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ENGAGING REMOTE MARGINALIZED COMMUNITIES USING APPROPRIATE ONLINE RESEARCH METHODS

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INTRODUCTION

Many marginalized communities are left out of research initiatives due to their geographic, political, cultural, social and economic isolation and challenges. When research does happen, it often focuses on the how the population is disadvantaged, portraying community members as passive and damaged subjects rather than active agents with the capacity for resurgence and self-determination. One result of ignoring these populations and environments or portraying them as helpless subjects is that the research is used to create unbalanced policies and programs that can have a further negative impact on the community members and ultimately the entire society.

Appropriate online research methods with marginalized communities involve using participatory action research (PAR) approaches. Together, online research with PAR can provide marginalized groups with an opportunity to develop their capacity to gather and share their information and stories; create the products (reports, presentations and articles) for

required programs, policies and projects; and work with researchers and partners to positively influence sustainable and healthy environments for future generations. Although in-person contact and face-to-face information sharing is critically important for establishing long-term, meaningful relationships and partnerships with marginalized communities, online tools are essential to maintaining collaborative relationships between researchers and their remote community partners.

Participatory action research involves producing knowledge jointly to create critical interpretations of the world that are accessible and understandable to everyone involved and actionable (Chatterton *et al.*, 2007). It brings together action and reflection, theory and practice aimed at both practical solutions to issues of concern to people and the flourishing of individuals and communities (Reason and Bradbury, 2001). Given that many of the challenges facing marginalized communities are structural and embedded within wider social relations, we believe that the action component of PAR with marginalized communities needs to be two-pronged, aimed both at solutions in the specific communities and at structural changes that will benefit all marginalized communities. PAR challenges researchers to work closely with communities to identify and integrate local knowledge systems and resources into the research so everyone involved is sharing, learning and benefiting from each other.

Marginalized groups are increasingly demanding that researchers working with their communities use collaborative strategies to design and conduct their research. Participatory action research that supports positive community social and economic development and changes are preferred methodologies. ‘PAR was born in the soil of discontent, understanding critical inquiry to be a tool for social change’ (Fine *et al.*, 2008: 160). In *Research is Ceremony: Indigenous Research Methods*, Wilson (2008: 155) writes ‘participatory action research is so useful for Indigenous people because it really fits well ... into our paradigm,

because the idea is to improve the reality of the people you are working with'. Collaborating with communities and their organizations and focusing on each community as a unique whole is critical. Smith's (2012) *Decolonizing Methodologies* identifies the benefits of strong research partnerships with marginalized communities. Involving Indigenous people (scholars, Elders and community members) in all stages of the research process helps to ensure that the methodology is rooted in the epistemology of that particular community. In this way, ally partner scholars in the research can develop a deeper understanding of these unique worldviews and epistemologies. The desired outcome is for the research to appropriately reflect and enrich the community's knowledge base. In Canada and elsewhere in the world, academic researchers working with marginalized communities are often guided by government and institutional guidelines.¹

PAR can challenge research that focuses on the problems rather than the strengths of marginalized communities. For example, in Canada, most of the research conducted on remote Indigenous communities highlights their poverty and health problems. The resulting discourse and hegemony of damage-centred research is now deeply rooted in many sectors of society. In contrast, Tuck (2009) advocates a desire-centred research approach with marginalized people and their communities. Other Indigenous theorists forcefully advocate for appropriate research methodologies involving participatory action research work in Indigenous communities to develop a more positive and accurate presentation (Battiste, 2013; Smith, 2012; Wilson, 2008).

Understanding the strength of individuals in marginalized communities can be challenging for researchers based in universities in far-away urban centres. In addition, doing any type of research work in remote communities is difficult for academics for many reasons. Participatory action research is even more challenging due to the time, financial and personal

commitments required. Professors and most academic researchers are required to teach and be on campus for most of their time. Securing adequate funding and time release to support PAR in far-away, difficult-to-reach communities is always a challenge. PAR requires a strong partnership between everyone involved in this work. Establishing trust, transparency, accountability, constructive, beneficial activities and relationships that work for the community, its members and the research team can take a very long time (Kindon *et al.*, 2007). The pressure to publish or perish influences many academics and their choices for research fields. Interactive technologies including videoconferencing allow researchers and communities to meet together across wide distances to plan and collaborate together.

