RACED ALL THE WAY HOME WITH FURS AND HIS .30-30 AND A NEW *LOVE* FOR MUSKOX ENTRAILS AND THE SWEET JUICE THEREIN.

IT WAS A GREAT CHRISTMAS, HE SAID.

THEY CALLED PIERRE WASHIE "WEDZEBAH" FOR "BIG EARS" OR "ONE WHO LISTENS."

HE PULLED A SMALL BIRD OF FIRE OUT OF A STUTTERING BOY'S MOUTH AND THE BOY NEVER STUTTERED AGAIN. MANY PEOPLE SAW THIS LITTLE BIRD OF FIRE DOWN BY *MARION LAKE* WHEN HE DID THIS. THAT BOY IS NOW A GRANDFATHER AND EVERY NIGHT WHEN THEY GIVE THANKS FOR THEIR FOOD, THEY ALWAYS PRAY AND GIVE THANKS FOR OUR GRANDPA.

SO, MY BOY, NOW YOU KNOW *WHY* YOU LIKE SMOOTHIES SO MUCH. WHEN I SIP MY SMOOTHIE, I ALWAYS PRETEND IT'S ***MUSKOX ENTRAILS*** AND WE ARE SIPPING *THE STRENGTH OF THE LAND* TO HELP US MAKE OUR WAY IN THE WORLD TOGETHER. ***REMEMBER***: A TRUE NORTHERNER ALWAYS LEAVES EACH PERSON AND EACH PLACE ***BETTER*** THAN THEY FOUND THEM. WE ARE HERE TO HELP EACH OTHER.

I LOVE YOU AND I AM ***SO*** PROUD TO BE YOUR DAD. YOU CARRY THE STRENGTH OF YOUR MOTHER AND ME AND YOU ALSO CARRY THE STRENGTH OF OUR *ANCESTORS*. WE MUST ALWAYS BE GRATEFUL TO THE ***INUIT*** WHO HELPED GRANDPA IN THE STORM. THIS IS WHY YOUR MIDDLE NAME IS ***INULSUK***. ***INUUSIQ NASHALIK*** ASKED US TO CARRY HIS NAME FORWARD BEFORE HE PASSED. WE MET HIM WHEN WE WERE IN ***PANGNIRTUNG, NUNAVUT***.

WHEN I SAY YOUR FULL NAME ***EDZAZII INULSUK WAH-SHEE VAN CAMP***, YOUR NAME ***EDZAZII*** MEANS "*MARROW*" IN ***TŁ̨ICHǪ*** BECAUSE MARROW IS THE *HEART* OF THE BONE AND YOU ARE THE *HEART* OF OUR FAMILY. ***INULSUK*** HONOURS THE GREAT ***INUUSIQ NASHALIK*** WHO HUNTED AND PROVIDED FOR MANY FAMILIES WHILE HE WAS ALIVE. ***WAH-SHEE*** IS OUR FAMILY NAME AND WE GET THAT BECAUSE YOUR GREAT-GRANDPA KNEW A SHORTCUT THROUGH THE *MACKENZIE MOUNTAINS* THAT LED THE ***TLICHO*** TO THE *CARIBOU*. YOUR GREAT-GRANDFATHER WAS ***MOUNTAIN DENE*** BUT HE WAS ADOPTED BY THE ***TŁ̨ICHǪ*** AFTER HE LOST HIS FAMILY TO SICKNESS. ***VAN CAMP*** IS OUR FAMILY NAME TO HONOUR THE MAN WHO RAISED ME: ***JACK VAN CAMP***. HE IS MY FATHER AND I LOVE HIM SO MUCH: THAT'S YOUR *GRANDPA JACK*. HIS BIRTHDAY IS DECEMBER 20.

THESE ARE A FEW OF OUR FAMILY STORIES AND I WILL TELL YOU ALL I KNOW AS WE GROW TOGETHER. ***MAHSÌ CHO*** FOR CHOOSING US AS YOUR PARENTS. YOU ARE OUR WISH AND DREAM COME TRUE. I LOVE YOU.

SIGNED,
"DADDY" OR ***"SETA"*** :)
ALSO KNOWN AS ***RICHARD VAN CAMP***

HEALTH POINTS

Promoting Healthy Gaming in the Classroom

BY BONNIE SCHIEDEL

The phone calls started about six years ago. Worried parents or caregivers would reach out to Ember Schincariol and Karlee Gutmann, mental health professionals in Thunder Bay, Ontario. "They were really concerned about their kids. They were noticing that they were withdrawing from other activities that they really used to enjoy, like sports or music or arts and crafts. Gaming was really taking priority," says Schincariol, who is a social worker and addictions counsellor at Sister Margaret Smith Centre (SMSC), which runs programs to help people manage addiction and mental health challenges.

"They also had concerns around schooling—again, gaming would take priority over homework or studying for tests. And so parents were like, 'What do we do?' It was new territory, and they were really unsure how to address it." Schincariol speculates the uptick in concern was the result of a combination of a growing promotion of the need for "safe gaming," headed up by experts at institutions like CAMH, and an increase in games that encourage addictive behaviour and never-ending play. Thunder Bay and the communities that surround it aren't outliers when it comes to problem gaming, although in a workbook aimed at youth,[1] researchers at the Northern Ontario Gambling Research Hub at Lakehead University in Thunder Bay point out a couple of unique challenges that arise from living in the North: boredom, which results from the perception that there are fewer activities available than in urban centres; and how isolation or concerns around privacy may make it tougher to seek help in small, tight-knit communities.

Of course, digital gaming—computer games, console games, mobile apps—is more than just a lot of fun for people of all ages. Games are an established cultural form that combine art, storytelling and interactivity, many of which are designed to require skill and creativity to play. Some games are educational tools unto themselves: school boards around the world use *Minecraft* to promote problem-solving and collaboration, and strategy games like *Civilization VI* can help teachers and parents fan sparks of interest in ancient cultures, history and geography. Recent research from the University of Saskatchewan adds to evidence that gaming can relieve stress and promote mental health and emotional well-being. Many people turned to *Animal Crossing: New Horizons*—a recently released game centred on working with others to develop virtual communities—to help them cope with the social distancing required during the COVID-19 pandemic.

Nevertheless, for some young people, gaming can easily slide into unhealthful territory. It is uncommon for kids to be considered "addicted" to gaming, but it can contribute to problem behaviours such as skipping meals or not sleeping enough. Schincariol and Gutmann began meeting with parents and kids to develop ways of putting limits in place. "The reality is that technology isn't going anywhere. Our role as parents or as helpers is to help people learn how to balance [young people's] technology use with other activities," says Schincariol.

Soon, however, Schincariol and Gutmann realized they had an opportunity to talk to kids about their gaming habits *before* they became a problem. Five years ago, they created an in-class workshop that is aligned with Ontario's health and physical education curriculum and aimed at students in Grades 4, 5 and 6. This age group of nine- to eleven-year-olds is very reachable, she says, because they are so enthusiastic and willing to share. They paired their flyers with other content for an existing program about substance use, and teachers started booking them for classroom visits.

Sandi Capasso was eager to bring the workshop to her Grade 4 class in Thunder Bay. "[Students] are growing up in a connected world. I think that any knowledge they can get about healthy gaming is important," she says, adding that every hand in the class pops up when kids are asked if they have a gaming device or console. "Gaming is such a part of their lives, so the students were interested in what they had to say about it."

The Building Blocks

#1: Determine what problem gaming is

So what does that classroom visit look like? There are colourful visuals on the Smartboard and lots of interaction with the students, starting with asking them about the kinds of screens they use and what they use them for. They talk about a game's rating (E for Everyone, T for Teen and so on) or an app's recommended age for use, and get the students to brainstorm why those recommendations are in place. Then comes the big question: How do you know when you're spending too much time gaming?

