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Sous la direction de
Florent MICHELOT et Simon COLLIN

Préface de
Daniel Peraya

La compétence numérique en contexte éducatif

Regards croisés
et perspectives internationales



Presses de
l'Université du Québec

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Addressing Indigenous Needs and Fostering Inclusion Using the Medicine Wheel

An Indigenous library perspective

Paula DAIGLE

Dimension covered

Using digital tools to foster inclusion and address diverse needs

Keywords

Digital Divide; indigenous students; internet access; medicine wheel teachings

School levels covered

Postsecondary

Summary

This chapter is a reflection on how knowledge of the medicine wheel can be used to guide 21st century digital literacy and skills forward in First Nations and Indigenous communities. What is the medicine wheel and how can we use it as our guide to move forward in a good way? Anecdotal stories and examples of digital tools and skills in use in communities show that we should be working to meet the mental, spiritual, emotional, and physical needs of community members, and that the medicine wheel can be our guide to build skills in all communities.

Résumé

Ce chapitre présente une réflexion sur la manière dont la connaissance de la roue de la médecine peut être utilisée pour favoriser la littératie et les compétences numériques du 21^e siècle auprès des communautés autochtones et des Premières Nations. Qu'est-ce que la roue de la médecine et comment pouvons-nous la mobiliser comme guide pour aller de l'avant ? Des exemples et des anecdotes sur la façon dont les outils et les habiletés numériques sont utilisés montrent que nous devrions nous efforcer de répondre aux besoins mentaux, spirituels, émotionnels et physiques des membres de ces communautés. Le cercle d'influences peut nous servir de guide pour développer les habiletés dans toutes les communautés.

Prior to COVID-19's lockdowns, our library and university overall were filled with students, mostly Indigenous, all wanting to learn more about their own culture and/or Indigenous culture as a whole. This would have likely included classes from the Indigenous art program, Indigenous language classes such as Cree and Sauteaux; perhaps classes in Indigenous Education or Indigenous Social Work, to name but a few. This chapter would look very different if it was not for Covid. There would be many quotes from students and faculty who utilize our campus libraries speaking about their digital literacy knowledge, skills, and gaps. However, unfortunately when things move online what you miss out on are the impromptu meetings and chats. Hence most stories and anecdotes are from the experience of working with First Nations University of Canada (FNUiv) and its students and faculty for over seven years running the three campus libraries.

While we believe that effective Indigenous engagement involves not just mere consultation but should have direct and meaningful student involvement with our First Nations students, the timing to engage in person just could not be worked out. While finishing this chapter in September 2022, students, faculty, and the community did come together in unity for the tragedy at James Smith Cree Nation, shooting how important it is to be part of a community of caring individuals. "All my relations" is a term that is used widely among First Nations people in Canada, and it, along with the medicine wheel, helps guide everything we do here at FNUiv.

The digital competency in question

1. How can we use the teachings of the medicine wheel to address needs and overcome digital skill and resource barriers?
2. What are the barriers to successful digital competence within Indigenous communities?
3. How can digital tools be used effectively to address culture and language loss?

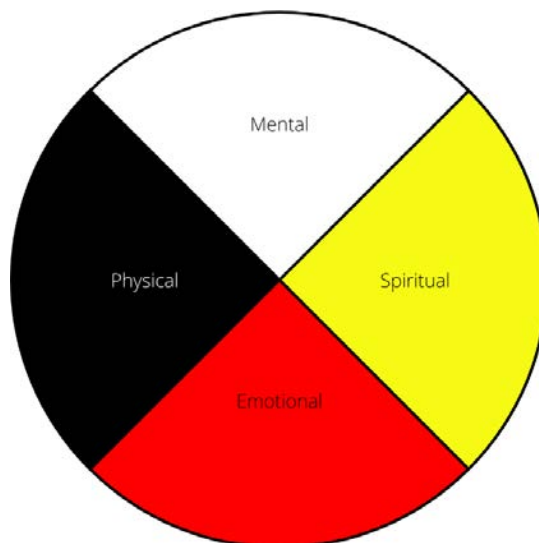
1 Background

First Nations University is the largest Indigenous-governed academic institution in Canada. Created in 1976 under the original name of Saskatchewan Indian Federated College with the signing of a federation agreement with the University of Regina, it changed its name to First Nations University of Canada in 2003. Created with the goal of "... serv[ing] the academic, cultural, and spiritual needs of First Nations students" (First Nations University of Canada, 2021, "Mission" section), it has grown from 9 students in 1976 to maintaining an annual enrollment of over 3,000 students across 3 campuses, off-campus through community-based programs, and online programming (First Nations University of Canada, 2019). Off-campus programming has been facilitated with the growth of digital tools to allow students to often remain in their home communities to complete their certificates, diplomas, and degrees.

1.1 Introduction of the Medicine Wheel as it Relates to a Students' Spiritual, Emotional, Physical, and Mental Needs

“The medicine wheel is an ancient and powerful symbol of the universe. It is a silent teacher about reality. It shows the many different ways in which all things are connected” (Bopp *et al.*, 1988, p. 34).

Figure 1
The medicine wheel



No matter which tribe a person belongs to, all generally refer to the following gifts at each direction of the medicine wheel: spiritual, emotional, physical, mental, and volitional (Bopp *et al.*, 1988). Our university emphasizes all these aspects of life in our community. As pointed out in *The Sacred Tree* (1998), “A person who does not achieve this balance in her life will not be able to develop her full potential as a human being. She will not be able to become all that she can be. This is one of the great lessons of the Medicine Wheel” (p. 41). The medicine wheel is used to show the tight connection of a person with everything else in creation, and in order for our students to have a full and complete existence, we take our support of them in this regard to heart. Just as the sun begins its travel from the East, so too does the medicine wheel (Bopp *et al.*, 1988).

