ABORIGINAL HEALTH EDUCATION PROGRAMS: EXAMINING SUSTAINABILITY

by

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Abstract

Despite evidence supporting the ongoing provision of health education interventions in First Nations communities, there is a paucity of research that specifically addresses how these programs should be designed to ensure sustainability and long-term effects. Using a Community-Based Research approach, constructivist theories, and Indigenous methods, a collective case study was completed with three Canadian First Nations communities to address the following research question: What factors are related to sustainable health education programs, and how do they contribute to and/or inhibit program success in an Aboriginal context? A university-community partnership titled the Community Learning Centres (CLC) provided the context for the collective cases. CLC involved the development of three learning centres (CLCs), each of which provided community members with a physical space and online resources pertaining to culturally relevant health education. Semi-structured interviews and a sharing circle were completed with 19 participants, including members of community leadership, external partners, and program staff and users. Document review served to verify information described by participants. Analysis included a description of each case (within-case analysis) and a thematic analysis across cases (cross-case analysis). Seven factors were identified to either promote or inhibit CLC sustainability, including: 1) community uptake (if and how users access the CLC); 2) environmental factors (conditions within the CLC and the community); 3) stakeholder awareness and support (presence and extent of support exhibited by stakeholder groups); 4) presence of a champion (passionate leaders dedicated to CLC success); 5) availability of funding (ability to identify and allocate program funding); 6) fit and flexibility (CLCs' ability to address user needs and community priorities), and; 7) capacity and capacity building (capacity to sustain the CLC and use learned skills to address other health education issues). These findings were

integrated into practical sustainability tools where each factor was provided a working definition, influential moderators, key evaluation questions, and their relationship to other factors. These tools represent the development of a sustainability framework that is grounded in, and builds on existing research, and can be used by First Nations communities and universities to support effective sustainability planning for community-based health education intervention.

Preface

The current research was approved by the UBC Behavioural Research Ethics Board (BREB), number H10-01856.

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Glossary

Aboriginal: A person who identifies with at least one Aboriginal group (i.e. North American Indian, Métis or Inuit) and/or who is a Treaty Indian or a Registered Indian as defined by the *Indian Act of Canada* and/or who is a member of an Indian Band or First Nation.

Community-Based Research (CBR): A collaborative approach to research that involves community members and researchers as partners in all stages of the research. An established social investigation approach, CBR is an empowering method of research based on inclusive, participatory, and egalitarian methodologies and actively contributes to health and wellbeing of community members.

Community Learning Centres (CLC): Community-based resources that provide a physical and an online space for community members to access culturally relevant health education using Information and Communications Technology (ICTs).

Elder: Aboriginal person who is respected and consulted due to their experience, wisdom, knowledge, background and insight. Elder does not necessarily equate with age.

First Nations: A term that came into common usage in the 1970s to replace the word "Indian". Although the term First Nation is widely used, no legal definition of it exists. The term has also been adopted to replace the word "Band" in the naming of communities.

Information and Communications Technology (ICT): The use of computer-based information systems and communications systems to process, transmit and store data and information.

Community Learning Centres (CLC): Funded from 2006-2009, the CLC project was a partnership between three Canadian First Nations communities and UBC and involved the development, implementation and evaluation of three Community Learning Centres.

Nation Council: The Nation Council was formed in 1970 to promote social and political development for the First Nations communities in the current study.

Nation Territory: The First Nations terrirtory covers approximately 70,000 square kilometers in Canada and is a self-governing Nation.

Ownership, Control, Access, Possession (OCAP): Principles that apply to research and knowledge management processes, with the aim to: 1) exemplify the critical eye that has been adopted in Aboriginal research, and 2) remind researchers about the delicate and much needed respectful relationships that need to take place in Aboriginal research. Embracing an open dialogue, an appreciation for each other, and shared ownership can help ensure a successful and sustainable research initiative.

Rural: All areas not classified by the Census Bureau as urban are defined as rural and generally include places of less than 2,500 persons.

Rural and Remote Community: Generally refers to a community with a small population base, that may or may not have road access year round or access to services such as health care and K-12 education.

Sustainability: A flexible term that can be applied to any program that refers to the process of ensuring an adaptive system and innovation that can be integrated into ongoing operations to benefit diverse stakeholders.

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Chapter 1: Introduction and Literature Review

1.1 Research Purpose

Despite the evidence that supports the ongoing provision of health education interventions in Aboriginal[1] communities, there is a paucity of research that specifically addresses how these programs should be designed to ensure sustainability and long-term positive effects. Through a collective case study, the current research explores three cases of health education interventions for the following purposes: 1) To identify factors that promote and/or inhibit sustainable health education initiatives, and; 2) To integrate these factors into a practical sustainability tools that can be used to support effective program development in Aboriginal communities. These sustainability tools are a starting point in the development of a comprehensive framework that can ensure successful program development and fruitful university-community partnerships.

1.1.1 Personal Journey to the Topic

This research topic is of great interest to me both personally and professionally. Prior to starting the current study, I was involved in a health education intervention, titled the Community Learning Centres (CLC) project, which involved the development, implementation and evaluation of CLCs in three First Nations communities in Canada[2]. CLCs are community-based resources that provide a physical space for community members to access culturally relevant health education through the use of information and communications technology (ICTs). My role in the CLC project was to provide mentorship, training, and support to research and technical leads hired to coordinate CLC activities.

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[1] The *Constitution Act* (1982) specifies that Aboriginal Peoples in Canada refers to Indians, Inuit and Métis. "First Nations" is a term that commonly replaces "Indian", although there is no legal definition for this term (Assembly of First Nations).

[2] Note that the names of the First Nations communities have been anonymized and pseudonyms have been used.

Through this process, I developed partnerships and friendships with the CLC leads, project collaborators, and other involved community members. As we neared the end of the project funding, and began to transition complete ownership of the CLCs to the communities, I developed a keen interest in seeing the CLCs sustained over time. It was through this process that I became aware that several factors influenced each CLC's journey to sustainability. I became very interested in understanding what these factors were, and how they either facilitated or hindered CLC sustainability. Identifying these factors and learning about their intricate relationship with CLC success has continuously acted as inspiration for the current study, and I hope that my learning's can be applied to other program contexts.

1.2 Organization of the Thesis

I've organized the thesis into five main Chapters. The first Chapter includes an introduction to the study, an outline of the Aboriginal health landscape in Canada, a review of the literature on health education interventions that have been implemented, and a summary of how sustainability is addressed in these interventions. I conclude Chapter 1 by identifying strengths and gaps in best practices around program sustainability, which serves as a starting point for developing a sustainability framework. Chapter 2 includes my methodology and process for data collection, which is largely driven by Community-Based Research practices and respectful relationships. Chapter 3 includes the results of my study, and identifies seven sustainability factors that emerged. Results are first presented via a within-case analysis, and are then synthesized by means of a cross-case analysis. Chapter 4 includes a summary of the research findings, and integrates findings into two practical tools that can be used for program sustainability planning. Finally, Chapter 5 summarizes the strengths, applicability and limitations of the study, and highlights areas for future research.

1.3 The Landscape of Aboriginal Health

The disparities in Aboriginal health have been well documented. Essentially, Canadian Aboriginal peoples, who constitute approximately 4% of Canada's population, experience higher rates of adverse health outcomes than the non-Aboriginal population (PHAC, 2009; Maar, Seymour, Sanderson, Boesch, 2010). A 2003 federal report revealed that while 61% of all Canadians reported very good to excellent health, only 38% of Aboriginal Canadians were in the same category (Reading, 2003). Specifically, Aboriginal individuals have higher rates of obesity, child mortality, poverty, food insecurity, and housing issues – all factors that impact health outcomes (PHAC, 2009). Further, male and female Aboriginal individuals have a life expectancy of 71 and 77, compared to 78 and 83 in non-Aboriginal individuals, respectively (Statistics Canada, 2008). Thirty-one percent of Canadian Aboriginal individuals over the age of 15 have chronic health issues, and they share a disproportionate burden of physical and mental illness (MacMillan, MacMillan, Offord & Dingle, 1996).

The aforementioned issues facing Aboriginal individuals in health are complex and are a result of a variety of influences, including unfavourable economic and social conditions (MacMillan, MacMillan, Offord & Dingle, 1996). The history of colonization and oppression which led to assimilation policies such as the residential school system and discrimination towards traditional Aboriginal world views has also contributed to the fact that Aboriginal people are Canada's most marginalized cultural group[3] in the context of health and its social determinants (Maar, Seymour, Sanderson, Boesch, 2010).

[3] Examples of other 'marginalized' groups in Canada include people with certain mental health problems or addictions, people with physical disabilities, women and children in at-risk situations, some ethnic and visible minorities, the homeless, those with particular sexual orientations, and the poor (CIHR, 2002).

It has recently been recognized that a simple increase in the provision of health services is not sufficient to improve Aboriginal health. Commissioners to the Royal Commission on Aboriginal Peoples illustrate this in the following quote:

> We are deeply troubled by the evidence of continuing physical, mental and emotional ill health and social breakdown among Aboriginal people. Trends in the data on health and social conditions lead us to a stark conclusion: despite the extension of medical and social services… to every Aboriginal community, and despite the large sums [billions] spent by Canadian governments to provide these services, Aboriginal people still suffer from unacceptable rates of illness and distress. The term 'crisis' is not an exaggeration here. (Obomsawin, 2007)

This excerpt elucidates the critical state of Aboriginal health and recognizes the need for innovative health interventions that involve more than the straightforward provision of mainstream medical and social services.

Having accessible health information is an important determinant of health (Shulz & Northridge, 2004). Unfortunately, obtaining appropriate health information can be a barrier for rural First Nation and non-First Nation communities across Canada due to geographically isolated locations and lack of trained personnel to meet health needs (Salee, 2006; MacMillan, MacMillan, Offord & Dingle, 1996). For example, because of the isolation of many rural areas, it is often the case that residents have a limited choice of health professionals within a given field and limited access to specialists. This includes many Aboriginal communities, given that a reported 30-50% of Aboriginal communities in Canada are only accessible by air. Cultural barriers further exacerbate Aboriginal peoples' access to appropriate health services and education, particularly if the available health professionals are from different cultural backgrounds or speak different languages. Indeed, health educators and professionals who are of Aboriginal background or who have cultural

competency training can better communicate with community members and are perceived as more competent at addressing their health education needs (Verde & Li, 2003).

Despite these barriers, the provision of accessible and culturally relevant health education has become a priority as Canada realizes that current challenges in improving Aboriginal health are in large part due to barriers in accessing health information. The Blueprint for Aboriginal Health (2005) outlines a transformative plan to close the gap in health outcomes between Aboriginal and non-Aboriginal people in Canada, in part by improving Aboriginal peoples' access to and quality of health information. As a response, initiatives targeted towards providing health information to Aboriginal people are increasing in popularity.

1.4 Health Education Interventions

Health education interventions are intended to improve health and its social determinants for Aboriginal people. They are generally designed to facilitate behavioural changes, improve health literacy, and promote skills that positively impact individual and community health (World Health Organization, 1998). Emerging evidence suggests that educational initiatives -- not just developed *for* Aboriginal communities, but also *by* Aboriginal communities -- foster community ownership and contribute to improved community health (Israel, Schulz, Parker & Becker, 1998; Schwab & Sutherland, 2001). As a result, one of the primary components of health education interventions is to assist community members in identifying their own health needs, and subsequently provide them with the knowledge and capacity required to address these needs (MacMillan, MacMillan, Offord & Dingle, 1996). This community-based approach is historically rooted in the Alma-Ata Declaration, which was developed and adopted by the Government of Canada at the

1978 International Conference on Primary Health Care (World Health Organization, 2006). The Alma-Ata declaration was the first international movement that emphasized primary health care for all. This declaration speaks to the need for international action to promote world health, particularly for developing countries and communities. One of the declaration's four pillars is 'community involvement'; that is, to ensure local communities are involved in decision making (Obomsawin, 2007). Community involvement has since become a priority to interventions and research around primary health care and social determinants of health for Aboriginal and non-Aboriginal populations, and can be generally referred to as Community-Based Research (CBR).

1.4.1 Community-Based Research Approaches

CBR is essentially "research that will benefit the participants either through direct intervention or by using the results to inform action for change" (Israel, Schulz, Parker & Becker, 1998, p.175). Established in 2000, the Canadian Institute for Aboriginal People's Health, contextualized CBR to Aboriginal health research by promoting and supporting research projects "based on scientific excellence and Aboriginal community collaboration" (Cunningham, Reading & Eades, 2003). The Institute has since led the pursuit of improving the health of First Nations, Inuit, and Metis by advancing a research agenda based on community collaboration and capacity building (Cunningham, Reading & Eades, 2003).