"Usually the responses we're getting from kids are, 'Well, my eyes start to get tired. That's how I know I've spent too much

Ember Schincariol presenting content to classrooms in Thunder Bay

Be SMART and use the 4Ms

SMART is a handy acronym for kids to remember online safety rules, which can also apply to interactive gaming. (This is a good refresher for kids, in light of vastly increased screen time during COVID-19 restrictions.)

S = SAFE—Keep personal info private and think twice before sharing a picture of yourself or your friends.

M = MEETINGS—Never arrange to meet an online friend in person.

A = ACCEPTING MESSAGES—If a message or email makes you uncomfortable, tell an adult and don't respond to the message.

R = RELIABLE—Think carefully before trusting what you see or hear from someone online.

T = TELL—If something online makes you feel uncomfortable or worried, tell an adult you trust.

The Canadian Pediatric Society's 2019 position statement on digital media use for school-aged kids and teens recommends the 4Ms:

1. **Manage** screen use. This means families should set content and time limits, discourage multi-tasking that includes screens, use parental controls and settings where appropriate and be proactive about speaking with kids about acceptable online behaviour.
2. **Meaningful** screen use. Make daily routines like sleep, physical activity and face-to-face interaction a priority, and emphasize screen activities that are educational and social, as opposed to passive. Be a part of kids' media lives by joining in a game or talking about their experiences.
3. **Model** healthy screen use. Encourage screen-free family time, turn screens off when not in use and discourage recreational screens in bedrooms.
4. **Monitor** for signs of unhealthy screen use. This includes screen use that interferes with sleep, physical activity, face-to-face interaction and offline play, as well as complaints and arguments about screen-time limits, and negative emotions like rage or moodiness after gaming or screen use.

time on my screen,' or, 'My hands start to get a bit sore from the gaming.' It's always physical symptoms," says Schincariol. She and Gutmann take the conversation a step further to help kids identify other signs of problem gaming. Maybe it means school marks spiral down, or that they aren't able to settle down when it comes time to go to bed, which affects their sleep. Maybe there are frequent arguments about the amount of screen time. Finally, they talk about progression—how a kid may be thinking about gaming all the time and, even if they're not playing, they're thinking about what they're going to do next or what they're going to buy in the game to move up a level.

#2: Understand why problem gaming can happen

Next up: to help the students put the pieces together and understand why someone might be gaming more than is healthy—because often it's more than just, "Wow, this game is totally fun and I want to play it forever." Kids may turn to gaming as a way to cope when things aren't going well with friends or family, explains Schincariol. "A way to kind of tune out all that fighting is to just get lost in the game, right?" Or if there's bullying happening in real life, becoming a really big, tough guy within a game is a way of releasing some of that pent-up anger, she says. Becoming excellent at a game is a way to boost confidence if a kid doesn't do too well at traditional schoolwork. The thinking goes: "I'm not an expert at school, but I'm an expert in the game. So I'm not going to give that up. If anything, I'm going to probably put more time into gaming because it makes me feel better about myself." And of course, mental health plays a role, because if a kid is struggling with anxiety or depression, gaming feels like a way to make social connections without the social risk.

If a parent and child come for counselling about problem gaming, helping parents understand why the child is gaming is a big part of the process, says Erin Dietrich, a registered psychotherapist at SMSC. "The 'why' is important. The child's getting something out of their gaming, and we need to get everybody on the same page as to why they need it so much. They've met friends online whom they feel are connected to them in

some way. Or they've spent a lot of time invested in building up their characters or their teams together. And so, for them, this is their little family, right? And it's scary for them to think about losing that."

In the end, if gaming is the only mechanism children are using to cope with problems, it's likely to ramp up and become a problem itself. "Our job as counsellors is to help insert other positive coping strategies, so that they don't have to be so dependent on the gaming to help them through life struggles," says Schincariol.

Some kids are more at risk for problem gaming too. Kids on the autism spectrum, who have a learning disability, who come from a background with trauma, or who have been diagnosed with ADHD, anxiety or depression tend to be more susceptible to gaming issues. Anecdotally speaking, males may be more likely to struggle with problem gaming, while for females, social media use may be the issue, says Schincariol. There can also be a rural vs. urban divide. A **2018 study** looked at more than 1,600 teens in Toronto and northern Ontario and found that the city kids were almost twice as likely (16.7% vs. 8.8%) to meet the criteria for problem gaming compared to rural kids, citing both poorer Wi-Fi and stronger social cohesion in non-urban communities as possible factors.

#3: Making gaming a healthy choice

In the classroom program, healthy gaming basics include turning off screens well before bedtime, taking breaks while playing and setting limits on gaming time. Getting kids thinking about healthy offline activities and healthy ways to cope is the next step, where kids contribute ideas like playing with a pet, playing sports, reading or goofing around with a friend. "More often than not, they're a little bit hesitant to tell us that they're gaming or that they're watching TV [if they've had a bad day]. But then we say, 'Hey, if you've got some of these other activities that you're doing, like listening to music, making something with your hands, getting outside, something that's really important to you, then that's great. It's OK if every so often you are watching your favourite series on Netflix or you're logging on to a game and you're playing with some of your buddies,'" says Schincariol. "You just need to have it in balance with these offline activities that keep your mind engaged and your body active."

The bottom line: games are an important part of many kids' lives, and identifying and dealing with problem gaming isn't about discouraging or banning gaming time. Instead, it's about paying attention to the warning signs and putting all the cool, beneficial aspects of games to work, to add up to overall mental and physical health for kids today and tomorrow. **&**

TECHNOLOGY AND SOCIETY

[1] *Shayna Cummings et al.,* Online Gaming in Northern Ontario: A Workbook for Youth and Young Adults *(Thunder Bay, ON: Northern Ontario Gambling Research Hub, 2019),* ***https://www.researchgate.net/publication/335778137_Online_gaming_in_Northern_Ontario_A_workbook_for_youth_and_young_adults***.

Why some games get kids hooked

Video games tend to be designed to appeal to human psychology. Surprise rewards, for example, can fuel the desire to keep playing, and certain mechanics, particularly in mobile games, promote repetition. Social games—like the hugely popular *Fortnite*, where players engage in real time with a friend or a group—may make kids feel they don't want to let their friends down by missing a game or leaving early.

Some games also tell players they *just* missed getting to the next level, often making them want to give it another try right away. A 2017 study in the *Journal of Gambling Studies* had students from the University of Waterloo play *Candy Crush* while hooked up to equipment that measured elements that indicate revved-up emotions, like heart rate and skin temperature. They found that a near-miss in levelling up in the games added up to significantly more emotional arousal than simply not coming close to winning, and near-misses triggered an increased urge to play again.

Not surprisingly, winning makes players want to keep gaming too. "There's been a lot of comparison between video gaming and slot machines," says Schincariol. "The bells and whistles that are going off when a slot machine is spinning, and the bells and whistles that are going off when you [swipe to refresh your phone] or get to the next level of a game are very similar. It's definitely impacting the brain," says Schincariol.

The Sister Margaret Smith Centre in Thunder Bay

EMPATHY MAP

A visual aid to create shared understanding of an end user's needs. Helps with decision making.

UX design refers to the term '**user experience design**' and is part of the development process of a product or digital experience. A UX designer considers how a user may experience or interact with their product, website or app. The UX designer can use an empathy map to map out the needs of their end user. This activity will provide an opportunity for students to create their own empathy maps through the simple exercise of planning a vacation. Older students can be assigned a more complex premise, such as identifying a challenge in their community or school and considering a digital app that might provide a solution.

SAYS

What the user says out loud.

- I want to make great memories
- I want to learn about another culture
- Do I want to relax or have an adventure?
- Should I go solo or with friends and family?
- Where can I go within my budget?
- How do I start planning?
- Is the destination safe for tourists?
- Should I fly or drive?
- Where do I find great deals?

THINKS

What the user is thinking during the experience.

- Am I spending too much money?
- Am I getting good value for my money?
- This is too much work and taking too long
- Why is this so difficult?
- How much time can I take off work?
- What is best for my needs?
- Am I getting scammed?
- Can I really afford this trip?
- Will it be a good experience?