Finding ways to conduct appropriate and respectful online research with remote marginalized communities is the focus of this chapter. Our chapter includes a case study of online research with remote Indigenous communities using an online questionnaire as well as other online methods to gather and share information. Other chapters in this handbook include an overview of online surveys (Vehovar and Manfreda, this volume), sampling and design methods (Fricker, this volume; Toepoel, this volume) and a review of different online survey software tools (Kaczmirek, this volume). Our work provides a context for using these methodologies with remote communities, highlighting the significant value of working closely with marginalized communities, adapting the methods in a culturally appropriate way.

To engage Indigenous communities, researchers must first respect their cultural practices and territories. Recognizing and honouring the unceded traditional territories of the Wolastoqey nation as the place for the creation of this chapter is an essential initial step for the authors. We thank the Wolastoqey people for sharing their lands and resources that make the production of this material possible and the Cree, Oji-Cree and Ojibway nations that partnered with us and shared a small part of their story within this chapter.

THE CANADIAN CONTEXT OF THE RESEARCH

Most Canadians live in urban centres near the southern border with the US. The Canadian north is dotted with small, remote, politically autonomous Indigenous communities. In many northern areas in Canada there are no permanent roads, and expensive flights on small planes are the only way to reach remote communities. Many of the remote communities are connected by local community networks using a variety of technologies to connect the buildings, including wireless, cable and fibre infrastructure, and to the digital backhaul to other communities and urban centres and networks (Beaton and Campbell, 2014). Communication technologies are quickly adopted and adapted in these environments to meet local political, social, health, education and economic needs of the communities. These technologies assist to address the isolation experienced and maintain connections as families and community members relocate to other communities across the region. Social media, videoconferencing and mobile tools have become important tools to gather, protect and share information and traditional knowledge (Molyneaux *et al.*, 2014). The availability and high level of usage of these networks makes online research with these communities possible and appropriate (Gratton and O'Donnell, 2011).

It is only since England colonized the land we now call Canada that the original people have been living on small, rural and remote reserve lands with limited access to the resources needed to develop their communities. The terms of the treaties signed with the colonial entities have been upheld by the Supreme Court of Canada, but the governments of the day continue to fight their treaty obligations in court (Palmater, 2011). As a result, most Indigenous communities in Canada continue to struggle against colonial governments and corporate efforts to access the resources on their lands and remove the people from their traditional territories. Despite the relative prosperity of Canada, the majority of these marginalized communities experience high levels of unemployment and poverty.

In this challenging environment, the most successful research initiatives are committed and long-term involving researchers whom the communities trust. The case study in this chapter is an effort by an ongoing research partnership between a university in the province of New Brunswick near the Atlantic coast in Eastern Canada and an Indigenous council representing communities in northern Ontario more than 3,000 kilometres away. The collaborative study used an online questionnaire to engage community members living and surviving in five remote, fly-in communities. The communities are small, with populations ranging from several hundred to one thousand people, and a total population of about 2,400 in the five communities.

For more than a decade, the First Nations Innovation (FNI) research project based at the University of New Brunswick has been using information and communication technologies (ICT) to partner and collaborate with Indigenous organizations and their member communities. Two of this chapter's authors are Indigenous academics working with FNI and the other two FNI authors identify as long-time settler allies of Indigenous people, having worked many years with Indigenous organizations. The FNI project has used various collaborative online methods to connect with their partners remotely and to conduct research with remote communities. For example, these include an Indigenous-controlled videoconferencing network for regular monthly meetings to connect all four FNI partners across three time zones in an audio-visual public sphere (McKelvey and O'Donnell, 2009) and to conduct focus groups between remote community members and researchers located in far-away institutions (Gratton and O'Donnell, 2011). An advantage to marginalized communities and researchers alike is that the videoconference medium enables research to be two-way. These tools support the community to initiate its own enquiries and make its own spontaneous input. This is especially valuable at a time when response rates to online methods have been heavily affected by 'swipe and delete' responses to research requests,

particularly when they are received on smaller screen tablet devices (Dillman, in this volume).