The East is the Spiritual direction, centred in guidance and leadership, and watching over the well-being of others (Bopp *et al.*, 1988). FNUniv offers elders services for guidance, monthly pipe ceremonies, and counseling services to name but a few to create that spiritual community. Many courses incorporate spiritual and cultural components. Many of our biology classes, for example, incorporate medicinal plant teachings from community elders, and our Indigenous Studies classes have included important spiritual teachings about buffalo in the past.

The South is the Emotional direction, a place of preparing for the future, generosity, being sensitive to the feelings of others, the ability to choose goals and decide to go after them and being able to express feelings in a kind way (Bopp *et al.*,

1988). It is our job to prepare students for their future since, without a goal, a student could flounder. There are many opportunities for students to participate in student associations, round dances, powwows, and feasts (food is a common element in many cultures to bring people together) here at the university as students learn about service to others and being kind and caring.

The West is the direction of the Physical. It is a place where you accept you are a physical as well as a spiritual being and that keeping in close contact with your spiritual nature is important. Of its many gifts, it includes respect for elders, the gift of ceremony, and the gift of vision: “We must have some vision, some ideal or goal to look toward, or else we will have no way of knowing what we must do” (Bopp *et al.*, 1988, p. 63). Besides our many cultural activities, our Ceremonial Teepee is always open for students who want to smudge, and our elders and other knowledge keepers have offices for students to visit and gain knowledge.

The North is the direction of Mental or intellectual gifts. The ability to think, synthesize, imagine, solve problems, analyze and understand, calculate and criticize, and interpret hidden meanings (Bopp *et al.*, 1988) – it is these kinds of capacities that we hope our students will achieve through guidance from our university community. While many may at first consider the North to be the end of their journey around the medicine wheel, there is knowledge that “[t]here is no ending to the journey of the four directions. The human capacity to develop never stops. The medicine wheel turns forever” (Bopp *et al.*, 1988, p. 73). When we see ourselves in the centre of the medicine wheel, we realize that there is balance and that each gift works with the others to give us a well-rounded experience.

It is this well-rounded experience that we work as a community to provide to our students at FNUniv and our libraries. We try to ensure that the mental, spiritual, emotional, and physical needs are met for our students and users, understanding that everything is cyclic.

1.2 Background

FNUniv is a unique Indigenous place of higher learning, with one of the unique aspects of the campus being the spiritual components of campus life. As previously mentioned, there are campus elders at each campus whose role is to offer guidance (both spiritual and social) to students, faculty, and staff. FNUniv’s Elder’s office coordinates teepee raisings, monthly pipe ceremonies, and smudgings in addition to providing guidance. This connection is important, as we have students who arrive on our campuses who want to get back in touch with their heritage. This includes students who may have been part of the foster care system or are a child of a parent who was in the child welfare system, where they may have been placed in non-Indigenous foster homes. Anecdotally, we are told by many students that this is a major reason that they are coming here – for the cultural connection that was lost when they, or members of their family, were removed from their home communities, and is the usual reason that a student enters our Bachelor of Indigenous Social Work program (usually due to their experience with some aspect of the child welfare system). As Chief Cadmus Delorme said when Cowessess First Nation was transferred control over children in care, “. . . this [agreement] focuses on those children who are in care . . . that they think they are from Cowessess, but they don’t know what that means” (Solomon, 2021, 1:42). This

is common for First Nations across Canada, as once children are in care, there is that lost connection with their home community.

FNUniv takes a lot of steps to introduce, and re-introduce, Indigenous culture. From powwows to pipe ceremonies, to feasts and round dances, we work according to the idea that a student does not represent only academic knowledge. Students need to have their spiritual cup filled as well to be well-rounded and successful students. We also help look after their physical selves and feed their stomachs. Food is a large part of our community building, with even our libraries giving free coffee and snacks to students. We feed minds, bodies, and souls; our departments work with students on their spiritual needs and journeys, provide food to remove physical barriers to success; counseling, and safe spaces to meet emotional needs and reduce those barriers, and; classes rooted in Indigenous culture to engage them mentally.

1.3 Typical Learner Profile

“Indigenous people face many barriers to postsecondary education such as having to relocate, lack of guidance and culturally appropriate curricula, inadequate funding, as well as the impact of intergenerational trauma” (Arriagada, 2021, p. 2).

The FNUniv students come to their first year with a variety of digital skills. Since 2015, our libraries have run lunchtime sessions on the common things we get asked to assist with, things such as how to analyze a website and decide if it is reliable, creating citations and working with citation managers, surviving *MS* Microsoft Word, creating a Microsoft PowerPoint, and how to effectively use our library databases, to name a few. We also encounter students who do not have the Internet at home and/or computers at home. We often hear of students who try to write their papers and attend online classes using solely their mobile phones. Needless to say, all three of our campus library computer areas are well-used.

While we like to believe that every student here is special, there is a uniqueness to our registered FNUniv students. Many universities have mature students. The University of Regina (to which FNUniv is affiliated as a Federated College) defines mature students as “. . . individuals who are over the age of 21, have taken less than 15-24 credit hours of university courses (depending on the faculty), and do not meet the high school admission requirements” (University of Regina, 2022). Other universities across Canada may define “mature student” in a slightly different way. However, commonalities usually include the student not applying directly from their last year of high school, usually meeting an age requirement, and having been out of university or school for a set period of time.

