International Journal of Critical Indigenous Studies

Volume 7, Number 1, 2014

Maintaining the Integrity of Indigenous Knowledge; Sharing Metis Knowing Through Mixed Methods

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Acknowledgments

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Funding Provided by: The Canadian Institute of Health Research, Institute for Aboriginal Health, Operating Grant.

Abstract

Working collaboratively with Indigenous populations necessitates a focus on partnerships at the core of sharing, implementing and disseminating Indigenous knowledge. The Tri-Council Policy

Statement (CIHR, 2010) notes that respectful, reciprocal and ethical research standards must be applied to research with Indigenous communities. Métis collaborators identified that relationships must be regarded as the central focus of sharing Metis knowledge. Utilizing an investigation on the health benefits of participating in cultural activities, specifically harvesting, we demonstrate how applying mixed methods meets and informs these research standards and creates a unique, participatory Indigenous research method relevant for Métis people. Building from these research standards, this collaboration developed a method of investigation that shares Indigenous knowledge of population health. This method promotes a sustainable research relationship, moving beyond fragmented research projects and making relational connections between people, data sources and findings.

Keywords

Aboriginal, North America; research mixed methods; research design; participatory action research (PAR); Métis.

Introduction

Research with Indigenous populations requires methods that are responsive to Indigenous ways of knowing. The research project described here investigates the health benefits of cultural activities to facilitate the sharing of Métis knowledge of population health. This study provides an example of executing an Indigenous research method specific to Métis people in British Columbia, Canada. The research project demonstrates how focusing on relationships can produce a method of sharing Indigenous knowledge resulting in the development of a Métis-specific research method.

Indigenous methodology emerges from Indigenous epistemology situating current social contexts and how Indigenous populations regard, come to know and interact with the world (Smith 1999; Cardinal 2001; Wilson 2004). Indigenous methodologies have been described without the boundaries and limitations that situate other methods (Evans et al 2009); rather, there is an imperative to evaluate ‘theoretical’ and ‘ready-to-use methods’ (Kawagley 1995). Indigenous methods are determined within each unique instance to meet the specific needs of the community and the research project (Evans et al 2009; Smith 1999). Utilizing a research project with Métis in British Columbia (BC) as an example, we demonstrate how Indigenous methodology, in this instance, unifies multiple methods to create unique systems of inquiry.

Rationale

Despite immense cultural and social diversity between First Nations, Métis and Inuit, and distinct categorization by the government as different populations as the Aboriginal people of Canada, they share a history of colonization as well as an identity of self-as-Indigenous (Getty 2010). One result of this shared history is an overriding similarity in First Nation, Métis and Inuit peoples’ health status. They experience significantly more disease and a shorter life expectancy than most other Canadians. In fact, across every single health indicator, Aboriginal people fall behind their non-Aboriginal counterparts (Health Council of Canada 2005). In particular, the disparity in health status between Métis people and the general population of Canada is the direct and indirect result of colonization and the social, economic, educational and cultural disturbances it brings (Adelson 2005). Persistent application of health promoting strategies that are contrived outside of colonized peoples’ control perpetuates colonization and the continuation of health inequity (Métis Centre 2008). Health promotion strategies utilized in recent years have not been as effective as planned. This highlights the need for relevant

strategies tailored to the Métis peoples' unique circumstances (Bartlett 2007; Mackinnon 2005; Smylie 2006) in order to be more effective in addressing their health and root causes of health inequities.

Research studies have demonstrated the beneficial effects of returning to a traditional diet, which primarily consists of wild-harvested food including meat, fish, birds, sea mammals, berries and other plants, compared to a Western diet (O'Dea 1991; Sampson & Pretty 2006; Smith 2007). For example, research investigating Type II diabetes prevention identified the use of traditional diets as a strategy in disease prevention and management (Lambden 2007; Smith 1999; Williams 2001; Willow 2005). In addition to the nutritional benefits of traditional foods (Brand-Miller 1998; Williams 2001), the consumption of these foods has been associated with important social and economic benefits in communities (Batal 2005); including, enhancing social integration, nurturing a sense of belonging, fostering cultural identity and increasing food security (Métis Centre 2008). Whereas research that has demonstrated a link between traditional diets and health has focused on the effects of consumption of traditional diets, few studies have investigated the lifestyle related effects resulting from the harvesting of traditional foods. As a result, the benefits of harvesting activity on community life and health have not been adequately explored in past research. These benefits include the physical demands associated with acquiring a traditional diet through harvesting, the emotional, social and spiritual experience of preparing and sharing traditional foods, and how these support overall health and wellbeing.