The focus of our collaborative research has been to document how the remote Indigenous communities are using ICT in interesting and innovative ways, including distance education, telehealth and a range of other online applications, services and activities. Our work has highlighted many community strengths but also how structural inequalities – particularly how public funding is disbursed for telecommunications networks in rural and remote regions of the country – have a significant negative impact on community efforts to use digital networks and ICT effectively (McMahon *et al.*, 2014). More recently, we formed the First Mile Connectivity Consortium (FMCC) to work to change the government policies shaping telecommunication network development. We consider all our activist work to be part of our PAR methodology and we use online networks extensively to make it happen.

WORKING WITH INTERMEDIARY ORGANIZATIONS THAT BRIDGE DIGITAL DISPARITIES

Building long-term relationships with remote communities requires partnerships with the intermediary organizations with which the communities work (McMahon *et al.*, 2013). In the Canadian context, these intermediary organizations are generally membership-based and governed by an Indigenous council comprised of the leadership of the communities they serve. A prime example of intermediary organizations in Canada is the not-for-profit councils that represent a group of communities often sharing a common culture and language.

McMahon *et al.* (2013) describe intermediary organizations as mediators between organizations, government and institutions that operate industry-standard IT infrastructure. The leadership of these intermediary organizations is most often paid staff rather than the elected officials who lead the communities for specific terms. Around the world, groups often

referred to as non-government organizations (NGO) perform similar functions to these intermediary organizations. Building partnerships with these organizations means researchers have contact people who are often available for longer term relationships. Given that these intermediary organizations are working with and accountable to the communities they serve, they are usually located in nearby small urban centres that tend to have more stable digital infrastructure and ICT processes than the remote communities (McMahon *et al.*, 2013). For example, the intermediary organizations usually have a clear process in place and funding for digital network and ICT support, software licenses, equipment and staff training. In comparison, the ICT support and training is usually challenging for the communities to access (Beaton and Carpenter, 2014). In this way, intermediary organizations can help to bridge the gap between the researchers and the communities they collaborate with (McMahon *et al.*, 2013).

The online research methods proven to be most successful within these challenging environments are those led by the communities and their intermediary organizations working collaboratively with their academic partners (McMahon *et al.*, 2013). For example, Gratton and O'Donnell (2011) worked closely with the Keewaytinook Okimakanak council as the intermediary organization to plan and conduct their research, including arranging the focus groups, community facilities, community-owned digital networks and videoconferencing equipment, local resource people, and planning the research methodology and questions. The online questionnaire discussed in the case study in this chapter is another example of participatory action research working with intermediary organizations and meeting the research needs of the partner communities.

Indigenous languages are severely challenged by the English language that dominates online and the academic publishing world. Translating culturally appropriate guidelines and

protocols into an online environment is a challenge for any researcher wanting to work with remote marginalized communities. Partnering with intermediary organizations and community researchers makes it possible to support the inclusion of Indigenous language speakers who are often the Elders in these communities and the keepers of the traditional knowledge. Integrating a mix of communication technologies in the data collection process, for example supporting oral presentations with videoconferencing (Gratton and O'Donnell, 2011), makes it possible for everyone to participate. Employing local translators and community researchers supports the leadership's efforts to own and manage research that contributes to their community.

The researchers worked closely with intermediary organizations when forming the non-profit FMCC organization. FMCC² is an advocacy organization comprised primarily of intermediary organization partners. FMCC prepares and submits written and oral interventions to change national policy related to telecommunications networks. The goal is to create a more equitable telecommunications infrastructure that benefits rural and remote communities. The FMCC work is a key element of the PAR methodology.

SELF-DETERMINATION APPLIED TO RESEARCH AND DIGITAL NETWORKS

As suggested earlier, conducting research with marginalized communities requires an approach that both builds community capacity and recognizes community members as active agents of change. In the experience of the authors, critical researchers working with marginalized communities need to be guided by an approach that recognizes their potential for self-determination.

In Canada, researchers can be guided by an approach called 'OCAP' – Ownership, Control, Access and Possession – or self-determination applied to research. We believe that

OCAP principals can be more widely applied to research with marginalized communities globally. The principles of OCAP were first developed by the National Aboriginal Health Organization in Canada in their attempt to protect and control research data supporting Indigenous communities across the country (Schnarch, 2004; Assembly of First Nations, 2007). Since the OCAP principles appeared a decade ago, they have been cited and applied in other countries, including the US and Australia (Winter *et al.*, 2014). OCAP principles state that communities own information collectively; have a right to control all aspects of research and information management of a research project from inception to completion; must have access to information and data about themselves no matter where it is held; and can assert and protect ownership of data. The OCAP approach supports communities to refuse to work with researchers who do not respect their ability to do their own research. Owning, controlling, accessing and possessing all aspects of a community's existence supports a sustainable environment rich in culture, history and future opportunities.