For most universities, the largest group of students are usually those applying directly from high schools, and the University of Regina is no different. A Fall 2021 admission report for the University of Regina shows 1,710 students from Saskatchewan high schools enrolled out of a total of 4,637 new students; there were 220 mature students in this same term. Compare that to FNUniv, which had a total of 383 new student enrollments, with 107 being from Saskatchewan high schools and 151 being mature students. FNUniv has a large number of mature students in all programs and across all three campuses, which comes with unique gifts and challenges.

Existing research has shown that Indigenous students face many barriers to accessing and completing postsecondary education, including the lack of

academic preparation and guidance, inadequate financial resources, lack of relevant or Indigenous-specific curricula, and the loss of community, family and cultural support systems often due to the need to relocate to places far from their homes (Arriagada, 2021, p. 6).

FNUiv students typically have a lived experience before coming to university and bring that life experience to class. There are many who are intergenerational trauma survivors, many who come to FNUiv to learn about their culture, especially if they were a 60's Scoop child and adopted by a non-Indigenous family, and there are those students who have gone to residential schools. As the classes are not exclusive to FNUiv, they are mixed with Indigenous and non-Indigenous students, both Canadian and international.

2 Digital Divide

Around the world, the term “digital divide” is referred to as the gap that exists between those who have information and communication technology (ICT) access and who are able to use it effectively to participate in society, and those who do not. Criteria for this classification include gender, age, education and/or income levels, social groups or geographic location (UNESCO-UNEVOC International Centre, n.d.).

2.1 Digital Divide and Having to Leave Communities for Work and School

Many factors contribute to differences in the educational attainment of First Nations people, Métis and Inuit. One is the geographic distribution of these three Indigenous identity groups, which can affect access to education. This is particularly pertinent to First Nations women living on reserve as well as Inuit women living in Inuit Nunangat, where access to education is much more limited, and many have to leave their communities to attend educational institutions. (Arriagada, 2021, p. 3)

In 2015, our first year here at FNUiv, we met a woman named Mary (not her real name) in our Indigenous Education Degree program. She was always in the library as she did not have a computer at home, and as you do with regular patrons, we would often chat. Although she had been here for less than a year, and some of her details are fuzzy, she sticks out in our minds because we remember her situation. She lived in the far north of Saskatchewan with several children (some her own, some she had taken in) and her husband was home with the children. He would periodically fly into Saskatoon to *shop for their groceries*, as it was less expensive for them to do a large grocery shop an hour+ plane ride away than buy food in their community. It also baffled us that she had to leave her community and that she wanted to go back to teach at her reserve school, not stay in the city to be closer to things such as grocery stores. As we talked to more students that year and in years since, I began to realize that this situation was not really all that unique to Mary. Almost all our students, at some point, had to leave their home communities in order to move closer to their education institutions to continue with their diplomas and/or degrees, and most had the goal to return to their home communities when they were done. Mary was also a mature student and had been working on her reserve. In order to finish her teaching degree, she had to give up her job and that paycheque in order to move to Regina. If this had been as late

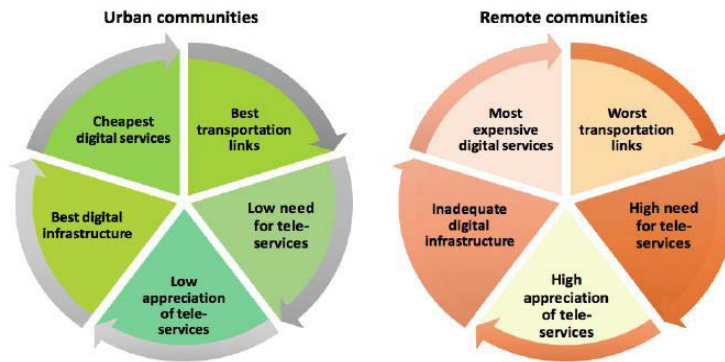
as 2020, she would have been able to remain in her community and finish her degree while possibly working part-time since there has now been a shift to online learning. Of course, this would only be possible if there was stable Internet on the reserve and if she had a computer at home.

2.2 Digital Divide and Internet Access

Let’s examine some basic statistics RBC compiled in their 2021 report “Building Bandwidth: Preparing Indigenous Youth for a Digital Future,” in which they led a series of conversations with Indigenous youth, educators, employers, and community leaders across Canada to determine their (youth) readiness to prosper in an increasingly digital economy:

- high-speed Internet is only available in 24% of Indigenous communities across Canada;
- in 2/3 of the jobs held by current Indigenous workers, the latter are expected to change and require different skills;
- emerging technologies such as machine learning, robotics, augmented and virtual reality, blockchain and the Internet of Things¹ caused a rise in demand of 36% in 2019 (RBC, 2021, p. 3).

Figure 2
The paradox of telecommunications



Source: *First Mile Connectivity Consortium (2018)*²

At the root of Internet of Things skills is Internet access. Rural and remote Indigenous communities are the norm across Canada and setting up Internet can be prohibitive for many companies.

Many remote and rural Indigenous communities are located in some of the most challenging and beautiful terrain on our planet. The engineering, volume and quality

¹ “Internet of Things” is defined as the development of the Internet where items will be embedded with microchips to give them network connectivity and to be able to send and receive data; generally used to refer to anything Internet-related or Internet-based (*Oxford English Dictionary*, 2023).

² Cf. <http://firstmile.ca/wp-content/uploads/Stories-from-the-First-Mile-2018.pdf>

of technology required to develop, deliver and maintain broadband networks in these areas are complex and costly (First Mile Connectivity Consortium, 2018, p. 17).