Health education interventions that are developed in collaboration with communities help build community capacity and ensure the success of the intervention. Indeed, community ownership is the foundation for building healthy communities where members are empowered to identify their health education needs, and develop mechanisms to address those needs (Schwab & Sutherland, 2001). Community participation also increases the extent

that programs are developed around community-identified priorities, which is important considering that members of Aboriginal communities have unique health experiences and conditions. Health education programs targeted at the general population are unlikely to be effective at achieving long-term benefits in Aboriginal contexts (Marin et al, 1995). CBR approaches utilize existing resources and strengths from within the community, which is in contrast to top-down approaches that bring in resources and tend to disempower individuals by implying that they should be dependent on external professionals (Sheridan, 2007).

Despite the difficulties in linking health education interventions to actual health outcomes, there is empirical evidence to support CBR approaches. For example, in Wallerstein and Duran's (2006) review of CBR approaches, they found them to contribute to efficient and sustainable programs. Further, Sheridan (2007) found CBR approaches built community research capacity (e.g. job preservation), increased intervention quality, and encouraged greater community participation rates.

1.4.2 Community Learning Centres – A CBR Health Education Intervention

One community-based educational intervention that has shown potential for improving access to health education and resources is the implementation of Community Learning Centres (CLCs). A CLC is essentially, a community-based educational centre that provides community members with access to culturally relevant health education and resources. Therefore, a CLC includes both a physical space with computers, and an online resource with a variety of health information. The goal of a CLC is to engage community members and community-based health professionals in the design of the CLC space and website, and in so doing, foster community ownership and involvement in determining appropriate health concerns and solutions to address those concerns.

The CLC concept originated in Mexico's Tecnologico de Monterey (Monterrey Tech) and was established in a geographically isolated region of Mexico in 2001. The concept was then piloted in British Columbia's Tl'azt'en Nation in 2005 as a pilot to understand how information and communications technology could be integrated into an Aboriginal community to provide access to health education (Jarvis-Selinger, Ho, Novak Lauscher & Bell, 2008; Jarvis-Selinger, Novak Lauscher, Ho & Maki, 2009). Lessons learned from the Tl'azt'en CLC were then used to help plan the development and implementation of CLCs in three Canadian First Nations communities in in 2006. This current CLC study is described in more detail in later sections, but essentially explores the sustainability of these three CLCs, and in so doing, develops a framework that can be used in future health education interventions in Aboriginal communities. Before fully describing the current study however, the following section will elucidate various issues around program sustainability, thereby framing the rationale behind the current study's objectives.

1.5 The Issue of Sustainability

Most health education interventions contain the word 'sustainability' in their documents, yet rarely do these documents identify what sustainability means and what aspects of the program are being sustained (Leger, 2005). Leger notes "We have not reflected thoroughly and regularly on the many health promotion interventions that have achieved some significant degree of sustainability successes, and learnt from them" (p. 317). This quote illustrates a need for increased reflection on the sustainability of health education interventions. But sustainability is more than understanding key aspects of program success that can be used to facilitate effective intervention delivery models. Sustainability is also a responsibility that speaks to our obligation to build community capacity of the communities

we work with so that they can have ownership and be empowered to improve their own health.

More so than individual, organizational, or institutional interventions, community interventions require long-term support in order to sustain any long-term effects (Swerissen & Crisp, 2004). If there is evidence that a community-based intervention is meeting the needs of its target population, a sustainability plan is critical. Failing to account for the sustainability of an effective intervention can result in the unnecessary removal of a service that was clearly of benefit to its users (Johnson, Haysb, Centerc & Daley, 2004). Unfortunately, while community-based health education initiatives are often successful during the funding period, sustainability and momentum are not necessarily maintained post project funding (Wakerman et. al, 2005). This is because institutions, rather than communities, are most-often funded for community-based Aboriginal programs and once the external funding ends, the continued benefit of these resources becomes fully dependent on the communities. This can be problematic for communities who aren't prepared, or who don't have the capacity (financial or otherwise) to take on this responsibility. If external support is removed too abruptly, evidence of intervention success can quickly disappear (Swerissen & Crisp, 2004). Unfortunately, funded CBR initiatives are often designed as pilots, and therefore, evaluation frameworks focus on implementation success as opposed to sustained effectiveness post project funding (Johnson, Haysb, Centerc, and Daley, 2004).

This is not to undermine the importance of evaluation. In some cases, it is inappropriate to sustain a program due to its inability to meet stakeholder needs, or because of evolving community priorities. Therefore, program evaluations are critical to provide insight into whether or not an intervention is worth sustaining. However, sustainability is as

important as program evaluations, given that many program efforts fail to become sustainable because insufficient resources are provided in the short to medium time frame once the original funding period ends (Goodman et al., 1993). Fortunately, the sustainability of health related interventions is a recognized concern with regards to health promotion programs and has been discussed in the literature to some extent (Swerissen & Crisp, 2004). For Canadian First Nations, sustainability is a key component of funded CBR-interventions, as reflected in the Blueprint on Aboriginal Health: "…where First Nation governments and Aboriginal organizations receive program and capital funding, it should be stable and sustainable, long term, and appropriate…" (2005). Health decision makers are also increasingly emphasizing the importance of sustainability, and often feel that a more comprehensive picture of success is how the program is used after initial funding has ended (Hawe, Noortb, King & Jorden, 1997).

1.5.1 Definitions and Operationalizations of Sustainability

The literature is inconsistent on how sustainability is defined and operationalized. In a systematic review of 105 articles, book chapters, and books, Johnson et al., (2004) identified ten terms that are used interchangeably with sustainability in the literature. These terms include confirmation, continuation, durability, incorporation, institutionalization, level of use, maintenance, routinization, stabilization, and sustained use. All of these terms address the maintenance or continuation of an intervention to some extent, but each also carries its own unique meanings and are not synonymous. Recently, Johnson, et al. (2004) attempted to provide an overarching definition of sustainability: "…the process of ensuring an adaptive system and a sustainable innovation that can be integrated into ongoing operations to benefit diverse stakeholders." This definition of sustainability can be applied to a variety of contexts,

but comes across as slightly vague and abstract (note that the word sustainable is used to define sustainability).

Unfortunately, at this stage there is little agreement on how to clearly define the term, and not having a set list of components that fall under sustainability, makes defining it challenging (Israel et al., 2006; Shediac-Rizkallah & Bone, 1998). Shediac-Rizkallah and Bone (1998) have developed a promising definition of sustainability, namely, that sustainability is a global, dynamic, and multidimensional concept of the continuation process of a program. The authors suggest that this working definition provides a space for individuals to effectively contextualize sustainability to fit the program to which it is applied.

Researchers also vary on how they apply sustainability to their interventions and many research programs do not operationalize or contextualize the term at all. When sustainability is operationalized, there are clear differences. At a fundamental level, sustainability is generally operationalized either in terms of research partnerships or in terms of programs and interventions (Israel et al., 2006). A close examination of both contexts reveals further discrepancies in the literature. First, regarding research partnerships, researchers conceptualize sustainable partnerships as an organization, as a set of values, as the initiatives they implement, or some combination of these (Alexander, Weiner, Metzger, et al., 2003). Second, regarding programs and interventions, researchers tend to adopt one of three operationalizations each of which stems from a different school of thought. These three conceptualizations include: 1) maintaining the health benefits that were achieved in the initial program over time (a public health perspective); 2) continuing program activities or institutionalizing a program within an organization (an organizational theory perspective), and 3) building capacity in the community that the program was implemented in (a

community-level change perspective) (Shediac-Rizkalla and Bone, 1998). These categories of research partnerships and programs are helpful in that they acknowledge the importance and various components of sustainability, but they also indicate conflicting definitions and operationalizations of sustainability, depending on the indicators they attribute to the concept.

1.5.2 Factors that Influence Sustainability

In the few instances where researchers have defined and operationalized sustainability, indicators of a sustainable program have been identified. In general, researchers agree that sustainability is indicated by one or more of the following components: program uptake by external organizations; continued uptake by original intended users, being embedded in an organization's operations; and increased community capacity to address other health issues (Hawe, Noortb, King & Jorden, 1997; Johnson, Hays, Center & Daley, 2004).

Sustainability influences have also been identified for the two fundamental categories mentioned in the previous section – research partnerships, and programs or interventions. In terms of research partnerships, Israel et al. (2006) identified three broad dimensions critical to the sustainability of research relationships: 1) sustaining commitments made between partners; 2) sustaining the knowledge and capacity building that was generated from the partnership; and 3) sustaining the partnership itself. Potvin et al. (2003) outlined guidelines for ensuring the success of these dimensions. In terms of programs and interventions, Swerissen and Crisp (2004) build on Shediac-Rizkalla and Bone's (1998) framework and identify three considerations important for program sustainability and encourage that a program addresses: 1) capacity building to develop the necessary infrastructure for

improvement, 2) changes in individual and community levels of social organization that will contribute to improvement, and 3) the ongoing need for program resources over time.

1.5.3 Measuring and Evaluating Sustainability

The literature is sparse with regards to empirical evidence of factors pertinent to sustainability, particularly in an Aboriginal context. One review of 19 Canadian and American Aboriginal and non-Aboriginal health related programs outlines the following factors that were empirically shown to influence sustainability. These included: 1) the presence of a champion; 2) a good fit between the program and the community's mission; and 3) support provided by stakeholders (Scheirer, 2005). While helpful as a starting point, there is a significant lack of strategies and tools available for evaluating these and other aspects of sustainability (Johnson, Haysb, Centerc & Daleyd, 2004).

Emerging evidence suggests that sustainability should be emphasized early on in the implementation to prevent programs from collapsing as soon as the funding period ends (Johnson, Haysb, Centerc, and Daley, 2004). However, the paucity of sustainability tools often leads researchers to address sustainability at the end of an intervention, if at all. Further, some researchers claim that an intervention is sustainable, simply because the program has not been shut down. This situation results in an inadequate assessment of program success, neglects the many other indicators of sustainability, and places sustainability as a 'yes or no' question rather than a complex continuum with multiple contributing factors.

Sustainability was found to be a primary focus in one out of sixteen program planning models (Johnson, Haysb, Centerc, and Daley, 2004). However, explanatory models of sustainability were for the most part, simplistic and descriptive rather than empirical and comprehensive (Swerissen & Crisp, 2004). It has been suggested that only 37% of

sustainability models have any empirical support (Johnson, Haysb, Centerc & Daley, 2004). Further, the empirical support may not have practical application to other contexts beyond that which they were developed (Johnson, Haysb, Centerc, and Daley, 2004).

The increased importance of proactively addressing program sustainability, combined with the paucity of sustainability measurement tools, highlights a strong need to identify factors that heighten a program's potential to be sustained, and to develop tools that can assist both university and community partners throughout the program's implementation.

1.6 A Framework for Sustainability

Evidence about the sustainability of CBR initiatives is far from consistent, especially with respect to its operationalization, and measurement. There is, however, well-established evidence about the effectiveness of community-based research that points to the continued need for health education interventions (Hawe, Noortb, King & Jorden, 1997). Specifically, increasing evidence suggests that a program with modest gains in health improvement, but high potential for sustainability, is a wiser investment than a program with high gains in health improvement but low potential for sustainability (Hawe, Noortb, King & Jorden, 1997). Given that most health education interventions targeted in Canadian Aboriginal communities are funded through external grant competitions, these funding agencies realize the importance of sustainability and thus are placing an increasing importance on integrated plans for long-term success. This has encouraged researchers to shift their attention from the effectiveness of health education interventions (which is already established in the literature), towards understanding how a working health program has sustainable effects (Hawe, Noortb, King & Jorden, 1997). In fact, researchers are increasingly being asked to address how programs are going to be sustainable – only reporting on the design and implementation of a

program is no longer sufficient (Ledger, 2005). The emerging body of evidence around health education initiatives has linked a project's propensity for capacity building to the likelihood that the program will be sustainable. This suggests a need to identify what fundamental factors are associated with sustainability, and whether some key principles can be applied to maximize a program's long-term potential.