USER

Someone planning a vacation.

DOES

What does the user do?

- Lists places they want to go
- Checks travel websites
- Compares prices
- Asks friends about their experiences
- Postpones big decisions
- Makes small decisions
- Checks their savings to make a budget
- Books time off work
- Lists pros and cons
- Does web research about places

FEELS

The user's emotional state, how do they feel? What worries or excites them?

- Excited about seeing a new place
- Unsure of who to trust
- Overwhelmed by all the choices
- Anxious about not making the right decision
- Nervous about spending a lot of money
- Really needs the break
- Thinks "you only live once" so take that risk

ALANA McCARTHY

MAKE YOUR OWN EMPATHY MAP

GOALS

What are the goals of your project?

SAYS

Interview a friend about the topic and note what they say.

THINKS

Ask the user their thoughts but also consider what they may be embarrassed to say out loud.

DOES

What will the user do when faced with the challenge or decision?

FEELS

What is your friend's emotional state? Ask them how they feel.

Digital Kit

We have developed additional digital resources for educators to use in their classrooms—including lesson plans, video tutorials and handouts. They can all be accessed online via the links that follow.

PAST ISSUES

If you missed the Spring 2020 issue of Root & STEM, you can find it online at
pinnguaq.com/work/root-stem

SCRATCH BASICS

Scratch is a basic coding language that uses "building-block" style coding to create animated stories, interactive games, simulations and artwork. In using Scratch, learners are introduced to basic coding concepts and develop their computational thinking skills while bringing their own ideas to life. In this series of tutorials, learners will be introduced to the basics of Scratch. If you've never used Scratch before, this series is for you!

Episode 1
Introduction to the Scratch Working Environment
pinnguaq.com/learn/scratch-basics-episode-1

Episode 2
Deleting a Sprite, Adding a Sprite & Adding a Backdrop
pinnguaq.com/learn/scratch-basics-episode-2

Episode 3
Make Your Sprite Say Something
pinnguaq.com/learn/scratch-basics-episode-3

Episode 4
Adding Sound
pinnguaq.com/learn/scratch-basics-episode-4

Episode 5
Make Your Sprite Fly Around
pinnguaq.com/learn/scratch-basics-episode-5

Episode 6
Gliding from One Point to Another
pinnguaq.com/learn/scratch-basics-episode-6

Episode 7
Make Your Sprite Move Left and Right
pinnguaq.com/learn/scratch-basics-episode-7

Episode 8
Moving Up and Down
pinnguaq.com/learn/scratch-basics-episode-8

Episode 9
Coding Costume Changes
pinnguaq.com/learn/scratch-basics-episode-9

Episode 10
Coding Backdrop Changes
pinnguaq.com/learn/scratch-basics-episode-10

Message to Educators

The lesson plans that follow provide educators and students with opportunities to explore identity, self-awareness and issues surrounding health and wellness using digital tools. This issue's lesson plans come to us from Dr. Wendy Barber, whose research with Ontario Tech University addresses how digital technology can improve health and education outcomes.

We hope these lessons provide educators with simple ideas for integrating digital tools into the classroom. For students, we hope these activities introduce digital tools that will help them express themselves in new and creative ways.

– Jennie Cross

Module 1

Grade Level: 1 to 3
Subjects: Physical Health and Education, Math (Coding)
Authors: Lesson Plan by Wendy Barber, Tutorial by Alyssa Amell

Lesson Plan

Topic: Health and Well-Being in Primary Grades

Introduction

In the primary division, students are in the early stages of developing their sense of self, while also learning to identify and manage their emotions and feelings. Learning is therefore focused on skills related to self-awareness, identifying and managing emotions, and learning to cope with challenges.[1] At the same time, primary-school students are beginning to develop skills around relationships and critical and creative thinking. This activity introduces students to a digital tool that will help them express and reflect on their identity.

[1] *Ontario Ministry of Education Curriculum Doc 2015, 91*

Learning Goals

- Students will be able to identify the **factors that impact their physical and mental well-being** (e.g. nutrition, exercise, play, family, friends, school)
- Students will participate in the **creation of their own Scratch poster** to express in a creative way the message they want to convey about being their best "ME"

Vocabulary

Self-Concept—The perception a person has of their own identity. People form their self-concept by interpreting information they acquire about themselves through experiences and interactions with others and their environment. A person's self-concept can be influenced by the opinions of others, reinforcement of behaviour, and explanations or understanding of one's own behaviour or actions. Unlike self-esteem, self-concept is not positive or negative, but rather accurate or inaccurate, or extensive or narrow. *(Ontario Ministry of Education Curriculum Doc 2015)*

Guiding Questions

- What does being healthy and well mean to you? What does being healthy and well feel like in your body?
- What does your body feel like when you are not healthy or not well?
- What factors influence whether we feel at our best or not (e.g. nutrition, exercise, play, friends, family, school)?

Curriculum Links

This lesson provides the opportunity to make connections that relate to health and well-being, including how choices and behaviours affect both oneself and others, and how factors in the world affect the health and well-being of oneself and others. Cross-curricular links can be made to subjects including **Coding** (creating a digital story to promote a positive sense of self), **Arts** (creative and critical thinking) and **Literacy** (understanding how words impact how we and others feel about ourselves).

Materials Needed

- Music (for Moving to Music exercise)
- Cards with statements on them (see example list in next section)
- Laptop and projector to show exemplars of Scratch-coded stories and games (optional)

Non-Computer Introduction Games

1. Moving to Music
Give each student a card with five to eight statements on it. Students move about the room while the music is playing, and stop when the music stops. They turn to the person closest to them and are directed to complete one of the statements.

Sample statements:
- *I feel good about myself when…*
- *My favourite food is…*
- *My favourite sport or physical activity is…*
- *I feel sad when…*
- *One thing I like about myself is…*
- *My favourite time to play is…*
- *One thing I am good at is…*
- *I feel happy when…*

After a few rounds of the game, share some of the completed statements as a group.

2. Groups of Three
The teacher instructs students to move about the room, then calls out "Groups of…" and announces a random number. Students should then form groups of that number. The teacher continues doing this so that students form groups of various sizes, ending the game with groups of three. Each group of three has 30 seconds to come up with three things that make them feel good (e.g. a good snack, a sport or a hobby). After playing, have each group share their lists with the class.

Computer Activity

Following this lesson plan is a tutorial in which students create a simple digital poster using Scratch that portrays who they are and what they love about themselves. Students will be introduced to Scratch as a digital tool that can be used to create and share digital art.

Conclusion

Think Pair Share with a partner:
- What was the coolest thing about creating and coding?
- What was one task I had that was hard at first, but that I got better at?
- Have students share Scratch pieces of art

Additional Resources

- Pinnguaq: Scratch Basics Episode 1 **pinnguaq.com/learn/scratch-basics-episode-1**
- Pinnguaq: Scratch Basics Episode 2 **pinnguaq.com/learn/scratch-basics-episode-2**
- Teach Body Image: Dr. Lorayne Robertson, Ontario Tech University **teachbodyimage.com**

Tutorial

Project: Creating a Digital Poster in Scratch

Note to Teachers

The following is an introductory coding activity using **Scratch**, a basic computer language that uses a "building-block" style of coding to create animated stories, interactive games, simulations and beautiful artwork.

*If this is your first time using Scratch, we recommend you explore our Scratch Basics video series, episodes 1 and 2, at **pinnguaq.com/learn/scratch-basics-series**—they will give you a good foundation in the basics of using the software.*

In this exercise, students use Scratch to create a simple digital poster that portrays who they are and what they love about themselves. Students are introduced to Scratch as a tool that can be used to create and share digital art. Teachers should guide students in creating lists of positive aspects about themselves by using some of the answers from the *Moving to the Music* game in the non-computer activity OR have students discover which of Scratch's sprites best reflect them as they explore the software.