As illustrated in Figure 2, urban communities fare far better than remote. First Mile Connectivity Consortium (FMCC) further expands on this, describing the central element of their research as a “market failure” where those communities that need it (Internet) the most do not have the population to attract telecommunications companies as profits would be low compared to urban centres. If these companies can secure public funds in the form of taxpayer dollars for the needed infrastructure, they must still charge higher prices for basic services to cover maintenance and profits. A higher price, in this case, does not mean better services, and there is a marked difference in urban and remote services and prices (First Mile Connectivity Consortium, 2018). Looking at Saskatchewan as an example and using the town of Prince Albert (Prince Albert is known as the “Gateway to the North” [Brennan, 2022]) as a divider as to what reserves are considered “north” and what reserves are considered “south,” of the 70 reserves in Saskatchewan, there are 27 First Nations that are in the northern part of the province (Government of Canada, 2021). Most First Nations reserves are considered “rural” and, as such, do not have the same access to infrastructure as urban areas.

The COVID-19 lockdowns highlighted disparities between rural and remote communities and urban centres. The Yellowhead Institute made a note of this in a 2020 report on COVID-19 in Nunavut, pointing out that although many companies shifted to a work-from-home model for employees, “. . . the limited and outrageously expensive internet options in the North (in addition to a lack of home computers) mean[t] that for some, working from home may be an insurmountable challenge” (Penney & Johnson-Castle, 2020, p. 3). An Indspire survey from 2020-2021 provided more student information from those students who had to move their lives online and into their houses. Of the students who responded, over one quarter did not have Internet access, and 16% did not have access to a computer (Indspire, 2021, p. 4). These learner needs, which consist of computer access, Internet access, and study space access pre-pandemic, would have been met by libraries such as our own, with our common study areas, computer labs, etc. Our libraries fielded numerous inquiries from students looking to study in our space; a few of them even resorted to renting office space to complete courses and exams with the university space shuttered. The COVID-19 lockdowns and change in work requirements highlighted for all of us the importance of having reliable and competitively priced Internet at home.

2.3 Digital Divide and Education

To help Indigenous students transition to higher levels of schooling and improve their educational outcomes, many Canadian universities are providing culturally sensitive academic, financial and social services. Furthermore, a number of Indigenous educational institutions across Canada offer programs grounded in Indigenous languages, pedagogies, and cultures, which also helps Indigenous students with the transition to and completion of postsecondary education. (Arriagada, 2021, p. 7)

As previously mentioned, many of our students must leave their home communities in order to access education even now despite the widespread usage of Zoom and other similar platforms. Statistics show a large gap in education attainment

among youth (those people between 24 and 35) and whether they are Indigenous or non-Indigenous. Indigenous youth who have postsecondary education amount to 45%, while the number of non-Indigenous youth is 71% (RBC, 2021, p. 2), which is a considerable difference. When students arrive and work in our libraries, they do not come with a full working knowledge of digital or academic skills. Considering this, we conduct “boot camps” on things such as Microsoft Word, general writing, and presentation software, and almost every Indigenous Studies class organizes a class on researching and utilizing our catalogue, with a focus on reducing students’ use of non-academic sources. This mirrors the RBC 2021 study that found that while Indigenous youth are confident in their “foundational skills” (i.e., those skills often referred to as “people skills”), there is a significant digital divide when it comes to feelings of confidence with technology skills. Indigenous youth scored 13 percentage points lower than non-Indigenous youth in their feelings of being prepared for the more technology-based workplace, with the widest gap between those who are still in school narrowed as work experience was gained (RBC, 2021). Our students, either from being mature students and being out of school for a long period of time or not having had a lot of technology in their schools, often need significant support in this area.

So, does all of this mean that Indigenous students are not going to advance, or make advances, in the digital economy? Not at all. Increasingly, Indigenous communities are taking control of their own Internet services and, through different grants and partnerships, are creating their own networks. These communities are recognizing the limitations and importance of digital networks. Starting in 1984, with Abenaki Associates established in Eel Ground First Nations in New Brunswick, to 2005 and the establishment of Northern Indigenous Community Satellite Network, Canada’s first community-owned Indigenous broadband, to most recently Beaver River Broadband LP, Indigenous communities are providing the technology to set examples for their youth.

Students are smart and clever, and instructors see a lot of the clever adaptations that students will make. Already mentioned were the students who, either due to lack of a laptop or computer at home or lack of bandwidth, possibly from their children doing their homework, would take their video classes and/or do their assignments on their mobile devices, usually their phones. A colleague at another institution who worked exclusively with upgrading students to get their high school certificates talked at length about how she flexed for her students who worked exclusively with mobile phones. She said that if a teacher is willing to flex, a student will be creative. One example she provided was a father who did a presentation for her Biology class via Zoom while waiting in his car to pick up his children. He had dumped his Microsoft PowerPoint presentation into *OneDrive*, loaded it and had his presentation to the class done by the time his children got into the car. As she reminded me, when working with these students, she recognized a “cell phone assignment” and was more interested in the content than the formatting. She flexed, and her students met the standards of the course and also the spiritual, emotional, physical, and mental aspects of the medicine wheel.

Just as students adjust to digital education changes, so too do universities, and FNUniv is no different. During the Covid lockdown, our Art department came up with a brilliant solution for teaching students remotely. Normally, an art class takes place in a studio with an art instructor drawing and demonstrating in front of the students and giving immediate feedback on their own drawings. With the university space closed and many students having to return to their home communities, the Art

department fixed up a downward-facing camera for the Art instructor to demonstrate different drawing techniques via Zoom. This digital solution allowed students to continue their Art program online using Zoom and their digital devices, be they a laptop, desktop computer, or mobile phone.