OCAP can and has been applied to online networks (Kakekaspan *et al.*, 2014). This has two implications for online research with marginalized communities. First, the research must support building capacity in the communities to effectively manage the content, traffic and services on their local online networks. Second, researchers must recognize that marginalized communities have a right to own and control the local broadband network in their communities in order to support the flow of information and services. Positioning the communities as producers of content and innovative managers of their infrastructure and digital networks creates a constructive research environment for everyone. Putting the communities first when digital networks and resources are planned and financed means the resources are made available and managed by the communities.

OCAP applied to digital networks is also called the ‘First Mile’ approach, a counter-strategy to the traditional Last Mile colonial solution that government programs use to fund private telecommunications corporations to develop and deliver the digital services in marginalized communities (McMahon *et al.*, 2011). By using the First Mile approach, these communities at the end of the road are able to identify, develop and deliver a digital strategy addressing their needs, ensuring they receive the services they require (McMahon *et al.*, 2014).

The OCAP and decolonization work being undertaken by marginalized communities demand appropriate responses from researchers and will shape the methodologies they choose to employ. Communities need access to the research data and the resources to properly present and document their stories and requirements. Researchers wanting to understand and learn from the communities must identify strategies to work closely with the communities and their partners to ensure local ownership and control of the information in order that it continues to be accessed by and within the possession of community members for future reference.

Ferreira *et al.* (2004) and Ramírez *et al.* (2003) are among the earliest authors outlining the need for participatory evaluation of ICT in their work with the remote Indigenous communities in northern Ontario. The benefits to researchers doing participatory and collaborative online research with remote and rural marginalized communities are multi-fold. Building and maintaining relationships with the communities through the effective use of digital networks adds value to both the research and the infrastructure. Unfortunately, some institutions still make it difficult for online community-based research by creating policy and pricing obstacles for researchers to use their facilities and equipment. Community networks depend on researchers and their institutions to provide adequate compensation for the use of

community-owned networks and facilities (O'Donnell *et al.*, 2008). When researchers and communities have easy and convenient access to these online technologies, they can support long-term and cost-effective engagement and involvement in the research process. Research projects that contribute to the costs of community-owned digital networks when they are working with remote marginalized communities provide another economic benefit in the communities.

EMPLOYING CULTURALLY APPROPRIATE RESEARCH, COMMUNICATION AND DATA PROTOCOLS

The challenge most researchers working with marginalized communities experience is being able to switch from an urban institutional-centric research approach to a community-centric approach (Perley and O'Donnell, 2005). Researchers working with marginalized communities are in the unique position of conducting research in often very challenging, very expensive environments. If their research is of any value, researchers are privileged to be gathering and documenting information that can contribute to the future well-being of the community. It is important for researchers to acknowledge their own place and privilege in this process to understand and appreciate the importance of the work being undertaken. Recognizing the actual contributions of the community, their intermediary organizations and the people provides researchers with the opportunity to value and support local ownership of the information being shared.

As we suggested earlier, research is viewed suspiciously and often resented by communities when researchers arrive to get their information and then leave without being heard from again (Smith, 2012; Walmark, 2009; Wilson, 2008). Researchers interested in working with marginalized communities must be prepared to leave most of their personal academic experiences in the places where those teachings work best. Marginalized

communities and their histories are often rich in oral traditions, narratives and ceremony. Learning about and celebrating these aspects of the communities requires researchers to be open to learning a new way of understanding and seeing the world around them. Wilson (2008: 15) describes recent research work as efforts to bring ‘communities into the research process [with] the usefulness of the research becoming more visible and beneficial to the communities’. Communities often demand a collaborative and leadership role in any research work that involves their members, teachings or lands. Returning to the communities, providing reports in formats useful to community leaders and understanding that the research and development work is ongoing are important considerations for researchers planning participatory action research.