Introduction

This tutorial outlines how to create a digital poster in Scratch. I also walk users through this activity in a video tutorial, which is available at **pinnguaq.com**.

In this activity students will learn to:

- Open a new project
- Add a backdrop
- Add and delete sprites

Materials Needed

- Scratch 3.0—online or desktop **scratch.mit.edu**

Vocabulary

The following vocabulary definitions are taken directly from the Scratch Wiki.

- **Backdrop**—the image that all sprites are shown in front of on the stage area.
- **Block Palette**—the area that appears on the left of the screen under the Code tab. It contains nine sections of blocks that can be dragged into the code area to build the code that makes sprites move or make sounds or whatever the user wants them to do.
- **Blocks**—puzzle-piece shapes that are used to create code. The blocks connect to each other vertically like a jigsaw puzzle, where each block provides the code needed to make your sprite do what the user wants it to do.
- **Code Area**—the large empty space to the right of the block palette. It is an area for storing the blocks that run the project. Blocks can be dragged from the block palette into the code area and arranged to form scripts.
- **Script**—a series of connected blocks that interlock with one another. The blocks and their order are very important, as they determine how sprites interact with each other and the backdrop.
- **Sprite**—an object, character or picture that the user creates, uploads, or finds in the sprites library. Using coding blocks, users program sprites to perform actions and become a central part of the digital project.
- **Sprite Pane**—the white area located beneath the stage area where all sprites in a project can be easily accessed for modification or inspection.
- **Stage**—the area where sprites perform their actions. It is located at the top of the area to the right of the code area.

Step-by-Step Instructions

In this activity you are going to use Scratch to create a digital poster about yourself. When someone else looks at the poster, we want them to learn about who you are just by looking at it. In Scratch, any object, character or picture is called a **sprite**. In this activity you can choose different sprites that represent you for your poster. Portraying who you are goes deeper than just showing your outer appearance. Remember, it is less important to select sprites that look like you; rather choose sprites that best represent who you are as a person.

For example, this is my project:

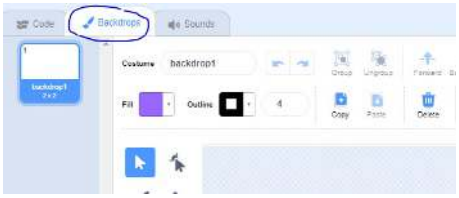
It displays many different sprites that represent me. For example, I added a piano because I play piano, and a tennis ball because I play tennis. I made sure I put glasses on my character so it looks more like me. I also put a magic wand in my character's hand, because I love fantasy games and movies.

Step 1: Open Scratch and start a new project. Where it says **Scratch Project**, type in a title for your project. I called mine About Me.

Now, let's save the project to the computer. Under **File** you will see **Save to your computer** – save your project there.

Step 2: The Scratch editor automatically starts with a **Cat Sprite** for all projects. The cat sprite appears on the **Stage**. Delete the cat to make some room for more sprites! To do this, click on the **trash icon** in the corner of the Scratch cat icon in your sprite pane. You can add and delete as many **Sprites** as you want – but first let's add a backdrop.

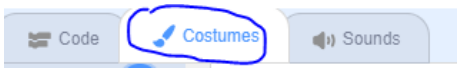
Step 3: Add a backdrop by clicking on the **Backdrops** tab.



At the bottom-left corner of the Scratch editor, you will see an icon of a picture with a **plus sign** in the corner. Click on the icon and choose a backdrop that you like and that reflects something about your personality. There are many backdrops to choose from. I chose Witch House because I love video games, shows and movies that are based around fantasy! Remember, everything you choose should say something about you. Once you are done, go back to the **Code** tab, which is to the left of the Backdrops tab.

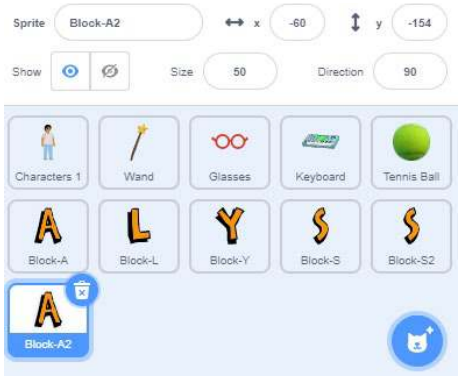
Step 4: Now that you have a background, you can choose a **sprite** that represents you. To add a sprite, select the **sprite bubble** that you see in the bottom-right corner of the sprite pane—it has a plus sign in the top-right corner. Here you will find a **People** button where you can choose from a variety of character sprites. Choose one that you think best represents you.

In Scratch, **costume** refers to the appearance of your sprite. This could include the sprite's colour, shape or size, as well as what it is wearing. If you would like to change something about the appearance of the sprite you've selected, you can modify it by clicking on the **Costumes** tab (beside the Code tab).



Here you will find different options for your sprite's **costumes**. Click on your sprite in the stage area to select it, then use the formatting toolbar along the left side of your screen to change your sprite's shape, colour or size until you're happy with how it looks.

Step 5: Now that you have selected a sprite to represent you, add more sprites that represent things that reflect who you are – like sports, animals, friends, interests and hobbies. If you have trouble adding new sprites, go back to Step 4. If a sprite gets stuck behind another sprite, just click on them in the stage area and drag them to where you want them.



Add as many sprites as you'd like to describe yourself!

Here is my final project:

Make sure you save your project to your computer like we did in Step 1 so you don't lose it!

TECHNOLOGY AND SOCIETY

CODING AND PROGRAMMING

DESIGN

Module 2

Grade Level: 4 to 6
Subjects: Physical Health and Education, Art, Computer Studies (Digital Art)
Authors: Lesson Plan by Wendy Barber, Tutorial by Alyssa Amell

Lesson Plan

Topic: Healthy Body Image and Critical Media Literacy

Introduction

In this module, students examine body image and pressures on girls and boys to have the "perfect" body. Students will learn how digital media portrays "perfect bodies" and will challenge what they see in social media and on the internet. From a practical standpoint, students will identify factors and pressures that affect healthy and unhealthy body image and discuss the role of self-esteem and how other factors such as peer pressure, mental health, depression and anxiety affect self-image and body image. They will also practise strategies to challenge dominant cultural ideas as a way to make healthier choices. The end product can be a collection of students' digital posters that deliver body-positive messages.

Learning Goals

- Students will be able to identify the factors that impact an individual's body image in positive and negative ways
- Students will be able to identify social, environmental and cultural influences on body image
- Students will make digital posters to express in a creative or artistic way the messages they want to convey about positive body image

Vocabulary

- **Self-Concept**—The perception a person has of their own identity. People form self-concept using interpretations of information they acquire about themselves through experiences and interactions with others and their environment. A person's self-concept can be influenced by the opinions of others, reinforcement of behaviour, and explanations or understanding of one's own behaviour or actions. Unlike self-esteem, self-concept is neither positive nor negative, but rather accurate or inaccurate, or extensive or narrow.
- **Body Image**—The subjective picture or mental image one has of one's own body.
- **Critical Media Literacy**—Aims to analyze and understand the power structures that shape digital media representations and the ways in which audiences work to make meaning of images and words. (*The Ontario Curriculum Health and Physical Education*. Accessed July 2020 ***www.edu.gov.on.ca/eng/curriculum/elementary/2019-health-physical-education-grades-1to8.pdf***)

Guiding Questions

- What does a healthy body look like?
- What does a healthy body feel like?
- What factors influence how we see bodies as healthy or fit, or not?
- Does a thinner body mean a healthier body? Why or why not?
- Do you think social media and ads promote healthy or unhealthy body image?
- When you think about games you play online, do they promote healthy or unhealthy body image? Is it different for males and females?
- What can you do to challenge these ideas society presents, and to start to accept that all bodies are of different sizes, colours and shapes?
- What can you do differently to gain greater self-acceptance and take better care of your own body?