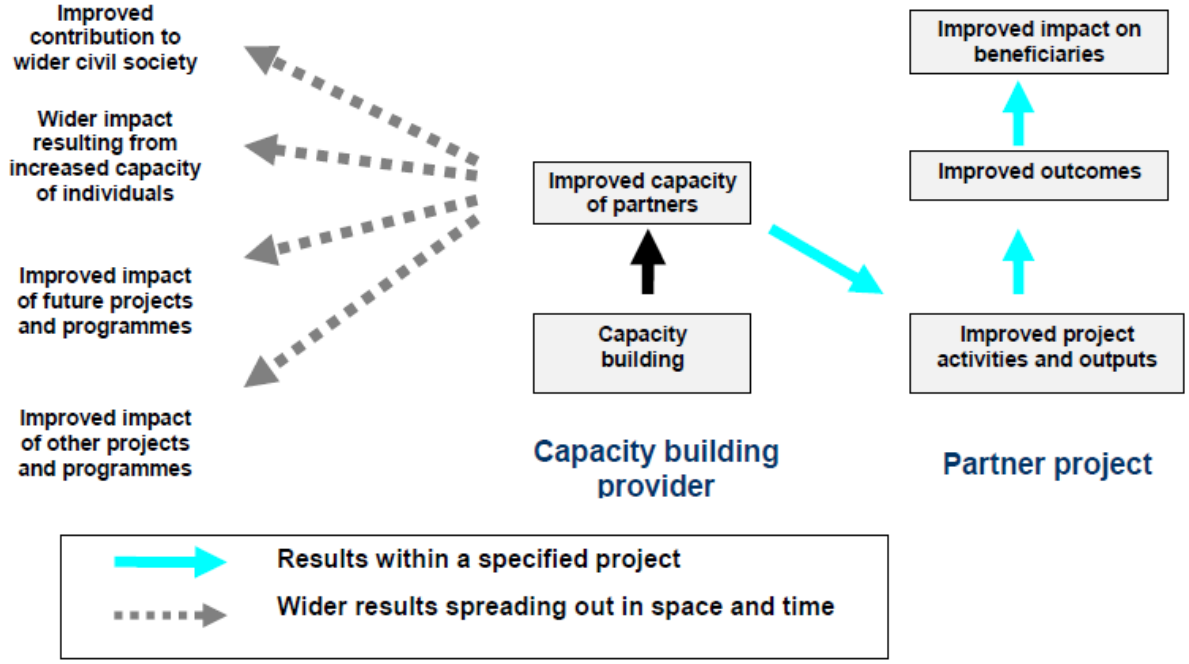
1.6.1 Capacity building – A Starting Point

Perhaps one area that consistently emerges in the sustainability literature is the notion of capacity building, which refers to "…sustainable skills, organizational structures, resources, and commitment to improvement in health to prolong and multiply health gains many times over" (New South Wales Health Department, 2001, p.i). Capacity building, which was acknowledged above as one of three ways to operationalize a program's sustainability, is generally thought to be a critical component to sustaining interventions and thus is consistently incorporated into sustainability models (Shediac-Rizkalla and Bone, 1998; Johnson, Haysb, Centerc, and Daley, 2004). Indeed, capacity building is often the mitigating factor that can help ensure a smooth transition of program ownership to communities (Potvin, Cargo, McComber, Delormier, Macaulay, 2003). Hawe, Noortb, King and Jorden (1997) argue that health intervention benefits are not necessarily represented by immediate health outcomes after the funding period ends; rather they are represented by long-term outcomes due to capacity building. That is, a program's effects will likely be more sustainable if there is a mechanism in place to allow health outcomes to continually be realized with community-based resources as opposed to external funding.

However, capacity building is a complex concept that has multiple meanings and conceptualizations in the literature. For example, researchers can examine existing

community capacity (e.g. the ability of a community to manage affairs successfully) or capacity building as a result of a program (e.g. the effect of purposeful interventions intended to strengthen capacity over time) (Simister and Smith, 2010). To illustrate the complexity of capacity building, Figure 1 depicts both short-term and long-term capacity building outcomes that can take place as a result of an intervention.

Figure 1: Capacity Building Outcomes



(Simister and Smith, 2010)

There are a number of capacity-building factors that need to be addressed in order to sustain health interventions, including: presence of champions, effective leadership, sufficient resources, and supportive administrative policies (Johnson, Haysb, Centerc, and Daley, 2004). To address these aforementioned factors, a variety of capacity building techniques and strategies can be implemented that can better equip a community to sustain programs (Jeffrey, Abonyi, Labonte, & Duncan, 2006; Public Health Agency of Canada, 2007). Working with community members to identify their needs and using their strengths to

meet those needs (e.g. community training to enhance their competencies) is an example of a community capacity building strategy. Providing support, as well as mentorship and training to community members means that jobs pertaining to the program can be preserved for community members, which contributes to program ownership and sustainability. When community members acquire new skills from CBR initiatives, they have enhanced capacity to engage in future research endeavours and evaluations in their community. Another example of a capacity building technique is to continually inform the community about the purpose of the intervention. Maintaining transparency about the program throughout its stages can better prepare the community to invest in bridge funding to support the transfer to community ownership (Potvin et al, 2003).

Based on three case studies, the current research initiated the development of a framework for sustainability that can be applied to health education interventions in Aboriginal communities. It is clear that the diversity between- and within-Aboriginal communities prevents a standardized approach in the delivery of health education initiatives. However, a *sustainability framework* identifies factors fundamental to successful community-based health education research interventions. Such a framework can act as a guide for future intervention developments, increasing the long-term impact of these initiatives and in so doing, accelerating the improvement of Aboriginal health in Canada.

1.7 Research Question and Objectives

The overarching question of the current research was: What factors are related to sustainable health education programs and how do these factors contribute to and/or inhibit program success in a rural/remote Aboriginal context? To address this question, the research objective was to develop practical sustainability tools that are: 1) supportive of successful

health education intervention development and implementation; and, 2) applicable to Aboriginal communities. Based on active participation of all community members involved in the health education intervention, the current study identified best practices and recommendations for sustainability planning.

The current research drew from Shediac-Rizkallah and Bone's (1998) definition of sustainability, namely, that sustainability is a global, dynamic, and multidimensional concept of the continuation process of a program. This definition was used because it was developed based on community interventions around health and was flexible enough to be adapted to individual programs. To add some boundaries to the term, I view a sustainable program to be: 1) receptive to change and adaptable; 2) an innovative strategy that provides continued benefit; 3) fully integrated into normal operations post project funding; and 4) of benefit to diverse stakeholders (Johnson, Haysb, Centerc, and Daley, 2004; Hawe, Noortb, King and Jorden's, 1997).

1.7.1 Theoretical Framework

The current study was guided by a constructivist epistemology (Guba & Lincoln, 1994), a collective case study theoretical perspective (Cresswell, 1998), and a community-based research (CBR) methodology (Israel, Eng, Schulz, et al., 2005). Indigenous methods (Denzin & Lincoln, 2008) were also used and will be described in later sections. As discussed previously, CBR is a collaborative approach to research that involves community members and researchers as partners in all stages of the research. CBR is an established social investigation approach, an educational process, and an empowering method of research based on inclusive, participatory, and egalitarian methodologies (Lindsay & McGuinness, 1998; Kelly, 2005). This collaborative approach facilitates joint understanding,

incorporates the social and cultural community dynamics, and actively contributes to health and wellbeing of community members (Israel, Schulz, Parker & Becher, 1996). The collaborative and subjective nature of CBR separates it from the positivist paradigm that previously dominated health education research and contributed to the insensitive research traditionally done on Aboriginal communities. Historically, researchers originated from outside of the community, defined the apparent problem in silos, analyzed problems in isolation of each other, and enforced the application of results onto those being studied. On the other hand, CBR approaches are well received by Aboriginal communities because of their inclusive and participatory nature.

CBR research can theoretically be characterized as either a critical theory or a constructivist paradigm (Israel et al., 2006). In the context of the current study, CBR fell under a constructivist perspective. Constructivism posits that "…there exist multiple, socially constructed realities that are influenced by social, cultural, and historical contexts; the inquirer and participant are connected in such a way that the findings are inseparable from their relationship; and the methods used emphasize a continual dialectic of iteration, analysis, assessment, reiteration, and reanalysis" (p. 176, Israel et al., 1996). Constructivism is grounded in the notion that reality is socially constructed between researcher and participant. As a result, the nature of the relationship between the knower and the known is subjective (Guba & Lincoln, 1994). Baxter and Jack (2008) argue that the relationship between the two enables the participant to describe their reality through stories, and the researcher understands the participant's actions through these stories. CBR is a good fit with constructivism because the social creation of knowledge is illustrated by the ongoing involvement and participation of community members. It was also an appropriate theoretical

perspective for the current study because it recognizes that individuals are embedded within social and economic systems that shape health behaviours, and that these systems contribute to the disparate health rates experienced by Aboriginal people.

1.7.2 Ethical Considerations

All aspects of the study were guided by specific research principles consistent with CBR approaches. As noted earlier, traditional research practices often exploited Aboriginal people and left many communities resistant to research. Indeed, some communities have responded by introducing strict restrictions on research within their communities. Therefore, building honest, trusting relationships with communities is critical to effective research relationships. Israel et al. (2006) emphasized the importance of building and sustaining strong research relationships, and recommended that researchers embrace open communication and education about histories, goals, and ideas. Trust between university and community partners is critical to ensure the success of health intervention research (Christopher, Watts, McCormich, Young, 2008). Key principles of CBR were adhered to throughout the research process. LaVeaux and Christopher (2009) contextualized well-established CBR guidelines to a Native American context, which was valuable to this research process.

There are several sets of guidelines and principles that are emphasized in CBR initiatives conducted with Aboriginal communities, including the: 1) Guidelines for Health Research Involving Aboriginal People published by the Canadian Institutes of Health Research (CIHR, 2009); 2) principles of ownership, control, access, and possession (OCAP) published by the National Aboriginal Health Organization (NAHO, 2007); and 3) four R's in First Nations and higher education: respect, relevance, reciprocity, and responsibility

(Kirkness and Barnhardt, 1991). While each set of guidelines has a slightly different focus, all provide researchers with a framework to conduct ethically and culturally respectful research that upholds Aboriginal values and traditions. Further, these guidelines help ensure that research partnerships facilitate inclusivity, collaboration, and ultimately successful and sustainable research initiatives (Israel et al., Potvin et al., Christopher et al.). The current research was governed by these principles and continually emphasized an open dialogue and shared ownership of the research process. Appendix A includes a detailed explanation of how these guidelines manifested in the current research and governed the overall approach.

In addition to these guidelines, a community advisory committee was engaged to help inform the research process. The committee was comprised of the community-based CLC co-investigator, members of the Nation's Chief and Council, CLC staff, and supervisors who oversaw CLC activities. Further, a letter of invitation was disseminated throughout all participating communities and their members during the 2010 Annual General Assembly (see Appendix B). The researcher sought approval from members of community leadership in the Nation and the UBC Behavioural Research Ethics Board (BREB) prior to any data collection. Finally, all participants signed a written consent form (see Appendix D).

Chapter 2: Methodology

2.1 Approach

The current study took the form of a collective case study. Cresswell (1998) defines a case study as an "…exploration of a case (or multiple cases) over time through detailed, in-depth data collection involving multiple sources of information that is rich in context. This bounded system is bounded by time and place, and it is the case being studied" (p.61). Yin (2003) builds on the idea of a bounded system and argues that this approach is appropriate when contextual conditions are relevant to the case of study. Indeed, the case that is explored is defined as a "…phenomenon of some sort occurring in a bounded context" (p.25, Miles and Huberman, 1994).

The cases in the current research were bounded by time, place, and context. Specifically, the cases were bounded within the context of the Community Learning Centre (CLC) project that officially began in 2006 within three Canadian First Nations communities, the names of which have been anonymized at the request of community advisors. A collective case study is completed when the researcher explores multiple cases in order to understand the similarities and differences between cases (Yin, 2003). Collective case studies are appropriate if the researcher wishes to generalize to some extent, the results across cases. Evidence created from collective case studies has been considered to be robust and reliable (Baxter & Jack, 2008). A description of the collective cases and how they are bounded by time, place and context follows.

2.1.1 Background on the Nation and the Community Learning Centres

The traditional Nation territory involved in the study covers approximately 70,000 square kilometers (27,000 square miles). The Nation is a self governing Nation and has four pillars that support community interests and priorities in the areas of traditional knowledge, health and

social issues, lands and resources, and economics. The Nation's Council was formed in 1970 to promote social and political development.

The CLC project built on previous partnerships and infrastructure developments within the Nation. In 2003, UBC completed a telehealth readiness assessment with the Nation. This assessment identified community readiness with respect to information and communications technology (ICTs) for the purpose of health service/information delivery. Simultaneous to this initiative and starting in 2001, the Nation began to seek ways to preserve and disseminate the nearly extinct traditional language with the use of ICTs. The Nation successfully applied and was awarded 3.8 million dollars to improve their internet connectivity infrastructure by developing wireless service and fibre to the user (FTTU) in the general area. In 2007, all of the Nation communities were connected to the open access network.