Once again, intermediary organizations and their trusted staff members become important partners to developing and delivering online research. Indigenous knowledge is unique simply due to the fact that the people have lived and survived on their lands for thousands of years. How their information is gathered, presented and used must be carefully considered and protected. In Canada, intermediary organizations are developing processes and data protocols for ensuring appropriate handling of the research data (McMahon *et al.*, 2015). As marginalized groups and Indigenous academics challenge the traditional approach to doing research with their communities, new guidelines and protocols are being created by the communities and their intermediary organizations. For example, the Mi’Kmaq Ethics Watch³ is endorsed by the Mi’Kmaq Nations to protect Mi’kmaq peoples and their knowledge when any form of research is conducted in their communities. The research requirements in all sectors, including health, environmental, social and humanities, are established by experts and endorsed by the community leadership. All researchers are required to submit their research proposals for review by Mi’Kmaq academics who ensure their standards are upheld and respected for any type of research being conducted in their communities. Online

researchers must carefully respect these requirements and avoid possible conflicts before their research work is able to proceed. Other Indigenous groups also have their similar protocols to follow, including the Keewaytinook Okimakanak Research Institute (KORI)⁴ highlighted in the chapter's case study. Researchers who recognize that every community has its own ethical guidelines, often available only in an oral format, respect the local knowledge and experience.

Several policies, created by the FNI research project partners, are available online for communities and other research teams.⁵ The FNI team created the data governance policy to support the intermediary organizations working with their membership as they create new research partners and relationships. The data governance policy provides a clear statement highlighting that the ownership and control of the community information belongs with the community. Planning and delivering all research requires the support for the involvement of the community and their designated intermediary organization throughout the entire research process. Identifying and financing community-based engagement includes tasks such as data storage on local servers and shared online; local staffing and training; clearly defining roles, responsibilities and expectations; along with other requirements outlined in the policy. Researchers must be prepared to hand over the research data to the communities or their intermediary organizations if that is required. These considerations challenge traditional research and researchers but they also enrich the research process through the inclusion of others and making research practical and applicable to everyone.

BUILDING COMMUNITY RESEARCH CAPACITY

Including appropriate employment and training strategies for local researchers creates short- and long-term opportunities for doing research in the communities. Every position, whether it is part- or full-time in small, remote communities is another asset as people contribute to their

family's and the community's existence. The contemporary mixed economy supports every family member as they work together to provide for all the needs of everyone, from the youngest member to the Elders (Abele and Delic, 2014; Beaton *et al.*, 2014). Researchers who invest in local community capacity, training and research employment opportunities within these environments become allies in the community's struggles for development.

The Keewaytinook Okimakanak Research Institute is one example of how a group of small, remote First Nations directs their own research work. The institute was established in 2004 with the long-term goal of having Indigenous community researchers in each First Nation (Walmark, 2009). Over the past decade, the Institute created training opportunities, partnerships with other researchers and employment projects with their partner First Nations. Transferring their power, privilege and resources to the people in the communities is the unstated goal of all the members of this research institute.

The publications policy created by the FNI research project is an example of research requirements supporting local capacity development. This document is also available online at the First Mile website.⁶ The production of reports, presentations, papers and articles is an important component for every researcher but these products are equally important to marginalized communities. Recognizing the ownership of the information and providing the means for ensuring the resulting products are accurate and respectful is just as important as gathering the data. Supporting the co-authorship and co-presentation of the information is another strategy for creating capacity building opportunities in the communities. Most of this production work is completed online by email and using document sharing tools. Final products are then shared online, for example the FNI research and publications website where documents are available for download. Handing the data back to the community can present

challenges for conventional ethics policies. Eynon *et al.* (this volume) propose creative options in addressing these ethical issues.

CASE STUDY: AN ONLINE QUESTIONNAIRE WITH REMOTE INDIGENOUS COMMUNITIES AND ACTION FOR CHANGE

This case study centres on the development and administration of an online community questionnaire with five remote Indigenous communities. The study was designed to explore the effectiveness of local and regional economic and social enterprises and services and the use of ICT in the communities. Delivering the questionnaire in the winter of 2014 using PAR methodology meant preparations had to begin more than seven months before the questionnaire went live. The PAR work leading up to the questionnaire made it possible for the communities, the intermediary organization staff and the leaders to participate in the development of the questions so that the responses would be useful to them afterwards. The information obtained from the online community questionnaire is now available for the communities and their intermediary organizations to plan and create new opportunities addressing local needs and priorities. Our PAR research is possible due to the long history of partnership development, professional exchanges, production and research work existing among all the participants.