Why the Métis

There is an opportunity in Métis communities to learn about practices related to traditional foods, how harvesting activities are supported and how they influence healthy living. There are several Métis communities in BC, as elsewhere in Canada, where hunting and gathering are encouraged and practiced to provide traditional foods to members of the community (Nakano 2005a; Nakano 2005b; Power 2008; Wein 1991). The Metis community was also readily accessible for this research study, and the university-based researchers, including the principal investigator, as well as many co-investigators and research assistants, identified as Aboriginal, including Metis and First Nations. The Metis community members not affiliated with the university who collaborated on the research project were considered to be co-researchers.

By 'Métis', in this research, we mean Métis who may be represented by the Métis National Council and its provincial affiliate, the Métis Nation of British Columbia (MNBC). The definition of 'Métis' used by these organizations is inclusive, but specific to people and communities linked through a common background to the historic Métis communities of Northwest Central North America—a population that is sometimes mislabelled as 'Red River Métis'. The Métis rose to prominence in the prairie and parkland regions of the West, only to be forcibly suppressed after resisting the imposition of the colonial state, not once (in 1869-70), but twice (in 1885). After 1885, the Métis were systematically marginalized by the State, but a combination of factors, including overt racism and internal coherence of the Métis ensured the continued sociological presence of the Métis, even as legal mechanisms were being employed to eliminate them. A series of political actions lead to inclusion of the Métis in the 1982 constitution, and the political and governance framework of Métis communities has been evolving ever since. These developments, however, have not eliminated ongoing colonialism or marginalization of the Métis as individuals or communities (O'Donnell & Tait 2003).

The Thompson/Okanagan region in BC covers the south central region of BC and includes approximately 5,000 self-identified Métis (Statistics Canada 2006). This particular region was selected for the study because the Métis communities in this area have been engaged in developing programs

and services to address Métis health and wellbeing, and have a number of community members who are active in hunting and gathering and who expressed interest in and need for this type of study.

Iwasaki (2005) documented stressors specific to the Métis and provided an invaluable quote from one of their research participants:

I have white friends that want me to pretend I'm white, and then I have Indian friends that want me to pretend I'm Indian; and they don't like each other and I'm stuck in the middle. (p. 83)

Some Métis contend that this ongoing tension between 'White' and First Nations peoples, and the sentiment of the Métis people that they are often caught in the middle (not First Nations and not White), creates a compounded, marginalized status for Métis. Recognizing that there are distinct populations amongst Aboriginal people, this research project respects and honours the Métis community research team members as experts on Métis health and sociocultural issues. Their views and insights are the core driving forces of the research process that privileges Métis ways of knowing because it is Métis-guided, incorporates Métis worldviews, and produces culturally relevant and useful outcomes that benefit their people and communities.

Indigenous methods

Indigenous research, similar to Indigenous rights, is informed and asserted through Indigenous knowledge (Ermine 2007). The research agenda includes recovering and redefining Indigenous peoples on their own terms, utilizing Indigenous ways of knowing. Indigenous methodology, based on this knowledge, makes visible how Indigenous people know the world and allows them to shape their research practices accordingly (Getty 2010; Porsanger 2004; Steinhauer 2002; Smith 1999, Smith 2005; Wilson 2004). Indigenous methods, according to Smith (1999), must be selected to respect Indigenous ethics, explicit research goals and consideration of the research outcomes for Indigenous people. In this project, we developed a Community Research Agreement with the Métis advocates as identified by the Métis co-researchers.

Indigenous knowledge is often characterized as 'process oriented'—an action and 'eventing' approach to life, versus a world of subject/object relationships. "Individuals live and enact their knowledge and, in the process, engage further in the process of coming to be—of forming a way of engaging others and the world" (Duran & Duran 2000, p. 88). With the focus on process, relations, justice and community, it is inappropriate to pursue a specific research design and destination. In an Indigenous research paradigm, it is best to set out in the direction where the answers might reside, yet remain alert for signs and be prepared to diverge from the initial plan (Bartlett, Iwasaki, Gottlieb, Hall & Mannell 2007). An original research plan was developed over two years of discussion funded by a pilot study development research grant. In first drafts, the research plan presented to the community research methods that were more invasive and specific to a singular disease outcome; diabetes. The Métis co-researchers and collaborators assisted in field-testing data collection methods, the research team identified GPS, biometrics, a survey and interviews as being sufficient methods to share their knowledge of the health benefits related to harvesting.