Curriculum Links

This module can be used to address components of **Health and Physical Education** and **Language Arts**. Cross-curricular links can be made to subjects including **Social Studies**, (peer pressure, social determinants of health), **Critical Media Digital Literacy** (critical thinking and consumption of digital media), **Coding** (creating games and apps to promote positive body image), **Arts** (graphic design) and **Literacy** (graphic novels or comic strips).

Materials Needed

- Paper for Gallery Walk activity—one per student
- Paper for exit activity I.A.L.A.C. "I Am Lovable And Capable"—one per student
- Laptop and projector to show exemplars of graphic poster (optional)

Non-Computer Introduction Activity

1. Gallery Walk – Body Image Stations
Write one statement at the top of each of 12 sheets of paper. Post the sheets around the room. Students divide up so there are one or two students per sheet. Students spend 30 seconds completing the statement, then rotate around the room clockwise until they have completed all 12 statements.

Suggested statements:

- *I feel good about my body when…*
- *I don't like my body when…*
- *Ads for weight loss are…*
- *I know I am hungry when…*
- *Junk food is…*
- *I exercise because…*
- *Body images on television are…*
- *I dislike this part of my body…*
- *I like this part of my body…*
- *Ways I cope with stress include…*
- *A thinner body is….*
- *A healthy body is…*

After everyone has had a chance to write down their thoughts, discuss as a group.

Computer Activity

Students will use Inkscape to create a poster that reflects a quote about body positivity. Students will learn how to edit the text and use a few effects tools. The end goal is to create a poster that reflects a positive self image. Visit **pinnguaq.com** for a step-by-step tutorial of this activity.

Extension Activity

An additional end product over a full unit would be to have students share their digital

posters at a school-wide health fair or day promoting awareness of the impact of advertising and social media on body image, or creating a school Twitter handle or Facebook group open to students to promote more body-positive language in school.

Conclusion

1. Have students write negative thoughts they have had about their bodies on sheets of paper. Then have them crumple up the sheets and put them all in a garbage bag. Seal the bag and leave the negative thoughts behind.

2. I.A.L.A.C. "I Am Lovable And Capable" Students leave class with a small piece of paper with the letters **I.A.L.A.C.** written on it and carry it with them throughout the day until the next lesson. They should write on the sheet when something affects them positively, and tear off a piece if something affects them negatively. Results are shared in the next class.

Additional Resources

- Teach Body Image: Dr. Lorayne Robertson Ontario Tech University **teachbodyimage.com**
- Teaching Tolerance: Reshaping Body Image **www.tolerance.org/classroom-resources/tolerance-lessons/reshaping-body-image**
- Media Smarts: Canada's Centre for Digital and Media Literacy **mediasmarts.ca/body-image/resources-teachers-body-image**

TECHNOLOGY AND SOCIETY

CODING AND PROGRAMMING

DESIGN

Module 3

Grade Level: 7 to 9
Subjects: Health and Physical Education, Art
Authors: Lesson Plan by Wendy Barber, Tutorial by Alyssa Amell

Lesson Plan

Topic: Healthy Decision-Making for Substance Use/Abuse

Introduction

In this module, students participate in case-study role play that challenges them to take on the roles of people in situations in which a student is vaping or using drugs or alcohol. The end product can be a collection of students' digital artifacts, including a poster that depicts a message surrounding substance use and abuse. An additional end product over a full unit would be having students share these digital artifacts at a school-wide health fair or a day promoting awareness of the impact of substances on mental health and well-being, or creating a school Twitter handle or Facebook group open to students to promote healthy choices around substance use/abuse.

Learning Goals

Students will be able to identify the impact of substance use/abuse on individuals, their peers and their families. They will create their own digital artifacts to express in a creative or artistic way the message they want to convey about healthy decision-making around substance use/abuse and/or vaping.

Vocabulary

- **Addiction**—A physiological and psychological dependence on a substance or behaviour, such as alcohol or gambling.
- **Cyber Bullying**—Under Section 1.0.0.2 of the Ontario Education Act, bullying by electronic means, including by "(a) creating a web page or a blog in which the creator assumes the identity of another person; (b) impersonating another person as the author of content or messages posted on the Internet; and (c) communicating material electronically to more than one individual or posting material on a website that may be accessed by one or more individuals." Cyber-bullying can involve the use of email, cell phones, text messages and/or social media sites to threaten, harass, embarrass, socially exclude, or damage reputations and friendships. It may include put-downs or insults and can also involve spreading rumours; sharing private information, photos or videos; or threatening to harm someone. Cyber-bullying is always aggressive and hurtful. *(Refer to Bullying – We Can All Help Stop It: A Guide for Parents of Elementary and Secondary School Students, at **www.edu.gov.on.ca/eng/multi/english/BullyingEN.pdf**.)*
- **Vaping**—The action or practice of inhaling and exhaling the vapour produced by an electronic cigarette or similar device.
- **Substance Abuse**—The overindulgence in or dependence on an addictive substance, especially alcohol or drugs. *(Ontario Ministry of Education Curriculum Doc 2015)*

Guiding Questions

- Do you think social media and advertisements promote healthy or unhealthy choices related to substance use/abuse and vaping?
- What would you do if you or a friend were making unhealthy choices by abusing substances?

Curriculum Links

This module has students describe the factors that may influence substance use, which is a good fit for **Health and Physical Education**. Cross-curricular links can be made to subjects including **Social Studies** (peer pressure, legal implications), **Mental Health Digital Literacy** (critical thinking and consumption of digital media), **Arts** (graphic design) and **Literacy** (digital poster).

Materials Needed

- Gallery Walk alcohol statement sheets (one page per statement; one marker per student)
- Sheets (one per student) to write on for the Plus – Minus – I Wonder If activity

Non-Computer Introduction Activities

1. Gallery Walk

Write a statement at the top of each of 12 sheets. Post the sheets around the room. Students should divide up so there are one or two students at each sheet. Students spend 30 seconds completing the statement, then rotate around the room clockwise until they have completed all 12 statements.

Suggested statements:

- *Alcohol and sex are…*
- *Teenagers use drugs because…*
- *I would drink alcohol if…*
- *It is hard to say no when…*
- *Drugs are…*
- *I feel good about myself when…*
- *Parents drink alcohol because…*
- *Alcohol is okay when…*
- *Things that stress me are…*
- *Ways I cope with stress include…*
- *Guys drink because…*
- *Girls drink because…*
- *Drinking and driving is…*

Discus answers as a class.

2. Case Study Problem Solving: Alcohol and Drugs

Students are divided into groups of four and numbered 1 through 4. Assign a scenario to each group and allow time for discussion. Have students report back to the class to share their scenario and reflect on their discussion:

1. Decide the rights and responsibilities of each person in the situation.

2. Come to a set of alternative solutions and possible consensus on the issue.

Scenario 1: You are a parent. You suspect your child has developed a problem with vaping cannabis. You occasionally smoke it yourself, but not in your home or in front of your child.

Scenario 2: You are a 13-year-old who has started to vape. You realize it is an issue,

because it is affecting your school work and your sleeping and eating habits, and you also risk losing a spot on the soccer team. You are afraid to ask for help and feel your peers are cyberbullying you by spreading rumours via text messages and Facebook.

Scenario 3: You are a coach. You suspect your student athlete is vaping, but have no proof. You know the student's parent vapes and have had prior personality conflicts with this parent.

Scenario 4: You are the school's vice-principal. Students have come to you with suspicions of vaping by one of their peers. The student has had problems with suspension in the past for bad behaviour and has been the victim of cyberbullying because of poor choices.

Good luck in your mission! Remember to work together and be active listeners.

Computer Activity

Following this lesson plan is a tutorial in which students will create a graphic poster using the digital art software Canva. The goal of this activity is to use art to depict a message surrounding substance use and abuse. Following the creation of a graphic poster students can distribute via school social media.