Keewaytinook Okimakanak (KO)⁷ is the intermediary organization partner in the research, working with researchers from the University of New Brunswick (UNB). KO is a second-level support organization representing six small, remote communities located in northwestern Ontario, Canada. The KO leaders established their KO Research Institute (KORI) to work with academic researchers to ensure all research being conducted in their communities properly addresses their needs. The KORI team began working with UNB on a

research initiative that after ten years developed into the FNI research project. The authors of this chapter are all researchers on the FNI team. Monthly FNI videoconference meetings continue to support and strengthen the ongoing partnership with all the members of the team. The FNI website⁸ continues to evolve as it highlights the changing and dynamic work being undertaken by the partners.

KO staff and community members were involved in every step of the online community questionnaire process. Their involvement was critical in the planning, development and testing of the questions as well as the later data analysis, presentation of the findings and production of articles using the information obtained from the community questionnaire. As stated earlier, participatory action research is possible for our research due to our past work and long-term relationship with KO and the remote KO First Nations. Research planning meetings with the FNI researchers and the chiefs of the communities involved discussing our future research plans and reaffirming our working relationship between FNI and KORI. The KO community chiefs eventually formally endorsed our proposed research with a supporting resolution passed at a chiefs meeting. This formal recognition by KO makes the online survey using PAR methodology appropriate and respectful in this context.

Planning for the February 2014 start of the online community questionnaire meant beginning our preparation work in June 2013. The collaborative work involved drafting the sample community questionnaire using the online SurveyMonkey tool; preparing the FNI application to UNB's Research Ethics Board; consulting with each KO department manager (health, education, research, administration, public works, etc.) to determine the questions they wanted to include about their programs and services; and reviewing and seeking approval for the final questionnaire. In the end, the 2014 community questionnaire included

29 questions, many multiple choice with comment boxes that allowed both quantitative and qualitative information to be obtained.

To support the appropriate delivery of the questionnaire, the FNI research project provided funding to contract local community researchers. The community researchers supported local first language residents to complete the online questionnaire, providing translation and technical support as required. The research team organized online meetings to advertise for, contract and train the community researchers. Each community researcher completed the draft community questionnaire and provided feedback to ensure its acceptability in their community. Job descriptions and an employment contract were prepared.

The UNB researchers worked with the community researchers to advertise and promote the online community questionnaire in each community. We included prize draws to encourage community members to complete the online questionnaire and sent email notices to community members in advance of the launch date. Notices about the questionnaire were also posted online on each community Facebook site. The community questionnaire results were closely monitored to avoid duplicate submissions and to ensure the data being contributed was from individual community members. Weekly reports were provided for each of the community researchers to encourage more local promotion and support for community members. We distributed promotional posters and email messages throughout the eight weeks that the community questionnaire was left open. Other methods to reach community members included the posters and flyers distributed by the local researcher along with local television and radio notices on their community channels.

When the online questionnaire was closed, a total of 237 community questionnaires contained data useful for analysis. It represented the most comprehensive data gathering exercise ever with these remote communities. A preliminary summary document of the

results was prepared and shared by email with the research team. The preliminary results were also presented to other academics at UNB. While the community reports were being prepared, two papers based on the results were co-authored by members of the KO team and a community member and co-presented at a major Canadian social sciences conference (Beaton and Carpenter, 2014; Beaton *et al.*, 2014). The papers are available online and are a product model for the type of collaborative work involved in conducting PAR research with communities in the margins of our society.

The researchers worked with KORI to produce a comprehensive report for KO highlighting the information obtained, including feedback by community members in their own words about the community services delivered by each of the different KO departments (health, education, public works, etc.). The UNB researchers travelled to different KO offices in the region to present and discuss the report, summarizing the findings from the community questionnaire about KO programs and services. The KO report was also made available online on the e-community websites.⁹

The researchers then worked with KORI to produce unique reports for each community based on the data collected in that community. Preparing and reviewing the research results for each KO community took considerable effort by the researchers working closely with the KORI team. The unique comprehensive reports designed for distribution online required the review and approval of the director of KORI. In addition to the unique community reports, the researchers worked with KORI to produce large posters (two feet × three feet) with questionnaire results and community photographs so some of the information could be displayed in public places in each partner community in an appealing and informative format. The reports and posters were made available online for community viewing, along with the academic papers co-authored by the UNB researcher, KO and the community members.