Based on lessons learned from the telehealth readiness assessment, and given the development of the Nation's broadband network, the Nation and the University of British Columbia partnered to develop CLCs to help further language preservation, support health education and improve digital literacy. In 2006, four[4] communities in the Nation and the University of British Columbia were successful in obtaining a three-year health intervention grant from the Canadian Institutes of Health Research (2006-2009) to support the development of the Community Learning Centres project.

The overarching objective of the grant was to take a CBR approach to develop, implement, and evaluate three pilot CLCs in each community. The purpose of each CLC was to provide community members with access to health education and resources. All of the health

[4] While one of the four First Nations communities was an original partner in the grant, the partnership was not sustained throughout the full funding period was not applicable to the current research as it did not fit the same time, place, and context as the other three cases.

education was to be based on community priorities, and provided in a culturally relevant way. Resources could be directly related to health (e.g. chronic disease information), or to the social determinants of health (e.g. technology workshops, employment support, traditional language revitalization, etc.).

During CLC development, one evaluation lead and one technical lead were hired from within each community to coordinate the development of each CLC. These community leads received mentorship and guidance from the University of British Columbia research and technical team as they developed their capacity to be providers and facilitators of health information to their community. For example, the community evaluation leads learned how to identify community health priorities, develop culturally sensitive health content based on these priorities, coordinate and promote health workshops and learning sessions, and evaluate use and effectiveness of the CLCs over time. In doing the aforementioned tasks, the community evaluation leads developed their research, coordination, and networking skills. The community technology leads were tasked with maintaining and updating CLC equipment, designing CLC websites used to disseminate health information, maintaining the websites with updated research articles, calendar events, and other relevant information, and supporting community members as they navigated CLC technology. The university and community team members met regularly to deal with administrative tasks, problem-solve, collaborate on education and training events, share information, as well as to guide the implementation, evaluation, and sustainability of each CLC. The end result was three functioning CLCs that included both a physical space containing Internet-connected computers, and a CLC website that included various information and resources, including: culturally relevant health research articles, descriptions of traditional plants

and herbs, traditional language resources, and a place to promote health events and resources within the community.

Critical to the development of the three CLCs, was an evaluation component that operated at three levels: within the communities (to identify health priorities); between the communities (to understand perceived effectiveness and usage of the CLCs); and between the university partners and community partners (to understand the implementation and collaboration process). These evaluation components provided a comprehensive understanding of the process and impact of the CLCs as a health education intervention in Canadian First Nations communities.

2.1.2 A Rationale for Sustainability

Funding for the CLC project ended in October 2009, at which point complete ownership was transferred to each First Nation community's band administration. At that particular point in time, each CLC had successfully been incorporated into existing community infrastructure. However, identifying the factors that were and continue to be conducive to promoting and/or inhibiting the sustainability of the CLCs was not a part of the evaluation framework. Therefore, the CLC project provided the opportunity for a timely and important case study to determine sustainability factors as they relate to a rural/remote First Nations context. It is important to distinguish that the original CLC project focused on health education delivery whereas the current study focused on the sustainability of the CLC program (as opposed to the sustainability of health education outcomes). The current research aimed to understand these factors both within and across each CLC case, and to integrate them into practical sustainability tools. The tools developed in the current study represent the beginnings of a sustainability framework that

can be applied to other health education interventions in First Nation communities in order to facilitate and accelerate the successful provision of health education programs.

2.2 Participants

Participants included four groups from each CLC community: 1) members of community and/or Nation *leadership* (N = 8); 2) *staff* at the CLCs (N = 4); 3) regular *users* of the CLCs (N = 5), and; 4) *external partners* (e.g. college staff, course instructors) (N = 2). Community leadership participants included members of the Nation Chief and Council, Band Council, and Band Administration. Staff at the CLC included research and technical leads. CLC users included three community members and two non-community members who used the CLC anywhere from bi-weekly to daily. External partners were characterized as those who did not live in the community, but had ties to the CLC through educational program delivery through the college campuses located nearby. Participants were recruited using the snowball purposeful sampling strategy, where cases of interest were identified by people who knew individuals who were information-rich (Cresswell, 1998). Specifically, the CLC staff were asked to identify potential participants who met the above three classifications. In total, 19 participants were included in the study. There were 12 females and 7 males and their ages ranged from 18 to 65 (see Appendix D for a list of participant's and their demographics).

2.3 Data

Cresswell (1998) recommends that the data collection process for case study research be drawn from multiple sources of information. The rationale for collecting multiple data sources is that each source contributes to an overall understanding of the phenomenon under study and enhances the overall rigor of the study (Baxter & Jack, 2008). Multiple forms of data collection were used with participants (Burhansstipanov, 2005). Data collection processes included: 1) in-

depth interviews; 2) sharing circles/focus groups; and 3) document review. Fifteen semi-structured and open-ended interviews were completed with participants, (see Appendix E for interview protocol). One focus group was completed with members of Chief and Council from each CLC community and followed a sharing circle approach. The sharing circle is a traditional Aboriginal method of orally sharing information and stories (Petrucka, Bassendowski & Bourassa, 2007). The sharing circle, similar to a focus group, is a respectful and equitable environment that creates and perpetuates information based on individual decisions of contributions, while simultaneously affirming community members as co-researchers (Coalition for the Advancement of Aboriginal Studies, 2002). In the sharing circle, participants were asked whether or not they viewed their community's CLC as successful, and what specific factors they thought influenced CLC success or lack of. Document review was incorporated to a lesser extent, and primarily served to verify factual information that was described by participants, namely regarding the ongoing operations of the CLCs. Documents included: field notes, new and existing CLC website content, and miscellaneous reports on the Nation (e.g. connectivity reports, funding proposals, CLC publications, etc).

2.4 Procedures

After the semi-structured interviews and sharing circle were conducted, and throughout the document review process, the case study data was compiled through iterative reflections with participants (Wakerman et al., 2005). Such reflections involved recurring: a) consultative dialogue and developing partnerships to identify/explore the issue; b) data collection with participants as part of the research process and c) data analysis and feedback to ensure a collective understanding (Bailey, 1992). Participants approved all quotes included in this thesis, and were given the option to choose their own pseudonyms.

2.5 Analysis

In accordance with Cresswell (1998), the format of the collective case analysis first included a detailed description of each case (within-case analysis), and then a thematic analysis across all three cases (cross-case analysis). Throughout the within- and cross-analysis, there was a heavy emphasis on the context of the cases. While each application of CBR is unique, researchers have established common theoretical characteristics in the data analysis process, including recurring and overlapping cycles of collaboration, participation, reflection, validation, and action (Dickson & Green, 2001; Stringer, 1996). Therefore, data analysis followed an iterative process because participants were involved with each data analysis step.

Specific analysis steps followed Patton's (1990) framework. First, audio taped and transcribed interviews and sharing circles/focus groups were transferred to HyperResearch software (HyperResearch, 2010). Participants reviewed their own transcripts and verified their content. Second, documents and transcripts were reviewed several times, in order for the researcher to develop a holistic sense of discussions and to a context for the emerging themes. Third, units of meaning pertaining to the research question were defined and coded into preliminary themes. I entered this stage of the analysis with four a priori codes, the presence of a champion, stakeholder support, program fit, and capacity building because of their established influence on sustainability in the literature (Hawe, Noortb, King & Jorden, 1997; Johnson, Hays, Center & Daley, 2004; Scheirer, 2005). The remainder of coding followed an 'open-coding process', which provided comprehensive content analysis, and followed Stake's (1995) recommendations, including: categorical aggregation (the researcher seeks a number of instances within the data in order for meanings to emerge), patterns (correspondence between categories is explored), and naturalistic generalizations (lessons learned are identified so that people can learn

and apply them to other contexts). Further, a constant comparative analysis was completed which means that occurrences in data were compared with other occurrences in the data to ensure consistent coding of data (Miles & Huberman, 1994). Fourth, each theme was reviewed and where necessary, new themes and sub-themes were created. In order to provide credibility for the coded themes, an independent rater not involved in the study's data collection independently reviewed all transcripts, and coded select transcripts into a list of themes provided by the researcher. Instances of congruencies and discrepancies among coded transcripts were discussed and agreed upon.

Compared to other qualitative research approaches, case studies have been associated with increased research rigor; however qualitative research techniques require that the researcher have processes in place to help achieve validity or soundness. Soundness in qualitative research refers to the extent to which researcher's claims correspond to participant's constructions of reality (Cho & Trent, 2006). The extent that claims made in the research match those of the context being studied depends on the use of certain research techniques (e.g. triangulation), and the researcher's ability to self-reflect on the research process. Research rigor was established by engaging participants to provide feedback on the accuracy and soundness of data in order to obtain construct and face validity. Specifically, following the within- and cross- case analysis, participants reviewed and approved their quotes that were selected for the current thesis, and also verified the appropriateness of the case descriptions. Additionally triangulation was utilized to corroborate convergence and divergence in findings generated from multiple data sources (Moran-Ellis et al., 2006; Lindsey & Mcguiness, 1998).

Chapter 3: Findings

3.1 Introduction

This chapter includes a story about the Community Learning Centres, specifically with regards to their sustainability. Keeping with the constructivist approach, this chapter provides one version the CLCs' path to sustainability based on my discussions with participants. I have tried to use the participants' words as much as possible in order to do justice to their stories. This chapter is comprised of four main sections. The first section identifies and defines the sustainability factors that emerged from the data. The second section includes a within-case analysis that provides a rich description of each CLC's context. Each case description first includes my own observations in order to paint a picture for the reader how each CLC appeared to me (albeit as a non-community member) when I visited it (e.g. location within the community, its general environment, pertinent observations and interactions). Then, each case is presented from the point of view of participants in a way that highlights how each sustainability factor emerged in each case. The third section is a cross-case analysis that explores and synthesizes the seven sustainability factors that emerged across all three cases. As will become apparent, these themes are not mutually exclusive and more often than not, are interrelated and dependent on each other. The fourth and final section of this chapter explores the interrelationships between the factors.

3.2 Sustainability Factors Identified and Defined

Seven themes emerged from the interview and focus group/sharing circle data. These themes either promoted or inhibited the sustainability of each CLC and included: 1) uptake by community; 2) environmental factors; 3) stakeholder awareness and support; 4) presence of a

champion; 5) availability of funding; 6) fit and flexibility in meeting community priorities, and; 7) capacity and capacity building.

Uptake by the community refers to if and how users access the CLCs, and included the diversity of users, the frequency with which they access the CLC, and what they use the CLC for. *Environmental factors* are considered in three levels. The first level addresses the environment within each CLC, including various location, infrastructure, staffing, or technical/equipment factors. The second level addresses the environment within the community, including other similar programs/resources that may offer competition to the CLCs, as well as community politics that may enhance or detract from CLC success. The third level addresses how the CLC environment compares to those within education programs in urban or non-community settings. *Stakeholder awareness and support* refers to the presence and extent of the following groups' support for the CLCs: community members, band administration, band council, Nation Council, CLC staff, UBC, and the nearby College campuses. *The presence of a champion* refers to the most positive form of stakeholder support exhibited by individuals. The current study both identified whether champions exist, which stakeholder group they belong, and what specific qualities those individuals possess that enable them to be leaders. The *availability of funding* refers to the community's ability and incentive to identify and allocate funds to support the ongoing operation of the CLCs. While this factor is fairly straightforward, seeking ways to financially support the CLCs is partially dependent on stakeholder support/champions. *Fit and flexibility in meeting community priorities* is addressed in two areas. The fit refers to whether the CLC is in line with community priorities as a whole. The flexibility refers to whether the CLCs programs, resources and staff had the flexibility to meet individual user's needs. *Capacity and capacity building* has three contextual definitions in the current study. The

first is the community's general capacity/ability to sustain the CLC. The second is the capacity with the CLC research and technical leads to effectively champion the CLCs. The third is the communities increased capacity to address other issues due to learning's from the KCLC project. The seven factors emerged in all three cases and are highly interrelated.

3.3 Within-Case Analysis

The seven sustainability factors identified previously either promoted or inhibited the sustainability of each CLC and emerged in all three cases. The unique ways in which factors manifested in each case are described below in the within-case analyses.