This trend of using mobile phones exists not just in Canadian reserves but also in the United States reserves. A relevant study from Showalter *et al.* (2019) collected and analyzed anonymous Internet traffic over five weeks in February and March 2018 from the Tribal Digital Village (TDV) network. Founded in 2001, this tribally-owned Internet service provider offers service to 13 Native American reserves in eastern San Diego County, California. Among the results of their analysis was the revelation that 62.7% of connections made were initiated by mobile devices, with Android devices making the most connections (39.6%), iOS handheld being second with 22.3% and Windows desktops coming in third with 17.1% (Showalter *et al.*, 2019). Further interesting findings were that for the entire United States, the three main operating systems were the same, but in the opposite order: Windows desktop at 37.11%, iOS at 29.43%, and Android at 19.68% (Showalter *et al.*, 2019).

Knowing that many students were using their mobile devices, be they laptops, tablets, or mobile phones, many of our instructors tried to balance the need for online instruction (especially during COVID-19) while being aware of the limited technology skills of some of our arriving and mature students. Extra effort was taken to provide tutoring opportunities: the university invested in a campus-wide Zoom account, and video resources were used on the university-wide Learning Management System (LMS) and UR Courses. Instructors who had previously been uncomfortable with online learning themselves quickly adapted to UR Courses and assisted students with this transition. When instructors were asked about their favourite digital tools used with and by students, there were multiple people who commented on the ability of Zoom “. . . for its connectivity for students from various places in the province, even in the country. I see a lot of future possibilities there for courses being more accessible to various Indigenous communities” (personal email, 2022) and making pre-recorded or recorded lectures and notes available to students. Many commented especially that sometimes a student, due to circumstances such as family need or lack of Internet, cannot attend a class. Slow bandwidth is a common complaint especially from families with children using the Internet at the same time for schoolwork. To have pre-recorded or recorded lectures and notes available allows students to stream and follow along when they are able to. The LMS not only provides areas for videos to be uploaded but also has a quiz option that many instructors are now using, as well as the ability to create online discussion forums. Outside of the LMS, other digital tools such as *Pecha Kucha* and online presentation software were also mentioned. Being flexible with how students learn and how well they can access digital resources has brought success to students.

2.4 Digital Ebooks

From my beginnings in the University library in 2015 until now, I have observed many changes in students' use of and desire for digital tools while working on their papers and other assignments. In 2015, we conducted an informal survey of students using the FNUniv library regarding ebooks. They did not seem popular, so we wanted to see how students felt about them. At that time, couriers were going twice a week (Tuesdays and Thursdays) back and forth between campuses to deliver material requests. This

could be a significant delay if a student put a request in on Thursday after the courier left, meaning it would be five days until they received their material request. When students would inquire at our circulation desk about a book at another campus, we would look it up in our Library Management System, and if it was available as an ebook, we would ask the student if they would still like to have the physical item, or would they like to be shown how to access the ebook. Nine times out of ten (90%), the students surveyed in a month wanted the physical copy of the book and were prepared to wait five days for the material instead of using the ebook. The most popular comments we would receive were that the student was “more comfortable” and/or “felt safer” with the physical copy. Our library did not actively begin purchasing ebooks (relying instead on ebook packages purchased by the University of Regina) until 2019, one year before the pandemic. This change was due to an increase in faculty demand for ebooks, the increase in faculty wanting to cut textbook costs for students, and the push for more off-campus programming and allowing off-campus students easier access to required readings.

In 2015, many of the cultural books we were using were not available for ebook purchase by libraries. While large publishers such as Pearson Canada and McGraw Hill still have limits on what ebooks can be purchased by libraries, during the COVID-19 pandemic and since we are seeing a move towards more ebooks being available for our purchase from a wide variety of publishers. We also are seeing more requests for other teaching materials, such as streaming videos. Due to connectivity issues on many reserves, we also keep a collection of DVDs for students and faculty to use.

As mentioned above, our libraries have been purchasing more and more ebooks since COVID-19. Being able to tell a student that we have an ebook of the title they are looking for is one thing. Having them use it effectively is another. During the school year, we teach a number of Library Introduction sessions for students. Every year, we have numerous questions during these sessions about how to access and then read an ebook. Ebooks have numerous advantages for students, the biggest one being that licenses can often be purchased, giving unlimited access to a title, meaning that all students in a class can have access at the same time to the same title – a huge bonus if you are trying to cut down on textbook costs. However, complaints about what books can be ordered and many students preferring the safety of print material still has us purchasing those paper copies of material.

We cannot deny, though, that ebooks are becoming used more frequently in libraries and schools worldwide. A January 2022 news release from *OverDrive*, the library and school market’s leading digital reading platform, reported that during 2021 a record 506 million ebooks, audiobooks and digital magazines were borrowed by users. This was a 16% increase from 2020 (*OverDrive*, 2022). *OverDrive*, while mainly used in public libraries and K-12 schools, is also used in academic libraries, including ours. Borrowing of ebooks does require digital knowledge by a student as the ebooks are either read in their browser, downloaded as an EPUB edition (requiring Adobe Digital Editions to read), or accessible through *OverDrive*’s proprietary Libby app, making reading on a mobile phone (our students’ preferred online reading method) fast and easy.