The FNI and KORI teams used online tools including email, videoconferencing and Facebook to organize and coordinate the research visits to the KO communities. The logistics were considerable because all the communities are remote fly-in locations and few communities have direct scheduled flights between them. Guest accommodations are often difficult to find in the communities due to a busy but short summer construction season and a general lack of housing. During the community visits, the UNB researchers took the community reports and posters into each KO community and shared the information with community leaders and members during formal and informal meetings. The visits ranged from four days to more than a week in each community. The findings from the questionnaire provide the KO organization and each of the KO communities with valuable information, which is now being used in planning efforts. Additional research data was obtained during these community visits by conducting a set of structured interviews with community members and KO staff members. This new data set is now being analysed and will be used in future papers, presentations and funding applications in partnership with the communities. Building and strengthening relationships with the communities and the KO organization is an ongoing requirement of the FNI research work.

A key finding from the online questionnaire was the desire by community members for additional training and educational opportunities supporting land-based activities and traditional lifestyles. This finding is now directing the action component of the PAR methodology: leading the development of projects involving renewable energy and local entrepreneurship in the remote communities. The projects each require training initiatives utilizing the local digital networks and resources. The work involved in each of these developments is supported by past research and future research needs.

The online environment was used throughout the research supporting the planning, the delivery and the follow up of this portion of the PAR. The various online tools were essential components of this research providing a means for sharing information, providing training and support, and distributing and archiving results. For Indigenous language speakers and community members without access or experience in using the online tools, the local community researcher continues to be available to assist them in understanding the survey tool and for sharing the information. One constraint of the survey was its length and the amount of time it took some respondents to complete it. Delivering the survey in person continues to be the ideal strategy but costs, distance and time involved in doing in-person surveys has been a barrier in the past. Not having community data has led to a lack of information to use in community and program planning. That is the main reason why online methods are more appropriate in this context.

Moving forward with PAR involves ongoing videoconference meetings with the research partners to plan future work. Expanding on the earlier research, we will continue to use PAR methodology to examine how the remote KO communities are developing culturally appropriate and sustainable skills training, and to what extent digital technologies are used to support these activities. The team will use the online tools described throughout this chapter to engage and involve the communities in all aspects of the work. Training and local capacity developments are key components of future research. Working with the community-owned Internet high school¹⁰ to develop training support programs and services expands local opportunities. Developing local research and training opportunities in the renewable energy sector, entrepreneurship and land-based activities provide new data sets and long-term employment opportunities in these environments. Broadly our research will use the online strategies outlined to identify the requirements and components for effective, community-based training and skills initiatives in small, remote communities in Canada.

SUMMARY AND CONCLUSIONS

Digital technology is a two-edged sword. Residents of remote communities are using online tools extensively – in particular Facebook – to maintain social and cultural connections (Molyneaux *et al.*, 2014). Using these technologies to conduct research can support communities to find the answers to some of the many challenges they are experiencing. However, most communication online is in English and digital technologies are supporting the further erosion of fragile Indigenous languages. Digital networks can also be used as tools of settler colonialism and to further develop the extractive industries that are severely compromising Indigenous ways of life. Given these realities, researchers must find ways to conduct research with marginalized communities that will support the development and sustainability of their local research capacity.

Marginalized communities are creating their own research institutes to support and deliver research that meets their needs and priorities. The collaborative FNI research described in the case study with KORI in northern Ontario and UNB highlights how it is possible to use digital tools extensively to build partnerships with academic institutions and academics who respect local self-determination. Intermediary organizations that are owned and directed by the communities they represent are important partners in working effectively with the people in these remote regions.

Given the many challenges facing remote communities, there have been considerable efforts by research granting agencies to fund research with communities in a manner that supports community capacity-building. The mandatory guidelines for ethical research involving humans that all university researchers must abide by in Canada has an entire chapter devoted to conducting ethical research with marginalized communities (Tri-Council, 2010). Despite this support and guidance however, few researchers are conducting research

with remote marginalized communities for many of the practical reasons noted in this chapter. More resources and proper support systems are required to ensure these communities are properly represented in the literature.