Conclusion

Plus – Minus – I Wonder If: Provide students with half a sheet of paper that has three tasks for them to complete at the end of class.

- List three positive aspects of choosing to not use substances
- List three negative consequences of substance abuse
- I wonder if…: State one thing about substance use/abuse that came up in today's discussions that you want to think about further

Additional Resources

- Government of Canada Vaping and Youth **www.canada.ca/en/services/health/campaigns/vaping.html**
- American Heart Association: The Ugly Truth about Vaping **www.heart.org/en/healthy-living/healthy-lifestyle/quit-smoking-tobacco/the-ugly-truth-about-vaping**
- Getting Help for Substance Abuse Canada **www.canada.ca/en/health-canada/services/substance-use/get-help/get-help-problematic-substance-use.html#s3**
- Finding Quality Addiction Care in Canada **www.ccsa.ca/sites/default/files/2019-04/CCSA-Addiction-Care-in-Canada-Treatment-Guide-2017-en.pdf**
- Mothers Against Drunk Driving Canada **madd.ca**

Tutorial

Project: Creating a Graphic Poster using Canva

Introduction

In this activity, we are using art to address the addictive use of drugs and alcohol. Addiction happens when a behaviour begins to affect your health, your lifestyle or your relationships with your friends and family in a negative way. Alcohol and drug abuse can be extremely damaging to your health as well as your relationships and daily life. Here are some facts to consider:

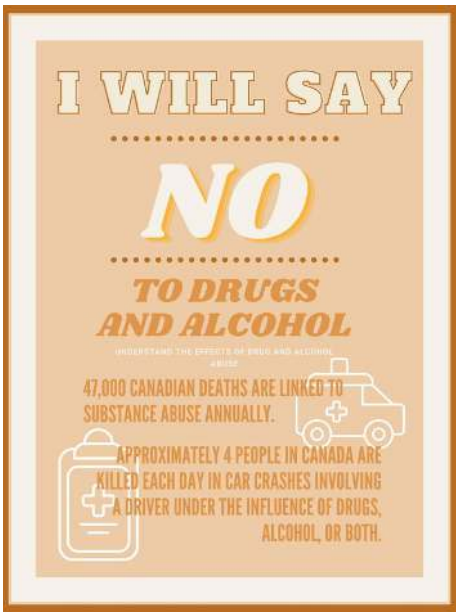
- 47,000 Canadian deaths are linked to substance abuse annually (**www.teenchallenge.ca/get-help/canadian-drug-crisis**)
- Between 1991 and 2007, opioid-related deaths doubled in Ontario (**www.teenchallenge.ca/get-help/canadian-drug-crisis**)
- "Approximately four people in Canada are killed each day in car crashes involving a driver under the influence of drugs, alcohol, or both" (**www.addictioncenter.com/addiction/addiction-in-canada/**)

To learn more about substance use and abuse, check out the following resources provided by the Government of Canada: **www.canada.ca/en/services/health/campaigns/vaping.html** and **www.canada.ca/en/health-canada/services/substance-use/get-help/get-help-problematic-substance-use.html#s3**

After reviewing some of these resources, what are some of the statistics you have learned about substance use and abuse? Now that you have learned some facts about drug and alcohol abuse/use, let's consider ways to share this information with your peers in a graphic poster. To do this, we're going to use a software program called Canva.

Step-by-Step Instructions

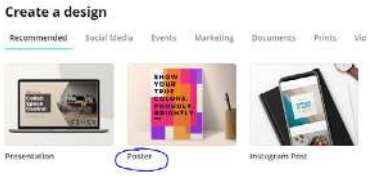
Here is an an example of a poster I made:



Let's go over how I created it in Canva.

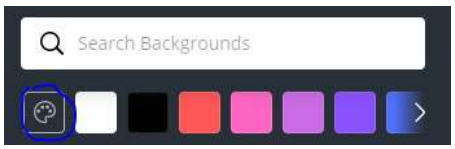
Step 1: Register for an account at **canva.com**

Step 2: In the top-right corner of your screen, click on the **Create a design** button. In the drop-down menu you will see **Poster** as an option.



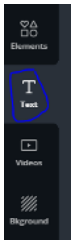
Step 3: Choose a background from the options located in the left-hand toolbar.

When you click on **Bkground**, you can choose an image provided by Canva or a solid background colour. I chose a background colour by using the colour palette at the top of the backgrounds panel.

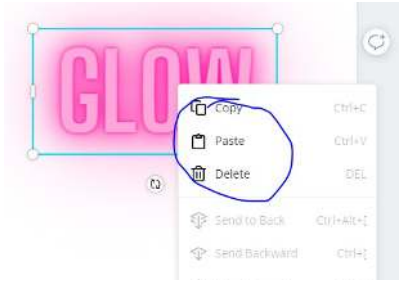


Step 4: Next, I'm going to add text over the background.

Use the **Text** panel to type in the text for your poster and choose the fonts you want to use. Consider the theme and style of your poster when choosing a font – make sure it's consistent with the message and feeling you are trying to communicate. Fonts are a very important element of design, because they are often the first thing people notice and so they communicate a feeling to your audience. Ask yourself: Does the font I have chosen reflect the mood and feeling I want to convey with my poster?

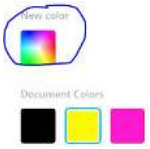


To enter text, left click and a line will pop up beside your text. You will also see an outline around the text box that has dots – use them to adjust how big or wide you want your text to be. You can also copy and paste texts or elements so you don't have to add the same font or element again and again.



With the free version of Canva, you can choose from a limited selection of fonts; the paid version allows you to choose more. To change the colour of the type, go to the tool-bar at the top of the screen and click on the A that has a bar of colour under it and select the colour you'd like.

If you want to, you can create your own custom colour with the **New color** option in this menu. Click it to bring up a colour slider, where you can create any colour you'd like!



Step 5: To add more detail to your poster images,select the **Elements** tab.

Here there are all kinds of options for little images you can add. You can search for specific images, or just look through the options already listed.

To view more of the images select **See all** to the top right of the element.

To plan the layout of a poster, Graphic Designer and Project Manager Diana Aruda provides some great tips on layout in her Intro to Graphic Design module: **pinnguaq.com/learn/introduction-to-graphic-design**.

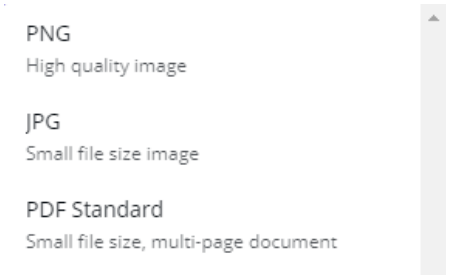
The layout of your poster is how all the design elements are laid out or organized into one connected piece. There are many questions that need to be asked when creating a design. Collect all the pieces you need, then ask yourself some questions:

- *How important is this title?*
- *How important are these images?*
- *How important is this block or these lines of text?*
- *How can I organize all this content so it looks neat and balanced?*
- *Am I using colours in a way that speaks to the spirit of my design?*
- *Are all the elements readable?*
- *Can people easily understand what I am trying to say?*
- *Is there an appropriate amount of room dedicated to each element?*
- *What is the "desired effect" of my design? What am I trying to say?*

Step 6: Play around with the text, colours and images until you feel your poster successfully communicates the message you have chosen to share.

Step 7: Once you're done with your image, there is an arrow pointing downward at the top-right corner.

You have the option to download your poster in a variety of file formats. I chose to export my poster as a JPG file to my computer.



Now that your poster is complete, you can share it with your friends and family via your school social media – a great way to communicate your thoughts on drug and alcohol use and abuse.