2.5 Indigenous Use of Digital Resources

Reading material is, of course, not the only thing that our students use their mobile phones to access. Podcasts are big with our students, and our faculty have taken advantage of that. FNUUniv, for the past 38 years, has offered a 1-year certificate and a two-year degree in Indigenous Communication Arts, known as INCA. The program is an introduction to journalism but allows students to tell their own stories in video and podcast format. The program requires classes in Indigenous history and politics, community-based research, oral traditions, languages, and art, to name a few, getting students in touch with their cultural history while incorporating digital literacy. Podcasts such as *Home on the Rez*, a 3-season 18 episode podcast series that examined housing in First Nations communities (CFNR Network, 2022), and the newest, *píkiskwéwin*, an Indigenous-language podcast project “that encourages the revitalization of endangered Indigenous languages” (Redman, 2022, para. 1). The project was meant to draw attention to Indigenous languages and address cultural gaps by bringing elders and youth together. As elders pass away, and due to language and culture loss from events such as residential schools and the 60’s scoop, “you’ve got to get young people interested in learning their languages again, and that means you’ve got to have good teaching and good, interesting things for them to want to learn,” Shannon Avison says (Redman, 2022, para. 11). One podcast, *Mawmaw Sachweezin: Mom’s Kitchen*, a Michif podcast hosted by Alexander Pelletier, is a cooking podcast. Alexander explains its importance: “The younger generation need to know their identity and where they came from. They need to know the history of our people and the foods”, Pelletier said. “They need to know where they came from and who they are. It’s very important because it’s an identity thing. There’s not much available for people and their languages, and therefore they’re all being lost” (Redman, 2022, para. 13). Other cultural knowledge podcasts include learning prayers from a native speaker, traditional Saulteaux parenting, Plains Cree health and traditional practices, and understanding the importance of Cree Ways of Knowing (*píkiskwéwin*, 2022). With a growing list of podcasts in Indigenous languages as well as elder interviews, it is a source for everyone wanting that cultural connection and knowledge, either through stories or language.

Taking advantage of the Internet to provide that connection to the medicine wheel’s spirit and emotion component are libraries and language learning. Beyond providing language material, another great example is the Regina Public Library, which, as part of its reconciliation mandate, offers an online “Indigenous word of the week” and “Indigenous phrase of the week” both through its website and through its other social media outlets. They have further expanded this to offer free online language lessons and Indigenous language learning tools on their website (Regina Public Library, n.d.).

Library and Archives Canada (LAC) has also taken advantage of the online environment with regard to Indigenous documentary heritage initiatives, furthering the medicine wheel’s physical component (i.e., respect for elders). LAC’s most notable work in this regard, “Project Naming,” began in 2002 with the digitization of 500 photographs of people who are either now elders or who have passed on. This photograph project of the Library and Archives was a collaborative project between them, the Government of Nunavut, Nunavut Sivuniksavut, and Inuit college in Ottawa (Library & Archives Canada, 2022c). Of the estimated 30 million photographs that are in the national archival repository, thousands of the photographs depict Indigenous people (Greenhorn, 2019). After taking the photographs back to Nunavut

communities and identifying about three-quarters of the individuals, “Project Naming” turned to a variety of other sources, including newspapers, and in March 2017, launched a dedicated Project Naming account on Facebook and Twitter. This allowed Indigenous people, no matter their location, to interact, to be part of the conversation, and to enrich it (Greenhorn, 2019). “The project also aims to inspire and empower indigenous [*sic*] youth with a renewed understanding and access to their past” (Greenhorn, 2019, p. 46). The location barrier that had existed and prevented this important learning to take place from elders to children was broken down, and the medicine wheel continued to turn.

2.6 Making Space for Elders

Besides the photo preserve that LAC continues to undertake with Project Naming, they now have an Indigenous Initiatives Division that began in 2018. One of their first funding programs was *Listen, Hear Our Voices (LHOV)*, a grant of up to \$100,000 set up for Indigenous organizations to access to digitize recordings they may be holding that contain significant cultural heritage. A unique aspect of *LHOV* was to hire archivists across Canada to assist Indigenous communities with applying for grant money as well as assisting with digitization at the community level to build those digital skills within the communities (Library & Archives Canada, 2022b).

Preserving elder knowledge is important. Our university library has undertaken a number of projects to preserve these teachings and make them available. For example, we have digitized our Indian History Film Project tapes, a collection of original elder interviews as well as elder interviews from archives across Canada; we hired and trained students in 2021 who went out to communities and recorded elders and other knowledge keepers on a variety of topics; and have assisted with storing of historic recordings of one local First Nations that they repatriated from Alberta. These projects were taken on in order to ensure that these stories, lessons, and teachings would be available digitally for future generations.

2.7 Radio and Digital Literacy

The CFNU radio station here at FNUUniv has just launched. Following in the footsteps of Missinipi Broadcasting Corporation (MBC Radio), the university broadcasts Indigenous content aimed at informing people and connecting them with their stories. Using Facebook Live, as well as a free online video streaming platform called Open Broadcaster Software (OBS) and a radio streaming service called radio.co, the radio station aims to have programming developed with two main goals: firstly, to engage, inform and inspire FNUUniv and University of Regina students, and secondly, to showcase the work of the INCA students, who are learning valuable digital literacy skills. Initial programming includes long-form podcasts from INCA Summer Institute students, news, and showcasing of other podcasts such as *Home on the Rez* and *píkiskwéwín* (Indigenous Communications & Fine Arts, 2020).

MBC Radio, founded in 1984, was formed for the Northern Saskatchewan Indigenous communities, operating out of offices in La Ronge, SK. Their story. . .

is also a story about the primal necessity for human beings to communicate. It is hearing their words in their own languages, and in their own dialects.

It is about their stories, their aspirations, their world view, their culture, and their need to know and influence progress. (Missinipi Broadcasting Corporation, 2018, p. vii)

With a mission statement that has language support and retention (while also encouraging younger people to use and keep their language) as one of its main goals, their programming takes place in Cree and Dene, with content relevant to the people in Northern Saskatchewan in English, and is available throughout Saskatchewan in 70 communities (as of 2015) and 1 community in Alberta (Missinipi Broadcasting Corporation, 2018).