The challenge of using online research methods is one restraint for many researchers. A huge disparity exists between urban university-based researchers and remote community members when considering the access and availability of different digital infrastructure, connectivity, IT support, tools such as databases and software and other online resources. At the same time, marginalized communities and their regional partners do have access to many of their own online tools, for example a videoconferencing network that they use regularly to communicate with each other. Unfortunately, university-based researchers often have difficulty finding ways to access and use their university videoconferencing network to communicate with their remote partners. Building these digital bridges in order that the Indigenous networks are recognized, utilized and properly resourced is an important component for any researcher working with remote communities.

Successful research partnerships between university-based researchers and remote communities, like the FNI project based at UNB, are working closely with their partners making the video tools work for visual communication. Creating strong relationships and maintaining the trust between partners despite the vast geographical distance between them is crucial to successful research partnerships.

After more than ten years of working with marginalized communities, strategic guidelines for good practices for online research methodologies have emerged. In summary, these good practices include:

- Partnering with intermediary organizations to conduct research in their member communities.

- Establishing and supporting collaborative, long-term, respectful relationships.
- Using a wide range of online tools creatively, appropriately and effectively – including social media, videoconferencing, websites and mobile tools – to maintain partnerships and to gather, protect and share information and traditional knowledge.
- Ensuring ownership, control, access and possession of the research data and that local knowledge remains with the communities and the people.
- Integrating local worldviews and epistemologies into all aspects of the research by creating a process to meaningfully involve local scholars, knowledge keepers and community members.
- Learning and growing with the community throughout the entire sharing process with the effective use of interactive, two-way communication technologies.
- Sharing the research data with the communities in co-produced reports and presentations that are useful to them.
- Working with the communities to build local capacity to use and sustain research in the future.
- Developing and delivering research training and resources required by the community.
- Co-presenting research results including co-authoring papers and articles ensuring local ownership of the stories and knowledge.
- Working with the community to leave a lasting product that contributes to local well-being and future opportunities.
- Working with intermediary organizations on action to make structural changes through better regulations and policies benefitting all marginalized communities.

Several important resources for researchers interested in PAR are referenced in this chapter. Smith's *Decolonizing Methodologies* (2012), highlights 25 action research projects involving marginalized Indigenous communities around the world. Denzin *et al.*'s *Handbook of Critical and Indigenous Methodologies* (2008) contains many chapters describing best practices for working with marginalized communities. Kindon *et al.*'s *Participatory Action Research Approaches and Methods* (2007) takes a grounded theory approach to connecting people and research to place using action research. Reason and Bradbury's *Handbook of Action Research: Participative Inquiry and Practice* (2001) is an excellent guide for anyone considering action research. The quarterly *Journal of Action Research*¹¹ is now in its thirteenth year of publishing quality articles about effective and ethical PAR initiatives.

Effective online research initiatives with any marginalized community include looking to the future and building and sustaining long-term, mutually beneficial applied projects that include a shared research component. Using online research methods with marginalized communities works well when the work benefits both the communities and the researchers. The experiences and research requirements for doing this type of work in these challenging environments provide lessons that can be applied to any marginalized community in the world. The results and the experience will be beneficial for all researchers everywhere.

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¹ The Tri-Council, the three main government research funding bodies in Canada (Canadian Institutes of Health Research, Natural Sciences and Engineering Research Council of Canada, and Social Sciences and Humanities Research Council of Canada, 2010) have created the Tri-Council Guidelines for research with Human Subjects that highlight the requirement for researchers to collaborate and work with Indigenous communities using a holistic approach. The Tri-Council guidelines are mandatory for all university researchers in Canada.

² <http://firstmile.ca>

³ <http://www.cbu.ca/mrc/ethics-watch>

⁴ <http://research.knet.ca>

⁵ See, for example, <http://firstmile.ca/resources/sharing-resources>

⁶ <http://firstmile.ca>

⁷ <http://kochiefs.ca>

⁸ <http://firstmile.ca>

⁹ See <http://e-community.knet.ca>

¹⁰ <http://kihs.knet.ca>

¹¹ <http://arj.sagepub.com>