Western research is dominated by epistemological and ontological disputes that tend to dichotomize quantitative and qualitative research approaches (Botha 2011). This dichotomy, both epistemologically and practically, does not operate in the same way in Indigenous research. According to Botha (2011), Indigenous research methodologies can and should go beyond the current hermeneutic borders of

conventional qualitative research to embrace more appropriate epistemological and axiological assumptions. He suggests a mixed methods approach as a vehicle for moving beyond these paradigms. Given the range of investigative methods identified by the Métis collaborators, the project evolved toward a mixed methods approach, as adherence to a singular paradigm became illogical, based on the intent to explore the topic as fully as possible.

Community engagement

Indigenous populations around the world, including the Métis (Kirmayer 2000), recognize the necessity of decolonizing research and have stated that research must be infused with their voices, knowledge and cultural orientations (Metis Centre 2009; Pyett, Waples-Crowe & van der Sterren 2008). To this end, this research project utilized a strength-based perspective that facilitated positive transformation and social change (Duran & Duran 1995; Smith 2002, Smith, 1999) for those involved, and the families and communities that they represented. These components ensured that the research process was relevant to and beneficial for Métis communities. This project engaged community-based Indigenous research ideology because the research was meant to empower (Kemmis & Mctaggart 2000), and transform theory and practice (Gergen & Gergen 2000). In order to realize this intention, Métis harvesters took part in developing the research goals, objectives and questions, and, through research meeting discussions, identified dissemination strategies and opportunities.

Engaging community through participatory research processes

This research emerged from relationships cultivated over many years between university-based researchers and the Métis nation. A seed grant was utilized to create a research team that linked academic and community-based researchers to prepare the application for research funding. During this preparation, a community research agreement (CRA) was developed. The CRA describes how the Métis community and university researchers would work together to achieve the objectives and aims of the research. The CRA also set out what was expected of university researchers and of Métis community members. Through ongoing discussions, the research team prioritized the need for an investigation of the health-promoting effects of harvesting. The research team included representatives from the Métis Nation British Columbia (MNBC, the provincial representatives for Métis in BC), regional representation from Métis service providers (Métis Community Services Society of BC) and Métis Captains of the Hunt (individuals who organize harvesting activities for Métis people appointed by Métis people) and Métis community members.

In order to avoid imposing foreign concepts upon the research process, and to embrace Metis values, Métis community members on the research team defined terms central to the research project, which provided the means to orient the research ethically and methodologically. Two definitions embraced by the Métis community enacted in this research provide a foundation for investigation. The primary definition was the understanding that health is wholistic and it is a realization of physical, mental, spiritual and intellectual wellbeing balanced and enacted through a relationship with the community and environment. The second definition was harvesting. Harvesting is not only the taking of resources from the land, but a shared experience of a community and their interaction with the land and each other. Harvesting requires respect for each other and embraces sustainability and stewardship. These two definitions provide the groundwork to examine the community wealth that resides in harvesting. The Metis community recognizes that traditional activities are a major contributor to the Métis health status, and has an interest in how hunters and gatherers interact with the land. From this standpoint, imposing

Western concepts was deemed to increase the likelihood of responses reflective of Western culture, rather than Métis culture (Kemmis, & McTaggart 2000).

Through consultation with the Métis people, we have identified two main areas of interest in an examination of the health promoting effects of harvesting. The first relates to the physical component of harvesting activities and recognizes that these activities require an energy expenditure that may benefit the control of chronic health conditions and generally promote better health. The second area of interest relates to the social dimensions and associated effects of promoting health. These interests helped to identify methods for data collection that would allow insight into the interface between harvesting, physical health, social dimensions and health promoting effects of hunting.