3.3.1 The Northern CLC

The Northern First Nation has 261 registered band members, 113 of which live on reserve (INAC, 2010). The Northern First Nation is about 10 kilometers from the nearest town. According to the Community Well-Being (CWB) index (INAC, 2010), The Northern First Nation scored 80, compared to the nearest urban area which scored 85. Given that the average score for First Nations communities is 70 and the average score for non-First Nations communities is 85, the Northern community's score indicates that it is a healthy community relative to other First Nations communities. The CWB index combines income, education, labour force activity and housing conditions into a single score. While the CWB provides some insight into each community, it does not take into account language, health, culture, or other factors communities may consider to be important indices of community well-being. Perceptions of well-being are therefore unique to each community. Eight participants in the current study were from or worked in the Northern community (there was one non-registered community member) (see Appendix D). Seven participated in interviews, and one participated in the sharing circle. There were six females and two males, and their ages ranged from 24 to 65.

3.3.1.1 Researcher Impressions

The Northern CLC was the first of the three I visited. The location of the CLC is in the basement of the band administration building. In order to get to the CLC, one must walk past the band offices, and down a narrow and steep set of stairs. Walking through the administration offices, staff were welcoming and the environment was bustling with employees and community members. There were signs directing visitors towards the CLC, and while the staircase was dark and steep, once I was in the basement there was again a welcoming space containing an open room with tables and a chalkboard, and behind it, the CLC. Coffee was brewing nearby, and the Adult Basic Education (ABE) instructor who worked for the nearby College immediately welcomed me. The walls of the CLC were painted with bright colours and were covered with educational posters and pictures of animals and colours with their names spelled in the traditional language. There were twelve computers in total; ten were connected to the Internet, and two were solely used for learning the traditional language. I spent most of the day in and out of the CLC completing interviews with participants. There were always multiple people in the CLC. At one point in the afternoon, I was outside of the administration building, and saw the school bus pull into the parking lot. Eight youth literally ran off the bus, and straight down to the CLC. This, I was told, was a daily occurrence. In addition to these youth who arrived near the end of the day (after school), two other youth, three adults, and an Elder came in to use the CLC. When it was eventually time for the CLC to close down, the technical lead, Jim, had to give the youth a two-minute warning to tell them it was almost time to go home. Overall, the Northern CLC was the busiest of all three CLCs.

3.3.1.2 Sustainability Factors

Compared to the other two cases, the Northern CLC had the highest level of community **uptake**. Community members accessed the CLC for the following purposes: health research (e.g. diabetes, prenatal care, etc.), employment (e.g. resume development, job searches, etc.), education (e.g. Adult Basic Education courses, traditional language courses, homework, etc.), online networking (e.g. email, Facebook, etc.), and to interact with other community members. This latter point was particularly present and meaningful in the Northern CLC. Several participants felt that the CLC facilitated a level of community connectedness that did not previously exist. The following quotes illustrate how the CLC was used as a networking place:

> I was at the office where I'd just go downstairs and use the computers, check my email, sort of talk to the kids who were down there to see, see what they were up to. Sort of more of as a networking place in a good way…and you know everyone talks, the younger kids talk to the adults. So it serves a sense of community in of itself. You've got the older generation teaching the younger generation, the younger generation helping the older generation. So it kind of brings them together in a way that if it wasn't there I'm not sure that interaction would take place.
>
> *- Interview with John (Band Councilor)*

> I see literally every generation coming down here to use the computers. And that's good. And I see the younger ones teaching the older ones, which gives them a sense of pride. So it's kind of cool when someone's sittin' there and goes 'Oh darn I don't remember how to do this', and one little kid comes 'I'll show you'. I love seeing that.
>
> *- Interview with Sarah (College Instructor)*

> …it has you communicate with a lot of the other band members which is another bonus because you know we barely get to see each other and we barely talk to each other. We barely even know anybody; barely anybody knows anybody on the reserve and coming to the Center you get to know who the kids are and how old they've grown up and you get to see people you haven't talked to in ages.
>
> *- Interview with Lesley (CLC User)*

The technical lead reported that anywhere from 5-15 people from all age groups used the CLC each day. The diverse programs and resources in the CLC and the wide variety of users

accessing them, made the Northern CLC a fertile ground for community connectedness, and as a result, was a highly valued community resource.

There were several **environmental** factors that emerged as influential to the frequency and diversity of users accessing the CLC. For example, the nearby College recently began to deliver educational courses through the CLC, which increased CLC uptake. The rationale behind this development stemmed from the high attrition rates the College faced with their First Nations students. The College began to deliver courses directly in the Northern community as an attempt to mitigate high dropout rates, and the CLC was an ideal location. The ABE instructor illustrated how delivering courses in the CLC was more desirable for some learners:

> Like the girls that are in here now, they started at the College last fall, but by mid October they quit. But now they're back [at the CLC] and they're determined to pass. And I think they're more comfortable being here, than being on mainstream campus.
>
> *- Interview with Sarah (College Instructor)*

As mentioned previously, the Northern CLC provided an inviting environment for learning because of its bright paint, traditional language on the walls, and educational posters. It also housed a small library with culturally relevant books and artifacts, and was staffed by both the technical lead and the ABE instructor. These environmental factors made the CLC space an environment conducive to positive behaviours:

> And it's just, it's a good place to be. It has books, it has somebody who teaches you about computers, it has Jim who teaches you…it gives me something to do instead of going out and drinking, or drugging.
>
> *- Interview with Melissa (CLC User)*

The technology infrastructure in the Northern CLC was also highly desirable. Unlike in the other two CLC communities, there was no residential broadband connectivity in the Northern community because the homes were not connected to the Nation's Network. This meant that the band office (where the CLC was housed) and the health centre were the only places in the

community with high speed Internet (Henley, 2009). This made the CLC a desirable place for people to navigate the Internet with ease and efficiency. The Band Administrator identified this as a reason for CLC success: "We don't have the Internet coverage here that most other communities enjoy, so [the CLC] is a good opportunity". Similarly, one of the youth users said: "It's a very good place to come. I like how fast the computers are. {Chuckle} A lot faster than other places."

The Northern CLC faced accessibility issues, as the steep staircase granting access to the CLC was impossible to climb down for some Elders and for people who required wheelchair access:

> I like the learning centers but the location of ours is down in the basement and we're thinking about trying to move it somewhere where it's accessible to all ages I think. Some of our people are using canes and that and they might want to make use of those centers.
>
> *- Interview with Meghan (Band Councilor)*

The technical lead furthered this point, and indicated that accessibility was the primary reason why some community members don't use the CLC:

> Right now I know with the Elders why they don't come in is because of accessibility, it's pretty hard for them. That's why we're gonna move it upstairs.
>
> *- Interview with Jim (Technical Lead)*

The stairs were also deterrents for those with small children. The research lead said: "…and as far as when I actually physically went there I, well mainly because of those stairs, I don't want to bring [my daughter] on those stupid stairs…" For most community members however, the slight inconvenience of the staircase was mitigated by the many positive aspects of the CLC.

High CLC uptake by community members speaks to their support for the CLC. However, **stakeholder support** also applied to other groups, including but not limited to, the Nation

Council, Band Council and administration, community-based health professionals and external partners. All of these groups exhibited support for the CLC.

The strongest illustration of support from external partners was the College. The college instructor who delivers the Adult Basic Education (ABE) course has helped maximize the CLCs' usefulness to community members by going above and beyond what was expected, and working with Jim to maximize the CLCs hours:

> We sat and discussed the logistics of the fact that, if my students are needing to get onto those computers to do some research or type up their essay, we need to have access to the lab. If they want to keep on working on something afterwards, they've worked the outline with me in handwriting, or they've done some stuff and they've hand written it and then they want to type it, when I leave after the morning's done, they can go in the afternoon and work with Jim. So we've tried to organize the hours so that we were opposite of each other. Jim and I very rarely overlap. But we have access to the lab at all times, which is totally phenomenal.
>
> *- Interview with Sarah (College Instructor)*

The community-based health professionals have also exhibited support for the CLC by providing the technical lead with up-to-date health education and resources. For example:

> The head of the health team across the way, she comes down here to give me pieces of paper and says 'Can you put this on the website? Can you put this on, this is what's going on with the H1N1, the Swine Flu, bla bla bla, a new strain is coming in, can you make it aware, put it on the website.' And so they leave it up to me.
>
> *- Interview with Jim (Technical Lead)*

The technical lead describes how a recent change in Band Council resulted in increased support of the CLC: "[Council] has been really for it to expand, to keep it going, and to help in any way". Interestingly, this support also trickled down to the Band Administration level:

> Interviewer: Do you think that the Band Administration provided enough support when original program funding ended?
> Respondent: Now they have. Like I said they finally got on to the wagon.
> Interviewer: What do you think made them-
> Respondent: The change of council. Because the attitude, what we heard before, I heard from either one or two people upstairs that CLC is just a

> babysitting place, you know, kids come down and we baby-sit them 'till their parents get home. That was the attitude but they didn't know they were learning…But now it's different.
>
> - *Interview with Jim (Technical Lead)*

Support exhibited from the Band Administration was also dependent on UBC's influence. The technical lead describes this interesting dynamic:

> I: Do you think UBC provided enough support to you to help the transition [after funding ended]?
>
> R: Yeah. 'Cause remember I asked, you know, because I needed input from people with authority. I always go back to that same, they want something then we can't do it ourselves, we all talk to people with authority and that's people with letters and stuff behind their names. It's like, like you, you have a little title at the end of your name, maybe be it graduate work but it's still an authority. I said your two cents worth upstairs, and they started to listen, you know, and since the council also changed, they're really listening.
>
> - *Interview with Jim (Technical Lead)*

The band's increased support for the CLC was timely, given that the change in council occurred just before original program funding ended. At the time of data collection, the band administration continues to provide **funding** to support Jims' position.

> And we fund it with our own funds at this point. We literally subsidize it. So how long that can continue, I don't know. We're hoping for a while yet, because the community is very much enjoying it, they're utilizing it.
>
> - *Interview with Meghan (Administrator)*

Recently, several invested stakeholders submitted a 25-page funding proposal to a Canadian Funding Foundation to secure long-term funding for the CLC. Jim led the development of this grant, and sought out contributions and expertise from others in the community, including the Communications Director, the Traditional Knowledge Sector, and the Finance Department. The collaborative effort in putting this proposal together further illustrates the stakeholder support in the community. Jim speaks to feelings of pride felt within the community resulting from CLC success:

> It seemed like wow, and I kind of learned and I'm sure [council and administration] learned how we can succeed…I can see it. I can feel it. People are still saying come on up, we want your two cents. It seems to be going on the right path, they're really proud of what they're doing. Glad to be part of that team.
>
> - *Interview with Jim (Technical Lead)*

The CLC also **builds the capacity** of community members themselves, specifically by building their digital literacy:

> You know, I have kids down there that they'd sit in front of the computer and they were scared to touch it. I don't know what they were learning in school if they have computers in school, or it's a different format, didn't matter. Now we can't keep them away…and their knowledge is power and it's good to see that. You start here, pretty soon you'll know you're going, you're going to be a person that builds websites.
>
> - *Interview with Jim (Technical Lead)*
>
> -

The former CLC research lead also built up her capacity for conducting health research, organizing workshops, and bringing the community together:

> I tried to learn a lot. With the music workshop, I learned what to do, what not to do.{Chuckle} And what I learned from that was how to actually get something going that will interest you or interest people and just ways to get people together and involved with something. So I learned that there is something that can be done - community involvement….doing that kind of made me realize that's what I like to do. Like it doesn't have to be music workshops but it could be something like that. It just gave me a sense of like power {Chuckle}. You know, like I personally had the power to be able to get people at maybe a higher level to come and meet with people in the community.
>
> *- Interview with Barb (Research Lead)*

The technical lead also built his capacity throughout the CLC and was seen by participants as a **champion** for learning and technology. For example, Jim integrates teaching into the CLC by putting the computer passwords in the traditional language:

> Jim is certainly sharing his knowledge with [the youth] when they come in… he's pushing the language on them. To log in you need to know the words. And I think that's great. Everything you can do is a teachable moment, and he's doing it.
>
> *- Interview with Sarah (College Instructor)*

These learning opportunities are highly valued by those who use the CLC:

> …that's what I enjoy 'cause I like learning new words like every month, words that I don't know. I think this month was birds and last month was colours and I don't know what he's gonna do next month but I really enjoy actually getting to type my own language.
>
> - *Interview with Melissa (CLC User)*

All of the Northern CLC's participants mentioned the Jim as a key reason why the CLC was successful. Interviews revealed that Jim had the drive and the dedication to make the CLC succeed. As one of the Traditional Knowledge sector members noted, "Jim is a fairly aggressive individual that will make this happen in the community." In another example:

> [Jim] is really passionate about [the CLC]. To him it's something he really wants to continue, he wanted to see it go on even after the funding was over, you know, as far as like getting the proposal done just out of his own, you know, he got help and stuff from other people but it was just something he wanted to do, yet nobody really pushed him to do it or said 'Jim you got to do this.' He just wanted to continue doing what he loves to do.
>
> - *Interview with Barb (Research Lead)*

Even participants from the other CLCs recognized Jim as a leader in the CLC project. For example, the Eastern CLCs technical lead discusses Jim's leadership with CLC technology:

> I think Jim has done a darn good job of providing access to the computers and making sure the upkeep of each particular computer is good, you know, making sure there's no software or hardware issues or anything like that because if someone with not much computer experience starts his computer and it doesn't work, they get frustrated and they never come back. So I think he's done a great job of championing it and making sure that it's working.
>
> - *Interview with John (Band Councilor)*

Because the technical lead strategically used the CLC to address other pertinent health education priorities (e.g. language preservation), the Northern CLC is a good **fit with community**

priorities. The CLC also fits the needs of individual community members who were able to access non-judgmental health information compared to other community-based resources:

> I: Is [the CLC] the first place you guys would come to look up something health related?
> R1: Yes. So we, this is the best place to come. We all like coming here because then I can use my own computer and there's other computers where that for my family to use and it just works out a lot better, plus it's closer and we're not wasting so much gas going up town and then back out again to the reserve, yeah.
> I: What about like the health center, would you go there too for a health question?
> R2: What health center?
> I: Isn't there a health center? The community health centre?
> R2: Oh no. No. We'll go talk to the people and talking to the people here on the reserve, especially for our family is like talking to a brick wall, you might as well not do it. It's pretty simple. I mean with all the different people on the reserve and everything, you know one, a lot of the families get pushed down. And that's pretty much life.
>
> *- Interview with Melissa (R1) and Lesley (R2) (CLC Users)*

Jim also elaborates on this point by discussing how the CLC is a safe space for some community members to seek information about personal health topics:

> There were shy people that come here, you know. Young ladies that just, young ladies now they come down here, that's (points to computer) their doctor. You know, they're scared to go to the nurse, their mom, this and that so they come down here quietly and then they, you know, get their information…I tell them that Google is your friend, they can ask it anything and get an answer back.
>
> *- Interview with Jim (Technical Lead)*

As mentioned above, a good fit with community priorities also means that the staff in the CLC can be flexible enough to make the CLC relevant to individual needs. The ABE instructor from the College sought ways to support students' specific learning needs, as evidenced in the following example:

> I believe the theory behind the community schools was that the ABE teacher is still doing ABE, but instead of making the students come to the College, we're taking the courses to the reserves…And the main goal was basic education in math and English. But I've taken it a lot further because I figure I need to give them what they need. So I have three students studying for their drivers test. And

> we're reading through their drivers test orally and discussing it and you know, so like the first time one of them took it, he got 30%, the second time he got 60%. That's the online practice one. And that's where the learning centre comes in.
>
> *- Interview with Sarah (College Instructor)*

In summary, the Northern CLC is a highly valued and accessed resource and has successfully been sustained after the original program funding with plans and commitments to keep it continuing long-term. Jim shared multiple ideas about how he envisioned the future of the CLC (e.g. he wants to start a youth group and an Elders group in the community and have them communicate within and between groups by creating their own pages on the CLC website). Jim reflected on the CLC project and discussed how this initiative has been successful compared to previous programs implemented in the same location:

> We've come a long way. And we're still growing. There's been talk of where we want to go next. There's always the next, the next. Because like I said awhile back, maybe you don't remember, I said this is the longest this room has been open, the longest that it had been open [before it was the learning centre] was six months. So this is it.
>
> *- Interview with Jim (Technical Lead)*

3.3.2 The Eastern CLC

The Eastern Indian Band has 352 registered band members; 192 members live on reserve and 131 live off reserve (INAC, 2010). According to the Community Well-Being index, the Eastern community scored 78, compared to the nearest urban area which scored 81 (as a reminder, the Northern community scored 80, the average First Nations score is 70 and the average non-First Nations score is 85) (INAC 2010). The Eastern community is the most centrally located and has the largest number of members within the Nation. It is located approximately 10 kilometers away from the nearest urban area. The Nation Council is also located in the community. Seven participants in the current study were from or worked in the Eastern community (there was one non-registered community member) (see Appendix D). Four

participated in interviews, and four participated in the sharing circle (one participant completed an interview and was also in the sharing circle). There were three females and four males, and their ages ranged from 18 to 65.

3.3.2.1 Researcher Impressions

The Eastern community often viewed as the central hub of the Nation, partly because it is the largest community of the four, and because the Nation Council is in the same area. The CLC is centrally located and resides in a trailer that also houses several offices for Nation Council staff, and the IT centre. As a reminder, the Nation Council is the body that promotes the Nation's political and social development. Various employees welcomed me as I navigated through the buildings to reach the CLC trailer. There was a wheelchair accessible ramp leading into the CLC trailer. The technical lead's desk was at the entryway, and the CLC housed 12 computers, all connected to the Nation Network. The technical lead, Nathan, works three days a week. I spent the majority of the day in the CLC and during my time there, two community members accessed it, both of whom were participants in the current research. The first was a youth who was primarily using the computers for social networking purposes, and accessed MSN and Facebook. The second was an adult female who updated her resume and applied for a job. At one point, she was having trouble attaching her resume to the email she was drafting, and she asked me for help. The technical lead was often in and out of the CLC doing a variety of IT tasks and the CLC was often left unmonitored.

3.3.2.2 Sustainability Factors

Participants reported the following uses in the Eastern CLC: online networking (e.g. email, Facebook, etc.), health research (e.g. cancer, addictions), employment (e.g. job searching, resume building, etc.) workshops (e.g. career cruising, traditional language), music recording,

and education (e.g. Adult Basic Education, traditional language courses, homework, etc.). The Eastern CLC is accessed daily, indicating **uptake** from the community, but not as frequently as the Northern CLC. The technical lead describes how the CLC is generally accessed:

> Yeah, people just come in and they use the computers and they ask some questions and you know I can help them out and yeah so we do get, we do get people everyday though, you know. There's at least one person everyday. Usually more. Actually just the other day there was a whole bunch of kids in here at the end of the day so that's a recurring thing during the school year, that anybody who gets dropped off at the bus here, waiting for their parents or whatever, they come here.
>
> *- Interview with Nathan (Technical Lead)*

Interestingly, both interviews with Eastern CLC users were completed with individuals living off reserve. This illustrates that people outside of the community also valued the CLC. One youth lived in a nearby urban area, and one adult lived in a farther away large urban area. Both users had family ties to community members. The youth participant accessed the CLC for social networking purposes and for a workshop about music recording technology in 2009. He had a computer at home, but accessed the CLC because: "Well here I have Internet access, 'cause I'm not usually allowed on it at home."

Regarding the Eastern CLC **environment**, its geographical location gives the Eastern CLC a clear advantage over the other CLC communities, which positively influenced the amount of uptake from the community. It is located in the same area as the Nation Council buildings, meaning that there are more readily available resources. For example, the Traditional Knowledge Sector which is tasked with preserving and revitalizing the endangered traditional language, has always been dedicated to using the CLCs to facilitate these purposes. Indeed, the Eastern CLC is used directly in the Nation's language preservation efforts, and one of the traditional language speaking Elders holds regular workshops in the CLC to teach the language:

> I've worked in there to facilitate language teaching and, um, I've had students come in when they've been using those computers to do their work. It's a good thing that they have the language font on them so they can use the computers to do language lessons, so I think it's a good thing to have…
>
> *- Sharing Circle with Dawn (Elder)*

Several other workshops were held in the Eastern CLC and not the others (e.g. the music recording workshop mentioned above) simply because it was the most central community for other Nation community's to attend. Holding several workshops on a variety of topics in the CLC has increased community awareness of the CLC.

The Eastern CLC is physically accessible to all community members. When I asked a Band Councilor why he thought it's been successful, he responded: "The location's good. Its accessibility is good here. It's wheelchair accessible." Indeed, Nathan illustrates that all ages and abilities can access the space:

> Oh there's a big age range. There's quite a large range. Yeah just all ages really. The only *really* elderly person would be my grandma and she hasn't been in here for a while…And like yeah, little kids, like even like really young kids sometimes, like under 10 even you know."
>
> *- Interview with Nathan (Technical Lead)*

The homes in the Eastern community have broadband access, so unlike the Northern CLC, the Eastern CLC doesn't entice people solely because of an Internet connection. Despite the infrastructure, several homes lack computer equipment:

> …if I need to come in to find research on something, then this is the place. I don't have a computer at home…I come on not only to chat, but to do some work and it's very helpful. And I like that.
>
> *- Interview with Michelle (User)*

One of the primary environmental struggles is the lack of readily and consistently available support from the technical lead in the CLC. During the funding period, Nathan worked five days a week and split his time between maintaining the CLC space and website, and meeting general IT needs of the Nation Council staff. However, part of the Eastern CLC sustainability

plan was to cut down the technical lead's hours to three days per week, and while his office is still located in the CLC, his primary duties are to support IT needs for the Nation Council staff. This means that when Nathan is working, he is often running around dealing with various time consuming IT issues, resulting in inconsistent supervision of the CLC. He commented on this when I asked how these changes have influenced the impact of the CLC on the community:

> I: Do you think the changes in the last year in terms of your role have impacted the influence that the CLC has on community members?
> R: Yeah, probably, probably…
> I: How so? Positively, negatively?
> R: Probably negatively I'm thinking because it's sort of, well just I'm not even here and I tell people that, you know, that's what I tell people because that's the truth, that the CLC is open and you can use it, it's not, running on funding and whatever and so it's here because it's here and you can come and use it.
>
> - *Interview with Nathan (Technical Lead)*

This has unfortunately, led to negative implications in terms of both the physical CLC space as well as the the CLC website that houses health information and resources. Regarding the website, the Eastern CLC site was originally the strongest of all three but as the lead says, it is now "essentially abandoned". Indeed, the CLC website has not been updated since March 2010. It also had implications for users who want to access the physical space to deliver workshops. The language workshop instructor describes her challenges:

> …it's kind of hit and miss. Like I go there for a class, like we'll have classes on Mondays, I go there and there'll be nobody around and I've had to go and see where, how can I get into the building and, um, so it's been, it's been, um, problematic that way but, um, on the whole it is a good tool to have.
>
> - *Sharing Circle with Dawn (Elder)*

It seems that the inconsistent support in the CLC has also trickled down to community members who are sometimes hesitant about whether or not they can use the computers:

> "Sometimes I'll get to see people in here walking and saying 'Can I use these computers?' I was like 'yeah', and they're like 'Can I use them for blank?' and

> I'm like 'yeah'. {Chuckle} It's just like go ahead and use the computer. I already turned it on, yeah, there you go.
>
> *- Interview with Nathan (Technical Lead)*

The issues described above can be tied back into the limited **funding** that has been allotted for the purposes of maintaining and leading the CLCs activities. However, there was a concerted effort amongst multiple stakeholders to keep him employed:

> As the project ended, I was cut down to three days a week. I don't think I was cut down to three days immediately though. I think they kept me going, yes they did… The Education Department was putting a bit, I think that's what it was, it was an education grant…and the Nation Council put up a few bucks for me to stay at five days a week for awhile…so the idea was to try to integrate it into the band and into my position to be more streamlined in a way, so to try to think of ways and to encourage people, to encourage other people to think of ways to use this CLC.
>
> *- Interview with Nathan (Technical Lead)*

After a couple months however, the arrangement changed, and Nathan's position continues to be solely funded by the band:

> It comes from [the community], straight up, right from [the community]. The good thing is that my contract doesn't have an end date written on it so because it's not, because it's not coming from some kind of limited earmarked funding. It's just the departments, each department has their own budgets and I don't know how that works but they got together into a meeting and said yeah we can afford to keep him for three days a week.
>
> *- Interview with Nathan (Technical Lead)*

There is no operating budget and as the technical lead says, "…it's staying open, it's still here, but nobody's getting paid to dedicate their time to it."

In terms of **stakeholder support**, various groups had shown differing levels of support. One of the CLC users indicated a high awareness among community members. I asked him if his family members knew about the CLC:

I: Do they know about the CLC?
R: Mmm, mmm. All of the people here know about this.
I: Do you think everyone -
R: Here knows about it.
I: Everyone in the community?
R: Yeah.