TECHNOLOGY AND SOCIETY

CODING AND PROGRAMMING

DESIGN

Module 4

Grade Level: 10 to 12
Subjects: Social Science, Health and Physical Education
Authors: Lesson Plan by Wendy Barber, Tutorial by Alyssa Amell

Lesson Plan

Topic: Developing Healthy Relationships

Introduction

In this module, students share and discuss music videos on YouTube and their lyrics to identify elements of healthy and unhealthy relationships. They will learn how digital media portrays healthy and unhealthy sexuality. In the bigger picture, students will discuss music lyrics and images, and begin to critically analyze the messages behind music videos and how they have an impact on their lives.

Learning Goals

Students will be able to identify aspects of a healthy relationship and signs and symptoms of an unhealthy relationship, finding resources they can access to get support to leave an unhealthy situation. In groups, students will create TikTok videos in which they are free to discuss any topics that relate to relationships and sexuality.

Note: It is critical to ensure you have permission to record students and that they know this video will not be made public but is only for class use. They must agree to norms of respect, trust, right to pass and confidentiality.

Vocabulary

- **Sexuality**—A term that encompasses sex, gender identities and roles, sexual orientation, eroticism, pleasure, intimacy and reproduction. Sexuality is experienced and expressed in thoughts, fantasies, desires, beliefs, attitudes, values, behaviours, practices, roles and relationships. While sexuality can include all of these dimensions, not all of them are always experienced or expressed. Sexuality is influenced by the interaction of biological, psychological, social, economic, political, cultural, ethical, legal, historical, religious and spiritual factors. *(Adapted from Public Health Agency of Canada, Canadian Guidelines for Sexual Health Education, [rev. ed.], 2008, 5.)*
- **Sexual Health**—A state of physical, emotional, mental and social well-being in relation to sexuality; it is not merely the absence of disease, dysfunction or infirmity. Sexual health requires a positive and respectful approach to sexuality and sexual relationships, as well as the possibility of having pleasurable and safe sexual experiences, free of coercion, discrimination and violence. For sexual health to be attained and maintained, the sexual rights of all persons must be respected, protected and fulfilled. Sexual health is influenced by a complex web of factors ranging from sexual behaviours, attitudes and societal factors, to biological risk and genetic predispositions. *(Public Health Agency of Canada, Canadian Guidelines for Sexual Health Education, [rev. ed.], 2008, 5.)*
- **Abusive Behaviour**—Behaviour that is intended to intimidate, isolate, dominate or control another person, which may be a single incident or a pattern of behaviour. Abusive behaviour includes physical abuse, sexual abuse and exploitation, neglect, emotional maltreatment and exposure to domestic violence.
- **Gender-Based Violence**—Any form of behaviour – including psychological, physical and sexual behaviour – that is based on another individual's gender and is intended to control, humiliate or harm that individual. This form of violence is generally directed at women, girls, trans people and is based on an attitude or prejudice, which can be conscious or unconscious and which exists on the individual and institutional level, that aims to subordinate an individual or group on the basis of their sex and/or gender identity.

Guiding Questions

- Do you think popular culture and music videos promote healthy or unhealthy relationships?
- Are all types of relationships (e.g. heterosexual, LGBTQ+) depicted in music videos? Why or why not?
- Can you suggest a musical or graphic artist who represents a positive healthy relationship in their work?

Curriculum Links

This module has students evaluate the factors that make relationships healthy or unhealthy, which is a good fit when studying the dynamics of human relations in some **Social Science** curricula. Students will also examine how the media has an effect on people's view on relationships. These expectations can easily be carried over to the **Health and Physical Education** curriculum. Cross-curricular links can also be made to subjects including **Civics** (human rights, harassment, legal implications), **Digital Media** (critical thinking and consumption of digital media), **World Studies** (gender issues across cultures), **Communications Technology** (creating games and apps to promote healthy relationships) and **Conflict Resolution** (communication, self-esteem, boundary-setting).

Materials Needed

- Cross the Line statements (see below)
- Deck of playing cards
- Laptop and projector to show videos (optional)
- Discussion starter sheets for music video
- Ticket out the Door sheets (one per student)

Non-Computer Introduction Activity

1. Cross the Line Icebreaker
Have students stand on a line facing the instructor. Remind them that it is important to respect each other and be understanding, because everyone has had different life experiences. Students step forward when a statement applies to them and backward if it does not. After each statement, students return to the starting line in preparation for the next statement. Teachers can use their own statement or use the following statements.

- *You play sports*

- *You have left Canada*
- *You like oatmeal*
- *You have been bullied at school*
- *You have a step-parent*
- *You are an only child*
- *You are a leader*
- *You have judged someone on the way they look*
- *You like chocolate*
- *You have felt left out of a game or activity*
- *You have sung karaoke*
- *You have had your name mispronounced*
- *You have intentionally hurt someone's feelings*
- *You like the colour green*
- *You have felt pressured to do something you didn't want to*
- *You feel there are different expectations for people based on their gender*
- *You were raised by a single parent*
- *You have been called a mean name*
- *You are trying to be a better person and treat everyone as equals*

2. Think, Pair, Share

Think, pair, share with an elbow partner your ideas of words that describe a healthy relationship. Brainstorm with the larger group.

Choose a new partner and identify actions or behaviours that would constitute an unhealthy relationship. Share with the larger group.

Computer Activity #1

Hand out the lyrics of a popular song that address a relationship between two people (romantic or platonic), along with the following questions to students seated in groups of four. Show the music video for this song to the group.

Discussion Questions:

- What does this song imply about this relationship?
- Is there anything you think needs to be changed in this relationship?
- Do the people depicted in the video love each other? How do you know?
- What observations can you make about their relationship?
- Do the people depicted in this video have a healthy body image? Why or why not?
- What kind of responsibilities might they have outside this relationship?

Allow 10 minutes for small groups of students to discuss some of the questions on the sheet. Students as a small group can choose which statements they wish to discuss. Have the small groups return to the larger group and summarize their discussions.

Students can search for videos they would like to present in the next class. The videos must demonstrate aspects of healthy or unhealthy relationships, domestic violence or sexuality. Discuss appropriate boundaries for your class related to appropriate language, respect and images in the videos.

Students should prepare questions so they can facilitate a discussion on the relationships and sexuality depicted in their video. They can also have excerpts of lyrics and images ready so the class can discuss their meaning.

To conclude this activity, have students make a group video similar to a talk show. Students will decide on categories relating to sexuality and healthy and unhealthy relationships that they will discuss as a group.

Computer Activity #2

Following this lesson plan is a tutorial in which students will use TikTok to create a short video song, skit or poem to share how they would like to be treated in a healthy relationship.

Extension Opportunities

This task can be completed as a progression where in future lessons students will bring their own favourite music video links and lyrics to class to start discussions around concerns that are current for them. The end product can be a collection of students' choice videos that depict broader issues in teen sexuality. This strategy can be used over an entire unit to start each class with one or two students presenting a video, with lyrics in a handout, and a discussion.

Conclusion

Exit Ticket: Provide students with half a sheet of paper for them to respond to the following three statements at the end of class.

- Name three aspects of a healthy relationship
- Name three signs or symptoms of an unhealthy relationship
- Name a place I could go for help if I needed to leave an unhealthy relationship. This can be an online resource or a physical location

Collect the sheets as students are walking out the door. A list of resources or places that students can go if they need to leave an unhealthy relationship can be compiled and posted in the classroom.