Information Gathering

Data sources included both quantitative and qualitative methods. Quantitative methods included the collection of biometric data using a heart rate monitor; a triaxial accelerometer to measure movement; the use of geographic information by tracking individuals with Global Positioning Systems (high speed data loggers); the Métis Nation Comprehensive Survey to collect demographic profiles, such as socio-economic status; and the Harvesting Data Base of the MNBC. The Métis Nation Comprehensive Survey was developed utilizing questions from the Aboriginal Peoples Survey (2006), the Canadian Community Health Survey (2006) and other questions utilized by Statistics Canada in the National Household Survey (2011), as well as through consultation with Métis stakeholders and individuals. This consultation also provided questions specific to Métis context and culture. The survey was pilot tested with Métis individuals, who provided feedback on the survey questions and format.

Qualitative methods included field notes, personal interviews, group discussions and video recorded interviews. Interview and focus group questions were initially developed in consultation with Métis stakeholders. However, it was decided that rather than asking specific questions to investigate different aspects of the research, that probes would be used to initiate dialogue and the sharing of insights related to the research. It was felt that direct questioning would limit the responses to the investigators' desires, rather than having participants identify what was important to them. Interviews with community stakeholders focused on how Métis communities initiated and supported hunting and gathering, sharing, preparation and consumption of traditional foods; assessed how the accessibility, availability and utilization of country/traditional foods facilitate social networks; and identified barriers and opportunities for hunting/gathering activities as a health promotion strategy. We also asked participants to provide information about the negative and consequential impacts of harvesting, for example, injuries, accidents, inconsistent yields leading to food insecurity, improper handling and preserving of food.

When developing a method specific to the Métis, researchers were aware of the importance to acknowledge the epistemology that is reflective of the current Métis social context and how Métis populations regard, come to know and interact with, the natural world. In developing a research plan, all components of Métis epistemology and axiology needed to be addressed. Within the 'Implications for health: Harvesting amongst Métis in BC' research project, this meant addressing the mental, physical, emotional, intellectual, social and environmental components of health-related harvesting.

The harvesting research project methods were developed to reveal certain aspects of the research questions, while navigating quantitative and qualitative perspectives. For instance, with biometric devices, we are able to record the physical health benefits, while the survey assisted in an exploration

of the social context of the hunters; the geographic data provided a demonstration of the direct interaction with the land and the environmental relationship between harvesting and health; whereas the interviews elicited the emotional, spiritual and intellectual aspects of health, while the participatory research allowed for a description of the intellectual components of harvesting amongst the Métis.

A Field Research Assistant (FRA) was hired to manage data collection with the harvesters while in hunting camps. The FRA was a Métis citizen and worked closely with the BC Métis Assembly of Natural Resource staff, Métis citizens and Captains of the Hunt. The FRA completed the consent process with volunteers and fitted them with biometric and Global Positioning Systems (GPS) high-speed data loggers. The Métis individuals who volunteered to wear a Triaxial Accelerometer (TA) and a GPS received gift vouchers each time they participated in a harvesting camp. Members of the research team also accompanied harvesters to facilitate the use of the GPS and to conduct interviews with harvesters.

Information collected

The approach to data collection followed the footprints of harvesters, literally and figuratively. Literally speaking, researchers participated in harvesting camps and followed along and participated with the Métis harvesters while observing harvesting activities. Figuratively, that is, not in a step-by-step manner, data collection included following the Métis harvesters virtually with geographic data (GPS) and physically by recording biometric data (TA). The participants wore a GPS device tracking distance, time, elevation change and altitude of their activities over the course of a harvesting season. Utilizing GPS data to estimate energy expenditure was validated to estimate real life, physical activity (Hobfoll, Jackson, Hobfoll, Pierce & Young 2002). Guidelines were also established to differentiate between activity types. Activities were divided into different categories, including traveling by motorized vehicle, traveling by foot, horseback and remaining stationary.

Participants (harvesting groups, n=25) also wore TAs and heart rate monitors to record biometric activities to estimate the energy expenditure during harvesting, such as walking, hiking, camp activities, collecting wood, riding in automobiles, horseback riding and preparing harvested food for consumption. A TA is a very precise pedometer that measures acceleration on three planes; horizontal, vertical and diagonal. TAs have been used in numerous research studies measuring the physical activity levels and energy expenditure of individuals outside of laboratory settings (Masse et al 2005).

In addition to the biometric devices, data collection also included semi-structured interviews (Métis community stakeholders, n=7, in addition to the 25 harvesting camp participants). Burton-Jones' (1999) notes that Indigenous knowledge develops with narratives that are a result of experience, prior to someone saying that they have gained personalized or experiential knowledge. Harvesting narratives incorporate experiential knowledge—knowledge and memory of personal and shared experiences, personalized knowledge and information that is learnt through experience and the teachings of knowledge holders (elders, those with more experience, mentors and teachers).