- Interview with Jeff (User)

The Eastern community's Band Council also supports the CLC's continued operation and one council member describes the council's justification for sustaining the centre:

> I definitely support the CLC. I see it in my community over here that it's being used quite frequently. I see it being used by the youth quite a bit...We haven't talked about it long-term but we've supported the idea of continuing through one more year and going from there and I think it's about assessment, you know what I mean, assessing it every year and as long as the community needs it and uses it I think we'll continue to carry it forth…
>
> *- Sharing Circle with Cody (Band Councilor)*

Health professionals also support the CLC and continue to send the technical lead resources to put up on the CLC website. Unfortunately, these resources aren't always updated to the CLC, which stems back to the lack of the technical lead's capacity to do so:

> Sometimes [the health nurse] will email something out, I think a while back [she] emailed me something and asked me specifically if I could put it on the website. But you know our website is actually low on space and every time I need to post something I have to delete something…so it's been an issue and also three days a week my main duty now has nothing to do with health, I'm strictly IT. And so that's what I take care of first.
>
> *- Interview with Nathan (Technical Lead)*

The Eastern community's Band Administration is most definitely aware of the CLC, and clearly supports it by funding Nathan's position, but there was a desire for increased support from the band:

> Well maybe just like simply just having things happening in here cause I can just imagine all these good things that could happen that basically encompasses the digital education… you know any of those people who seemingly dream up all these community types of things, if they are dreaming up things maybe they, you know, would be nice if they could dream up a few things to do over here too.
>
> *- Interview with Nathan (Technical Lead)*

The above quotes illustrate that despite the high level of awareness and general support for the CLC, there is a lack of people who have the capacity to, as the lead says, 'dream up' and future directions for the CLC. The lead said the following when I asked him about who the **champion** was:

> Well from my little bubble of existence here I'd say it's me…. I suppose [the Band Administrator] you know to an extent but you know she's very busy and she's got all kinds of director stuff to do so…um, you know [Traditional Knoweldge staff] … I hear [they] do a lot of stuff so you know [they're] very busy too…
>
> *- Interview with Nathan (Technical Lead)*

It's clear that there are people who want to see the CLC succeed, but not to such an extent that there is a program champion with the time, skills and resources required to make the CLC reach its potential.

The Eastern CLC does **fit with community priorities**, and facilitates some needs. As mentioned above, being able to use the CLC for language preservation purposes is an example. However, and again going back to the issues of Nathan's **capacity** to dedicate time to the CLC, there have been some instances where the CLC had been unable to meet individual needs. Take the following example of a situation described by the lead:

> …there was a girl in here who wanted to print something school-related and she asked if the printer worked and I'm like 'yeah it should' and she says 'oh it's not working'. And so I went over there and I looked at it and said 'oh it's got no paper' and so can you get some paper? And I said more or less, I said no and explained that the CLC doesn't have funding and so I can't decide, 'oh look we need more paper, I'll just like go buy some and then write it into the budget' or something...It's important to be able to print research or resumes but I was just so busy and stressed out and that's how it's been for like a long time now, working three days and just having trouble like organizing and remembering all these things that people are asking me to do and prioritizing them and sometimes things completely slide out of nowhere….that's just one really bad example. {Chuckle} Or a good example of how bad it can be to have no one here who actually cares about the CLC. I do care about it but I'm not, you know, I don't, it's not my, it's

not my department, like you know as far as my skill sets and personal interests goes.

- Interview with Nathan (Technical Lead)

Issues of capacity in effectively and efficiently running the CLC have been clear in this case. However, the CLC project did contribute to the community's capacity as a whole:

I: Have any of the skills you've learned from the CLC project, have they, do you think any of those skills helped the community address other issues?

R: Yeah, for sure. The web design thing, you know, that was specifically CLC driven I'm pretty sure. Even the idea of [the community] having a real website probably was born out of the CLC ideas and that cluster of ideas.

- Interview with Nathan (Technical Lead)

Also, hiring the technical lead to drive the website and technology components of the CLC helped build his capacity as a technology expert, and he ended up being the 'expert' technical lead in terms of web development and contributes to the wider community technology needs:

But since I started here, um, which is mostly a direct effect of the CLC project and I guess in a larger sense the broadband project, um, since being here all the things that I've learned on the job here and all the experience I've got, you know, tweaking these computers and learning new things about more efficient ways to use them and networking technologies and just, and having [an expert] here who's really experienced in all kinds of aspects of IT, it's just a huge impact and well Ian himself actually told me that since I've come here a lot has changed and that I've actually been instrumental in a lot of that change with the Band you know in how they do, how they work, not just how well their computers work or how, you know, um, how connected the office is but simply just the way people work and the, you know, I guess showing people and encouraging them…

- Interview with Nathan (Technical Lead)

In summary, the Eastern CLC is sustained and the technical lead's position maintained after the funding period. Unfortunately, in order for the community to justify sustaining the CLC, there have been some negative consequences with regard to its impact on the community,

primarily because of a lack of funding to support an individual who can effectively work in the CLC and maximize its impact.

3.3.3 The Southern CLC

The Southern community has 212 registered band members, 90 living on reserve and 107 living off reserve (INAC, 2010). Of the three cases, the Southern community has the smallest population of individuals living in the community (the Northern and Eastern communities have 113 and 192, respectively) According to the Community Well-Being index, the Southern community scores 79 compared to the nearest urban area which scored 77. (As a reminder, the the Northern community scored 80, the Eastern community scored 78, the average First Nations score is 70 and the average non-First Nations score is 85) (INAC 2010). The Southern community is located approximately 10 kilometers from the nearest town. Four participants in the current study were from or worked in the community (there was one non-registered community member) (see Appendix E). All four participated in interviews; three females and one male. Participant's ages ranged from 31-52.

3.3.3.1 Researcher Impressions

In planning for data collection, I heard rumours that the Southern CLC was no longer in operation and that the community itself was in "political turmoil". Unfortunately, this was true and the CLC had closed down shortly after the project funding ended. Based on previous trips to the Southern CLC, I can still describe its physical location. It was located in the basement of a house, which was up a hill from the band administration building and school. The health team and a daycare were also located in the house. There were eight computers, all connected to the Nation Network.

After original project funding ended, the research lead Liz who had worked part-time in the CLC came to work one day after a doctor's appointment and found that the locks to the building had changed without any notice. The research lead explained that she wasn't kept in the loop about the future of the CLC or the house as a whole, and that she was told very matter of factly that it was closed because funding had run out. Liz explains these events from that point on:

> "…so I just kind of took it as, well that's it. So I just waited for the funding to be all used up and then after that it was closed…and then I was told that I was gonna be helping the boys into the yellow house where the learning center was and then I walked in and all the computers were gone, the tables, chairs, everything, that room was empty and I wasn't even told where it went. I still don't know."
>
> *- Interview with Liz (Research Lead)*

At the time of data collection, the house had been converted into a foster home for troubled youth from the reserve. The computers previously in the CLC were unused and in storage in an unknown location.

3.3.3.2 Sustainability Factors

Participants had to reflect on past experiences in the CLC to report on **uptake** and identified the following uses: general health research (e.g. looking up symptoms, etc.), employment (e.g. job searching, resume building), proposal development, emailing, interactions with others, and basic computer and technology skill building. While some people accessed the CLC for health education purposes, there was a general disconnect of community members viewing the CLC as a health education resource:

> I: Okay. Do you feel like the purpose of the learning center had anything to do with health education?
> R: With health?
> I: Yeah.
> R: Um, no.
>
> *- Interview with Gary (User)*

Similarly, one of the band councilors was unaware that the CLC was a health education resource and suggested that community members were misled about its purpose:

> R: I mean people got the wrong idea because I think they thought it was for them to access for jobs online or to help fix their resumes.
> I: So you don't think people really used it for health?
> R: I think they used it mostly for job searching and checking their emails.
>
> *- Interview with Selena (Band Councilor)*

Indeed, most community members accessed the CLC to develop their computer and Internet skills as opposed to taking educational courses and programs. For example, one regular CLC user learned how to navigate websites:

> I: What do you think the purpose of the learning center was?
> R: Um, learn about how computers work. And all these other websites. With me I'm not right up to the, with the technology like today's game. So my experience was, well cause I didn't know very much about computers and, how to get on websites, um, cause my little girls, they wanted to get on this one program and it's called Goal Ball[5] or something. Cause she's part-blind, right, so I wanted her to check out the website…So that was, that was about it. [Liz] showed me another couple of websites, like a language website…
>
> *- Interview with Gary (User)*

The Southern CLC struggled the most in terms of successfully engaging community members and unlike the other two CLCs, the space would sometimes go days or even a week without visitors. At its highest point, Liz reported having five regular users, two of whom accessed the CLC once every two weeks, and three of whom accessed the CLC at least once a week. Two of the weekly users were Elders and unfortunately passed away:

> But then like two that were fairly regular passed away and that was really hard. It's like the ones that were really kind of committed to wanting to learn about computers and stuff like that, it's like they were gone and so I was kind of back to where I was before."
>
> *- Interview with Liz (Research Lead)*

[5] Goalball is a Paralympic team sport designed for blind athletes.

There was a lack of organized workshops in the Southern CLC, as compared to the other CLCs. The research lead identified only one time when a large group of users accessed the CLC in an organized fashion. This was on the CLC's opening day, when students attending the community-based school were brought in to check out the computers. The students didn't come back after that one day because "…the school itself has like 10 computers down there so they just do their projects down there at the school as opposed to coming up to the learning center." No other workshops since opening day took place.

One of the **environmental** factors within the CLC that worked as a deterrent to uptake was the general atmosphere of the room. Similarly to the Northern CLC, it was located downstairs. However, unlike the spacious and bright CLC in the Northern community, the Southern CLC was in a small room with little natural light. The College campus Director made a comment about how the CLC was not conducive to learning when asked how she decided where to run the ABE program:

> "…we didn't actually use their learning center, although we could have. But what ended up happening is we had six students, computer usage was not part of it and their learning center was just computers in a very small room downstairs, right? Which I think might have had something to do with it too because as soon as I saw it, I said 'Oh we can't be in here because if you don't feel like learning anyways and you're not, and it's not a comfortable place…' so it was a little crowded. But they were wonderful to give us that great room upstairs.
>
> *- Interview with Karen (College Instructor)*

Regarding the larger community environment, participants felt that the CLC was underutilized because most people had Internet and computers in their homes. This was given that unlike the other two communities, homes in the Southern community had access to high speed Internet before the Nation Network was implemented. In other words, the Southern CLC may not have been the first chance for community members to access high speed internet. Having computers at home was identified as a barrier to people physically coming into the CLC.

One of the councilor's said "I think the CLC was valuable but then now since people have their own computers in their own home, yeah, and they're on the broadband…" Liz also elaborates on this:

> R: "…like one couple that was coming in, she, the wife, got one of the old computers. When our computers got upgraded, yeah, when we got new computers she got one of the old ones so that's why she didn't come in and work cause she had one at home now. So yeah.
> I: So did anybody come to the learning center who also had a computer at home?
> R: I did have one couple but I think it was because he'd visit with me too, like a social thing.
>
> *- Interview with Liz (Research Lead)*

Further, during the funding period the Southern CLC struggled to identify a technical lead meaning that the computers in the Southern CLC weren't regularly updated and maintained. Therefore, the Southern CLC technology was perhaps not as desirable as in other locations. If community members had computers in their homes, it was quite possible that the computers in the CLC were not perceived as 'better' than what they had access to at home. The project team realized this possibility and ordered new computers for each CLC:

> "…when starting out we were trying to figure out why people weren't coming in as much as we were hoping and trying to say 'oh we just haven't advertised enough' or… and then that's where the idea came from that that's quite possibly it's because people already have technology and they already have better computers at home. We kind of, we helped, helped that out, identify that issue and got the new batch of computers which was definitely really nice because they were just so frustrating, yeah, before.
>
> *- Interview with Nathan (Technical Lead)*

However, when the Southern CLC did get new computers, they sat in a corner for several weeks because Liz did not have the technical training to set them up on her own, nor did she seek support from the Nation Council's technical department during one of their regular community visits. Another environmental factor that hindered the success of the CLC was the general

community landscape. Liz discussed how the community itself perhaps wasn't ready for the CLC:

> I just think it's the community itself that was the reason why it wasn't as successful because there is a lot of stuff happening down there right now that is not good. There is like a lot of fighting...families are kind of getting split up and it's just a bad space right now…I won't really go to band office unless I really need to because it's not a very good environment…It's just really bad. I think if it was a different time cause we're at that stage where a lot of us are healing, a lot of us want to move forward and we're starting to see things that are wrong, starting to see things that we're doing that are wrong and you want to put a stop to it. But I think if that all wasn't there, if people were more healthy and that, I think we probably could have, could have done a lot more.
>
> *- Interview with Liz (Research Lead)*

Liz also commented that having a politically tense environment in the community was enough to restrict people from exploring and accessing community-based programs: "I think a lot of people just want to, like me, just stay at home. I go out and do what I need to but I don't go out, you know, into the community as much."