The Brookfield Institute’s 2017 report, *The State of Digital Literacy in Canada*, published that Canada appears to lag behind significantly in preparing for and promoting to students and Canadians a move to a digital economy. The report further points out that the “. . . most frequently cited worries surrounding the digital economy are the disappearance of jobs, particularly low-skilled and manufacturing jobs” (Brookfield Institute, 2017, p. 21). Furthermore, a 2021 report by RBC Thought Leadership highlighted the limited opportunities that Indigenous youth have to learn those essential digital skills. “Nearly two-thirds [*sic*] of jobs held by Indigenous workers are at risk of a skills overhaul, as data, robotics and advanced technologies drive transformational change in sectors that many Indigenous communities depend on, like the skilled trades” (RBC, 2021, p. 1). This underscores the effect that digital skills will ultimately play in Indigenous students’ lives and future success. In a province such as Saskatchewan, where many of the jobs that Indigenous peoples engage in are skilled trades such as mining and working with natural resources, these areas are being overhauled. “Mining companies will need fewer truck drivers – and more people to remotely operate driverless trucks, as well as to program, maintain, and repair them” (RBC, 2021, p. 4).

It is no argument to say that computers and digital skills are essential for good outcomes in university. Our libraries try to bridge the gap that many students face coming into university. The biggest divide that we try to bridge is Internet connection and computer access. As previously mentioned, we are consistently contacted every term by instructors who want more information on our computers and library hours as they have at least one student who is trying to complete their coursework using their mobile device, usually their smartphone. FNUniv’s 3 campuses house 29 computers in our libraries, and 40 in our computer labs. Knowing that computer access was not consistent in the best of times across our student population, the university redirected \$25,000 in partnership funding from SaskPower in March 2020 at the beginning of the COVID-19 pandemic to purchase laptops that would be loaned out to students through our libraries. A total of 75 initial laptops were purchased for the program across our 3 campuses and were loaned out on a term-by-term basis. As of Fall 2022, the laptop loan program is still running and is in high demand by students and faculty alike. Since its inception, faculty as well have benefitted from our laptop program, forwarding their students’ emergencies, such as crashed computers, to the campus library teams for assistance.

2.8 Reading Skills

Our library staff knows that digital literacy cannot come before achieving other important skills, most notably reading skills.

Our roundtable with Indigenous [sic] employers stressed the importance of work exposure for Indigenous youth to build not only future skills but – perhaps more fundamentally – these basic skills. Leona Baptiste, HR Director at Osoyoos Indian Band Development Corporation, says poor reading skills are preventing many youth from getting their first jobs and moving up the skills ladder. (Indspire, 2021, p. 6)

While harnessing the power and potential of digital resources for learning and for addressing language loss and cultural preservation, the importance of reading skills that stretch across all subjects cannot be ignored. Just as each section of the medicine wheel leads to and builds upon one another, so too does reading. Krashen (2004), in his book *The Power of Reading: Insights from the Research*, provides data that shows simple reading, such as Free Voluntary Reading (FVR), improves reading ability. “The research, however, supports a strong conclusion: reading is the only way we become good readers, develop a good writing style, an adequate vocabulary, advanced grammatical competence, and the only way we become good spellers” (Krashen, 2004, p. 37). In support of Krashen’s idea of FVR and knowing that many of our mature students struggle with their writing in their first-year university courses, and to address the lower literacy and numeracy skills, our three libraries have monthly book draws. The books chosen for the book draws are meant to support our students’ Indigenous studies (e.g., a required text) or to encourage casual reading by providing a fiction or non-fiction copy of popular books. As Johnson (2013) points out, the best way to support FVR “. . . is to make sure readers have access to engaging reading materials . . . and that educators encourage reading for its intrinsic rather than extrinsic value” (Johnson, 2013, p. 33). Besides being a helpful act to assist student university success, it is also a kind gesture to students, helping to address our East (guidance and leadership) and South (generosity) roles in the medicine wheel.

Conclusion

While barriers to Indigenous digital literacy have been presented, so have empowering and inclusive acts. The most successful projects are those that consider the mental, spiritual, emotional, and physical needs of communities, i.e., those that consider the medicine wheel and its teachings for their digital projects. Although there are obstacles within Indigenous communities, most notably around Internet access, students and communities find clever ways to reach their goals. By being encouraging and filling their spiritual, emotional, physical, and mental medicine wheel sectors, students (and communities) can begin/continue to grow as they go on to explore new knowledge. When faced with adversity, students will ingeniously use technology. Expanding all of this in order to positively impact cultural knowledge, such as using podcasts for language and cultural learning, is helping students at the same time prepare for a more digital world. For Indigenous communities to continue to advocate for better Internet (and take control of their own Internet supply) on reserves is a huge step in preparing people for a more digital economy. Utilizing the Internet to find family through Project Naming and engaging community elders through radio programming brings empowerment to students and community members as they do not have to solely rely on a book for valuable information. While ebook usage has increased, especially during the COVID-19 pandemic, we know that there is no comparison to hearing a language when (re)learning that language. At the postsecondary level, we must continue to be

open, kind, and understanding of Indigenous situations and lived experiences. It is through this that students will feel a part of a community and actively engage with the community, all while moving through the four directions of the medicine wheel and picking up new knowledge with each turn.

Paula Daigle: How have digital literacy, meeting the diverse needs, and the inclusion of First Nations students played a role in my professional life?

The library is a safe space, and it has been a good reminder to re-examine library programming to help prepare students for an increasingly digital environment. Being aware of and addressing their unique needs, such as laptop needs and digital instruction sessions which would incorporate more digital literacy skills, need to become a fixed agenda item, as should advocating for better Internet services on reserves.