Narratives of harvesting were collected while the research team visited harvesting camps and met with community members at research team meetings and community gatherings. The conversations in harvesting camps, when the research team members attended, focused on all aspects of harvesting. Harvesting camps were attended for several days throughout the province. This extended research time provided a valuable opportunity to understand the multifaceted and beneficial role that harvesting has for individuals and communities. Research team meetings allowed for sharing individual experiences of the importance to health of harvesting, to be shared with community members and the research team.

During these meetings, there were strong common themes about the importance of harvesting, in that it provided time in the bush, time with family and friends, and time to reflect. Some conversations were directly related to wholisitc health. For instance, there was discussion about diabetes, mental health, health behaviors, heart attacks and cancers, and talk about the connection to the land, ethical and moral treatment and interaction with the land, and spiritual dialogue.

Data analysis

Triangulation of the data is conventionally meant to improve the validity and reliability of each data source (O'Cathain, Murphy & Nicholl 2010). We did this by checking each form of data against each other. For instance, utilizing the TA data with the GPS data, we are able to accurately assess the physical energy expenditure. The TAs provided reliable measures of physical energy expenditure, while the GPS data also provided energy expenditure estimates by noting the speed and duration of physical activity of the harvesters while hunting. Utilizing the time from the GPS data, we then employed the Compendium of Physical Activities (Ainsworth et al 2000) to validate the physical energy expenditure. The Compendium allows us to estimate the energy expenditure for different activities by noting the duration of each activity. It reports the number of METS for a variety of physical activities, including, amongst others, hiking and hunting. METS are a measure of metabolic expenditure reported as the ratio of metabolic rate to a standard resting metabolic rate of 1.0 (4.184 kJ)(kg-1)(1h-1), one MET is considered to be a resting metabolic rate obtained during quiet sitting. The Compendium provides validated estimations of energy as METS, or metabolic expenditure, over time (Ainsworth et al 2000). It has been used in studies worldwide to assign intensity units to physical activity questionnaires and to develop innovative ways to assess energy expenditure in physical activity studies (Abel & Hannon 2008).

GPS data was validated with reported activity recorded in field notes by the FRA. Validation was completed by the analysis of recorded maintained speed, acceleration and distance, a process of validation similar to that used by Troped et al (2008) and in other studies (Groper, Smith & Groff 2004; Rowlands et al 2004; Schutz, Weinsier & Hunter 2001) to distinguish between mobility modes (walking, horseback riding, or driving or riding in an automobile). Utilizing the compendium of physical activities and the associated energy expenditure, we were able to estimate the amount of energy expended during harvesting activities. Combining this information with the data collected from the GPS technology and the biometric measures, we were able to cross-validate the estimated energy expenditure of different harvesting activities.

Discussion

In developing a research project that is meant to address specific research questions and provide answers to the epistemological and ontological needs of the Métis people, a number of different methods were required. To say that any one method was intended solely to provide insight into a single way of knowing, or a single way of classifying, the world neglects the entire process in which decolonizing methods are utilized. Rather, Indigenous-led research using multiple methods embraces 'two-eyed seeing' (Iwama et al 2009) and resolves a disconnect between differing knowledge systems within academic and Indigenous worldviews.

Within the literature describing the use of different methods, often referred to as mixed methods, each method is analyzed separately and then brought together (O'Cathain, Murphy & Nicholl 2010). This type of analysis of mixed methods includes looking for the convergence of data from different sources

(triangulation), development of complimentary information, or uncovering data that conflicts with what other data sources are presenting (O'Cathain, Murphy & Nicholl 2010). Sequence decision-making (O'Cathain, Murphy & Nicholl 2010), that is collecting different forms of data simultaneously through intensive field research opportunities, was not necessary in this project, as the activities were not required to be sequentially linked. That is, the data recorded from the quantitative collection did not have to be time-matched, in this project, with the qualitative data collection. Data analysis can follow sequences and priority decisions, but still have complementary facts and a convergence of data. Mixed methods need to achieve a whole greater than the sum of its parts, and should not just report on the multitude of methods used to describe a phenomenon. Mixed methods require researchers to include findings from each component of a study altogether and consider where findings from each method agree (convergence), offer complementary information on the same issue (complementarity), or appear to contradict each other (discrepancy or dissonance) (O'Cathain, Murphy & Nicholl 2010).