Additional Resources

- Health NU **qhrc.ca/cases/health-nu-app**
- Kids Help Phone **kidshelpphone.ca**
- Government of Canada Department of Justice: Get Help with Family Violence **www.justice.gc.ca/eng/cj-jp/fv-vf/help-aide.html**
- Global News: Overcoming Abuse **globalnews.ca/news/4939573/legal-help-shelters-family-violence-canada/**
- Macleans Magazine 2019: We Are the Dead **www.macleans.ca/news/canada/we-are-the-dead**
- Reading Rockets: Think, Pair, Share **www.readingrockets.org/strategies/think-pair-share**

Tutorial

Project: Creating a TikTok Video to Compare Healthy and Unhealthy Relationships

Note to Teachers

In this tutorial students use **TikTok** (**www.tiktok.com**) to create a short video, song, skit or poem to share how they would like to be treated in a healthy relationship. In groups of five, students will need to plan out how they want their videos to look before recording them. Later, the videos can be shared with other groups and they can discuss the differences. ***Always*** *obtain students' permission to appear in a video.*

Introduction

What does a healthy relationship look like compared to an unhealthy one? You may think an unhealthy relationship just means arguing about everything. This is a typical example but there are many factors that can make a relationship unhealthy. Some signs of an unhealthy relationship include feeling pressured, confused or scared. Every relationship can be hard to navigate at times, but learning the signs of an unhealthy relationship vs. a healthy one can help you throughout your lifetime. In this activity we are going to consider the signs of a healthy relationship and create a TikTok video to share in a creative way how we want to be treated in a healthy relationship.

Step-by-Step Instructions

Step 1: To begin, start by listing all the ways you want to be treated. For example:

I want my partner to treat me with...
- Respect
- Kindness
- Love
- Encouragement
- Support

Step 2: After listing the ways you want a partner to treat you, plan out a skit, song or poem that incorporates these signs of a healthy relationship.

Step 3: Using TikTok, record your song, skit or poem.

TikTok Overview

You will find this overview useful if this is your first time using TikTok.

After opening TikTok, click on the **plus sign** at the bottom of the screen. This will then take you to the video editor.

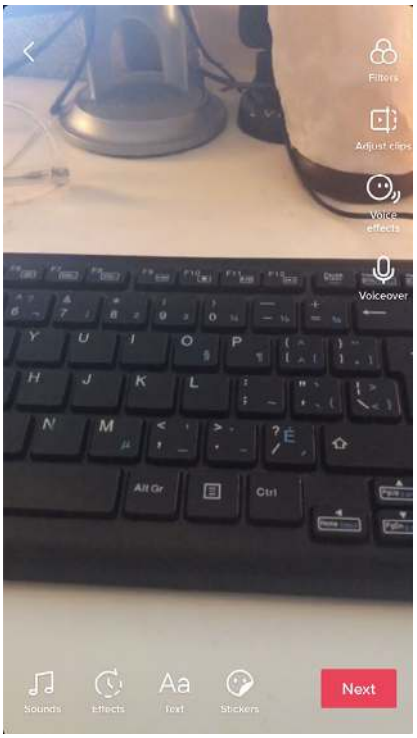
You'll need to decide if you're going to use a song or if you want to use voices. To add a song use the **Sounds** button at the top of the screen and search for a song that works for your video. Along the bottom of your screen you will see **Effects**, a **Record button** (red circle), and **Upload**. There are hundreds of effects to choose from, so you might want to explore these and see if any of them suit your video. **Record** is the button you click when you are ready to start recording. Upload allows you to **upload** an image or video from your phone or tablet to the app.

Under those three options are **60s** and **15s**—this is how long you can make your video. Beside the times is the **Templates** folder—here you will find templates for creating videos from photos.

Down the side of the screen is a toolbar where you'll see more options for editing your video.

- **Flip** switches between the front- and rear-facing camera
- **Speed** turns the speed bar on and off. Using the speed bar allows you to slow down
- **Beauty** mode will turn on smoothing for your skin
- **Filters** can change the colour of things, and make your image look more cinematic
- **Timer** allows you to select the countdown time before recording starts

Once you have started to record your video you can view how it looks by clicking the **Check Mark** that appears at the bottom right of your screen. There is also a **Back** button that allows you to delete sections of your video if you are not happy with it.



Here are a couple of things you can add to your video:

Text

TikTok has text-editing feature that you can use to add text to your videos. To use it:
- Tap the text icon on the video editing page
- Type your text
- Choose the colour and font you prefer
- Change the size and position
- Define when the text will appear and vanish

Adjust Clips

Allows you to take several video clips and move them around to determine the sequence of the video.

When you are done with your video, hit **Next**. You can either save your video in your drafts or post it to TikTok publicly or privately. Once your video is complete, share it with the rest of your class.

TECHNOLOGY AND SOCIETY

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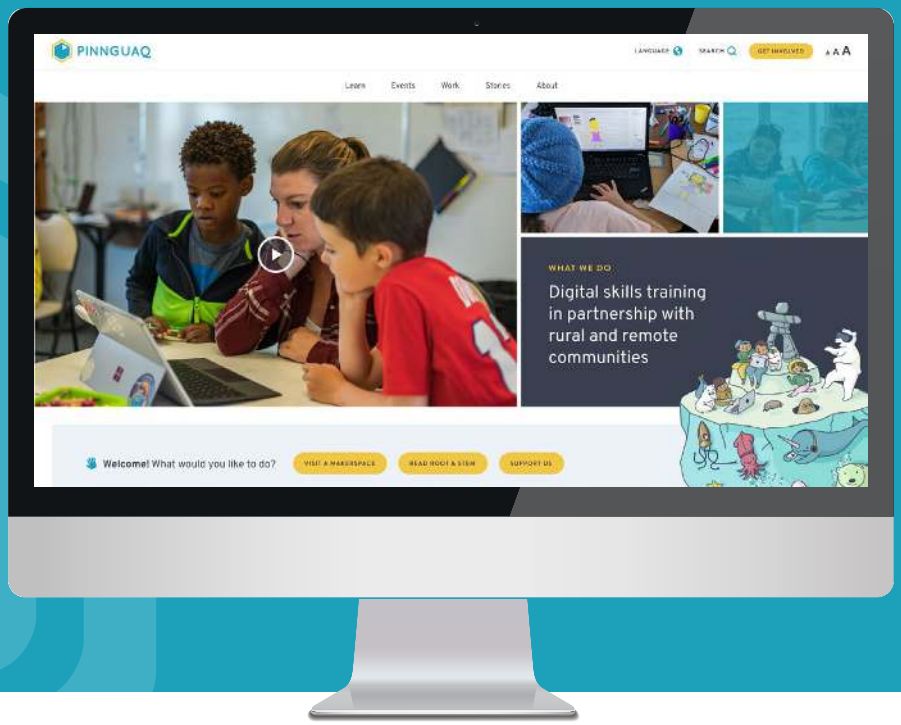
EDUCATOR RESOURCES



LOOKING FOR MORE CONTENT?

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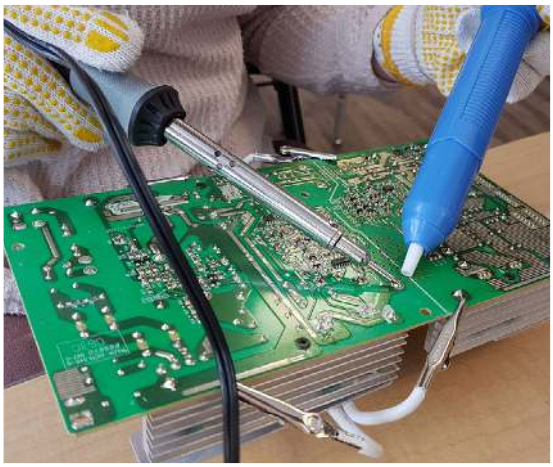
Pinnguaq's online learning space encourages educators and students to create and use digital technology to inspire and solve challenges in their community.

Do you have a resource you would like to share with our community?
Email **STEAM@pinnguaq.com** to share with us.

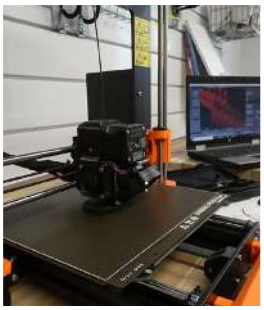
If you would like to receive **free** print versions of *Root & STEM*, please send your mailing address to **STEAM@pinnguaq.com**.











PINNGUAQ
MAKERSPACES

Community spaces for people to explore, make, create, think, play, share, learn, unlearn, hack and discuss

pinnguaq.com/makerspace