References

- Arriagada, P. (2021, October 20). *The achievements, experiences and labour market outcomes of First Nations, Métis and Inuit women with bachelor's degrees or higher*. Statistics Canada. <https://www150.statcan.gc.ca/n1/pub/75-006-x/2021001/article/00009-eng.htm>
- Bopp, J., Bopp, M., Brown, L., & Lane, P. (1988). *The Sacred Tree*. Lethbridge: University of Lethbridge.
- Brennan, J. W. (2022, March 29). Prince Albert. *The Canadian Encyclopedia*. <https://www.thecanadianencyclopedia.ca/en/article/prince-albert>
- Brookfield Institute. (2017, April). *The state of digital literacy: A literature review*. Brookfield Institute. https://brookfieldinstitute.ca/wp-content/uploads/BrookfieldInstitute_State-of-Digital-Literacy-in-Canada_Literature_WorkingPaper.pdf
- CFNR Network. (2022). *Podcasts*. CFNR Network. <https://www.cfnrfm.ca/podcasts/>
- First Mile Connectivity Consortium. (2018). *Stories from the First Mile: Digital technologies in remote and rural Indigenous communities*. First Nations Innovation and First Mile Connectivity Consortium.
- First Nations University of Canada. (2019). *Strategic plan: ôtê nîkân "In the future"*. First Nations University of Canada. <https://www.fnuniv.ca/about-us/strategic-plan/>
- First Nations University of Canada. (2021, January 26). *Vision & Mission—FNU nîn.ca*. <https://www.fnuniv.ca/about-us/mission-vision/>
- Government of Canada. (2021). *Maps of Indigenous peoples in Saskatchewan*. Government of Canada. <https://www.sac-isc.gc.ca/eng/1628528335303/1628528490706>
- Greenhorn, B. (2019). Project Naming: Reconnecting Indigenous communities with their histories through archival photographs. In E. Benoit & A. Eveleigh, *Participatory archives: Theory and practice*, 45-58. Facet. doi:10.29085/9781783303588.004
- Indigenous Communications and Fine Arts. (2020). *INCA News*. <https://www.incanews.ca/>
- Indspire. (2021). *Indspire Research Knowledge Nest*. <https://indspire.ca/wp-content/uploads/2021/05/Covid-19-Ind-Student-Report-Final-EN-WEB.pdf>
- Johnson, D. (2013). *The indispensable librarian: surviving and thriving in school libraries in the information age*. ABC-CLIO, LLC.
- Krashen, S. D. (2004). *The power of reading: Insights from the research*. (2nd ed.). Libraries Unlimited.
- Library and Archives Canada. (2022b, September 6). *Listen, hear our voices*. Library and Archives Canada. <https://library-archives.canada.ca/eng/services/funding-programs/listen-hear-our-voices/Pages/listen-hear-our-voices.aspx>
- Library and Archives Canada. (2022c, September 22). *Project naming*. Library and Archives Canada. <https://library-archives.canada.ca/eng/collection/research-help/indigenous-heritage/Pages/project-naming.aspx>
- Missinipi Broadcasting Corporation. (2018). *Recognizing our roots: Way beyond just broadcasting*. La Ronge.

- OverDrive. (2022, January 5). Public libraries and schools surpass half a billion digital book loans in 2021. *Overdrive*. <https://company.overdrive.com/2022/01/05/public-libraries-and-schools-surpass-half-a-billion-digital-book-loans-in-2021/>
- Oxford English Dictionary. (2023). internet, n. *Oxford English Dictionary*. <https://www.oed.com/viewdictionaryentry/Entry/248411#eid332666668>
- Penney, J., & Johnson-Castle, P. (2020, March 31). *COVID-19 and Inuit Nunangat: Research, responsibility, & infrastructure inequality*. The Yellowhead Institute. <https://yellowheadinstitute.org/wp-content/uploads/2020/03/Covid-19-inuit-nunangat-brief.pdf>
- pikiskwéwan. (2022). *Listen to podcasts in Indigenous languages*. pikiskwéwan. <https://www.pikiskwewin.ca/podcasts>
- RBC. (2021, July). *Building bandwidth: Preparing Indigenous youth for a digital future*. RBC—Thought leadership. <https://royal-bank-of-canada-2124.docs.contently.com/v/building-bandwidth-preparing-indigenous-youth-for-a-digital-future-pdf>
- Redman, M. (2022, April 13). *pikiskwéwin: Podcasts project promotes Indigenous languages*. INCA Online. <https://www.incaonline.ca/podcasts-project-promotes-indigenous-languages/>
- Regina Public Library. (n.d.). *Indigenous languages*. Regina Public Library: <https://www.reginalibrary.ca/services/reconciliation/languages>
- Showalter, E., Moghaddas, N., Vigil-Hayes, M., Zegura, E., & Belding, E. (2019). Indigenous Internet: Nuances of Native American Internet use. *Proceedings of the Tenth International Conference on Information and Communication Technologies and Development*. Ahmedabad, 1-4.
- Solomon, M. (2021, July 6). *Sask. First Nation transferred control over children in care under federal law*. Regina CTV News. <https://regina.ctvnews.ca/sask-first-nation-transferred-control-over-children-in-care-under-federal-law-1.5498229>
- UNESCO-UNEVOC International Centre. (n.d.). *TVEiTipedia Glossary*. UNESCO International Centre for Technical and Vocational Education and Training. <https://unevoc.unesco.org/home/TVEiTipedia+Glossary/lang=en/show=term/term=Digital+di+vide>
- University of Regina. (2022). *Mature admission*. University of Regina. https://www.uregina.ca/admissions/undergraduate/mature-admission.html#fact_2_1