The use of multiple methods in this harvesting research project did not conform to any one mixed method approach, rather it blended between complementary information and convergence, while also being attentive to dissonant information. The application of mixed methods, in this instance, moves beyond the conventional application of analysis, where results, either triangulation, convergence or dissonance, are sought. This research method permits an investigation of the multifaceted relationships in harvesting.

In this harvesting research project, biometric information demonstrated the health benefit of harvesting, and assisted in identifying other cultural activities that can provide a physical health benefit. Qualitative data arising from interviews and focus group discussions helped to reveal information that would be used to promote participation in cultural activities, as well as transfer knowledge by sharing stories with other Métis people. The geographic information system (GIS) data demonstrated a participation on the land that is not just restricted to a specific piece of land, but areas that are regularly and historically utilized for harvesting. Further, the utilization of survey data allowed for the identification of the social context of the Métis community that participates in harvesting activities, for instance, the socio-economic status of people who harvest. The findings of this research are significant in beginning to identify and address the needs of Métis communities' involvement and action in relation to the health-promoting benefits of harvesting.

Another important aspect of this research method, beyond the use of mixed methods, is that the focus of the research is not on the outcome, but on the processes of the research development. This included community involvement from the earliest discussions, or, in this case, as a result of discussions during previous community research projects, and continued involvement throughout the planning, data collection, analysis and reporting. The process of the research and the continuous inclusion of, and guidance by, Métis community members provided the background necessary to identify suitable places to position appropriate methods and the resulting analysis. From the very beginning of developing partnerships, to completing analysis and disseminating the information, as full partners, the process was crucial to producing information that is not only informative, but also useful to the Métis community, and leads to future collaborative research that is relevant to Métis communities.

What is the purpose of using multiple methods? While the primary use of mixed methods is to validate individual responses, the use of mixed methods, here, went beyond validating results. The use of multiple methods was used to ensure that the Métis epistemology and axiology were respected and incorporated into the research project. This is similar to convergence when investigating harvesting as a multi-faceted phenomenon, rather than convergence around a single facet of a phenomenon.

Convergence, here, is between the Métis values and ways of understanding with research methods, rather than convergence of what is being examined. Multiple methods allow the examination of relationships between two normally disparate things. The research methods used did not only measure its multiple facets, rather we investigated a multifaceted phenomenon in order to describe it according to Métis ways of knowing and understanding, particularly wholism, balance and through the exploration and nurturing of relationships.

Conclusion

Activities rooted in the traditions of Indigenous people have long been considered beneficial to the health of those populations participating in them (Chandler & Lalonde 2008). The discussion of health benefits resulting from participating in these activities has been primarily concerned with mental health and wellbeing (Chandler & Lalonde 2008; Wilson & Rosenberg 2002). Without doubt, these health benefits are very real, but no research has attempted to measure the direct physical benefits of participating in traditional activities, such as harvesting. The project described in this article provides details of the physical benefits of participating in the traditional activity of hunting, while also describing the wholistic health and wellbeing benefits related to harvesting amongst the Métis people. Utilizing multiple methods acknowledges that the whole is greater than the sum of its parts, maintains the interconnection and intertwining of several facets, centres the concepts and worldview of the Métis people, and constructs a method that is responsive to their epistemology and axiology.

Embracing the relational aspects of experiencing and understanding requires that we work collaboratively with Indigenous peoples and embrace, not only the community, but the community's way of developing knowledge, that is, through community teachings and experience that we will come to understand. This is not only true of the research topics that are identified, but with the process that is used to elaborate on the research question. Entering into an Indigenous community to work together requires that researchers work continuously, and maintain long-term respectful partnerships, with the community and develop a relationship that grows and flourishes from a strong, respectful collaboration, rather than complete one-off research projects and disappear with data. Understanding relationships that are highlighted through Indigenous epistemology and axiology is not only pertinent for what is gazed upon, but who is doing the gazing. The level of understanding that is required between a researcher and an Indigenous population cannot be established within one research project. This relationship requires sustained and committed work that is reciprocal in nature. As academics specialize their studies specific to populations or to phenomena, so, too, is it important to specialize relationships, study and research with populations.

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