One of the negative implications of community politics mentioned above was a significant lack of **stakeholder support**. There was some community member support exhibited from the few regular users, but most community members did not access the CLC. I asked one of the Band Councilor's to describe the level of community support for the CLC:

> I: Do you feel like there was community support at the learning center?
> R: To me I don't think there was, but I think there should have been.
> I: Why don't you think there was support?
> R: Well because nobody really knew what it was all about, yeah.
>
> *- Interview with Selena (Band Councilor)*

The Band Administration also illustrated a lack of support, as Liz elaborated:

> No. {Chuckle} No. No. I had experiences with those guys that was crazy…I wasn't even told that the [space] was gonna be [rented] by the Nation Council. There was no communication and it was just sad. I go and talk to the band administrator and asked well what do I do, who do I talk to about getting the key so I can at least get to my job and come back and he's like no, you need to talk to the Nation Council, I go talk to [them] and [they're] like no, I don't want to get

> into all the politics, you need to go and talk to [administration] and I was like, I was getting the run-around from my own Band.
>
> *- Interview with Liz (Research Lead)*

For the majority of the project timeline, there was a lack of support from Chief and Council, although this did eventually change once funding was almost completely depleted:

> I: What about Chief and Council? Any support from them?
> R: Mmm, at that time I would say no but if it was right now I would say yeah because…my supervisor at that time is actually on band council now. So I would, at that time I would, I would say no. It just seemed like I wasn't getting hardly any support from anybody. {Chuckle}
>
> *- Interview with Liz (Research Lead)*

Prior to being on council, Liz' supervisor mentioned in the above quote (who worked in the community health department at that time) supported Liz and encouraged other community members to value the CLC:

> She's always there, like you know we'd kind of come up with the ideas about we could try to get people to come in, you know, we'd kind of brainstorm and then also like when there was the workshops that were in [the Eastern community] we traveled together so that was nice. And she's always been there like when I needed to talk to someone about things that were going on, she was always there, like every morning when I was there she was there. And she was in the Health Department at that time so her office was upstairs. It was always nice to talk with her. And the rest of the health staff too…We had a cooking group upstairs and anything that she could see that could tie into the learning center she was doing, so that was nice.
>
> *- Interview with Liz (Research Lead)*

Although Liz did have a few supporters, none of these were in a position to help her secure sustainable funding. And unlike the Band Administration in the other two communities who continued to support Jim and Nathan's employment, the Southern community's Band Administration made no efforts to sustain the CLC, and shut down the space once initial program **funding** ran out:

> I had talked with [the Band Administration] about like you know, if there was anywhere she knew we could get funding to keep the learning center open and I

> was pretty much shut out, like right from there it was a flat no. [She said] 'I don't know where you get funding and there is no more funding here.'
>
> *- Interview with Liz (Research Lead)*

Liz identified what she thought the primary explanation was for the CLC shutting down:

> I'd say the funding and the lack of, the lack of people trying to help out with the funding. I don't know if that's the right words. Like you know it's like if the funding was there and if someone was there like me who would want to keep doing things to try to get people in there, it would have been more successful. That's what I think, it was just the funding and the lack of people in their motivation or drive to keep it going. Cause I betcha probably if I went around and tried to find funding somewhere on my own I probably could have done it. Even if I could have gotten help from someone who might like from the finance department that could help me, but it was like it would be shot down fast, it was hard.
>
> *- Interview with Liz (Research Lead)*

The Southern CLC is a good example of a program that had someone dedicated to CLC success, but who was ineffectual because of a lack of stakeholder support and on the ground training that would have helped Liz to learn the skills necessary to **champion** the CLC to success. Liz identified herself as the CLC champion because she tried to get momentum with the CLC by trying to get people involved. She encouraged community members to use the CLC, and approached community leadership for support. However, she did not take the lead in seeking sustainability funding or in rallying support from other CLC supporters to help her with this effort.

The mere fact that the CLC space was converted to a home for troubled male youth, and given the politically tense community landscape, the CLC might not have been a good **fit with community priorities**. Indeed, other health programs running out of the same building were also shut down:

> They have like their cooking group and a lot of different things are going on out of there. Like the health people had their offices in there, the learning center was in there, Head Start was in there and it was all gone.
>
> *- Interview with Liz (Research Lead)*

Despite the mismatch in fit with community needs, Liz was able to meet individual user's needs. For example, while the original emphasis on the CLCs was to provide health education, Liz was able to identify and support other community needs:

> We did have some people coming in for health issues but it wasn't so much as them wanting to learn just about computers and how to use them…Anything that I know I can teach, I can pass that information onto you. Just setting up an email account or just searching the web for different things like showing the sites you can go to. And I had a few people come in and that was really nice, it felt really good to be able to help them.
>
> *- Interview with Liz (Research Lead)*

The task of making the CLC relevant to community members was difficult for Liz, as she continually faced seemingly impossible barriers:

> When we opened, um, I started getting the word out there that we had the CLC, like you know and what it was about and, um, I had flyers out and stuff just to let them know these are my hours, this is where I'm located, this is what we're offering, if there's any suggestions you have, you know, this is how you can get ahold of me and it wasn't really successful in trying to get people to come in and I started to see different reasons. Some didn't have a lot of computer experience so they're like you know kind of afraid of the technology and, um, a lot of people in the community had computers in their own homes and around that time a lot of stuff in the community was happening. You know, there was like deaths that were going on and there was like a lot of turmoil within like the Band office so that made it really hard. So I did spend a lot of the time alone, so it was, it was kind of sad because I thought, I could just see it be something that was really, maybe something really good for the community just seemed like maybe it's bad timing {Chuckle}, maybe we're at a bad spot…
>
> *- Interview with Liz (Research Lead)*

Examples of **capacity building** occurred in community members who build digital literacy skills, but the biggest example of capacity building was with the research lead herself. Since the CLC program, Liz became a proponent for adult education and obtained her Adult Basic Education and other college courses (e.g. cooking classes, women's bridging classes, trades classes, etc.). The College campus Director said, "Liz when she comes in here, she's just so thrilled to be here". Liz describes her personal journey and learning's throughout the project:

R: I learned how to communicate better as a person and you know not be afraid to ask for help and stuff like that. Learned that people are gonna have their differences and not to give up on things. I learned a lot of different stuff…things that are going on could be major things going on out there, but it doesn't really have to affect all the work I do kind of thing, you know. If they just leave their stuff at the door when they come in, it's all good. And to be patient in just learning that, you know, things are gonna get better cause they are. {Chuckle}

I: Did you learn anything about research and if so, how did those learning's help you with anything else that you've done?

R: Yeah, how to do research and how many different websites you can go to search for things and yeah. 'Cause even when I was in the women's Bridging course, I even went a little further with my research, like when you Google and look at actual map images and things like that.

I: What about the technology things that you learned?

R: Yeah, so they helped me with that women's Bridging course that I took, 'cause some of the things I already knew, I could turn around and help other classmates that were in the class at that time. And also it worked the other way around where the things I learned on there I was able to kind of play around with if I was at the learning center.

- Interview with Liz (Research Lead)

Liz's capacity development throughout the project could have been greater if she had access to face-to-face support in expanding her own technical knowledge. For example, Nathan from the Eastern CLC provided Liz with remote technical support in an effort to teach Liz how to make CLC website updates. Liz reflects on this process:

> It was kind of hard cause I usually liked to have someone sitting right beside me and showing me how to do things. So there were some challenges but I learned a lot. But then things, trying some things on my own by myself was kind of scary though. Like the printer got jammed up and I didn't know how to, I learned quickly which parts of the printer were hot and which ones weren't. {Laughs} Stuff like that.
>
> *- Interview with Liz (Research Lead)*

The Southern CLC struggled the most in terms of sustainability, and unfortunately didn't continue after the funding period. Despite the relatively small impact the CLC had on the community, one user explained his reaction to the CLC closing down:

I: So how do you feel about it not being open anymore?

R: Like right now I feel kind of lost cause I, cause that's why I just go every Friday. 'Cause if I find something else like I watch a little bit of news and I want to go check it out on a website, then I'll go down there. So, one day I just noticed that I didn't see her sign on the road anymore. And I asked her one day, 'what's going on?' and she says, 'It's done.' 'What do you mean it's done?' Yeah, she said 'it's done.' So I guess I'm not gonna go in there now…

- Interview with Gary (User)

3.4 Summary

The above descriptions of each case, illustrate clear differences about each CLC's state of sustainability. The Northern CLC was the most successful as it was still in operation and highly accessed, the Eastern CLC followed, as it was still in operation and moderately accessed, and the Southern CLC was the least successful, as it was no longer in operation and thus no longer accessed. Table 2 provides a summary of the extent to which each sustainability factor manifested in each case. As apparent, the darker shading corresponds to more positive outcomes. Note that I am not attempting to quantify the presence of each factor but rather illustrate how positively or negatively each factor manifested in the three cases. The next chapter will focus on the seven sustainability factors that emerged *across* cases in such a way that they can then integrated into tools for program development and implementation.

Table 1: Extent of each sustainability factor's presence

Sustainability Factor	Northern CLC	Eastern CLC	Southern CLC
Community Uptake			
-Number of users per day	> 5	> 1	< 1
-Educational courses	Yes	Yes	No
-Workshops	Yes	Yes	No
Environment			
-Visual appeal	High	Medium	Low
-Wheelchair accessible	Low	High	Low
-Competing programs	Low	Medium	High
-Community politics	Low	Low	High
Stakeholder Support			
-Community members	High	Medium	Medium
-Band administration	Medium	Medium	Low
-Band council	High	High	Medium
-Program staff	High	High	High
-College	High	High	Medium
Presence of a Champion			
-Working directly in the CLC	High	Medium	Medium
-Working indirectly with the CLC	Yes	No	No
Funding			
-Continued funding	Yes	Yes	No
Fit with Community Priorities			
-In line with community priorities	High	High	Medium
-Flexible in meeting users needs	High	Medium	Medium
Capacity Building			
-Community's ability to sustain CLC	High	Medium	Low
-Staff's ability to champion program	High	Medium	Low

3.5 Cross-Case Analysis

The previous sections provided a detailed description of each case, experienced by both the researcher and participants. Within the unique journey of each case emerged seven common factors that influenced the CLCs' pathway to sustainability. This section aims to synthesize these factors by defining and contextualizing them across the collective cases and drawing links to how they emerged in each case. Several of these factors have already been supported in the

literature, and several of these factors are novel and unique to the current study. All factors are strongly and contextually relevant to First Nations community-based health education programs.

3.5.1 Uptake

Uptake refers to *if* and *how* users access the CLCs. This included the diversity of users, the frequency with which they access the CLC, and what they use the CLC for. This factor immediately became apparent as a central indicator of sustainability because when participants were asked if they thought the CLCs were sustainable, they often immediately discussed uptake as an indicator of success. As an example, when asked if Chief and Council members supported the ongoing operation of the CLC in their community, members from the two CLCs currently running answered: "We felt [the CLC] was important as a council and that the community was needing it and using it which, most importantly is using it, right?", and "I definitely support the CLC. I see it in my community over here that it's being used quite frequently. I see it being used by the youth quite a bit." When one of the Southern CLC users was asked to share why he thought the CLC had closed down, he reported: "Um, not enough people were using it much…And I think when [the research lead] was in some days, maybe she was getting frustrated 'cause some days she would just sit in there for weeks and weeks."

These examples illustrate that stakeholders examined frequency of use when deciding whether or not a program was worth being sustained. However, whether or not a CLC was being used is not the only defining factor of uptake. Uptake also encompasses *who* the users are, and *what* they are using the CLC for. A diverse menu of resources is ultimately what is going to draw multiple people into the CLC.

Uptake emerged as related to three other themes: namely environment, stakeholder support, and the presence of a champion. As will be made apparent in subsequent sections,

environmental factors such as accessibility influenced uptake by users. As illustrated by Chief and Council quotes, higher uptake indicated higher stakeholder support by community members and community leadership. Also, a champion with strong leadership and interpersonal skills was more likely to engage community members in using the CLC.

3.5.2 Environmental Factors

Environmental factors are considered in three levels. The first level refers to the environment within the CLC, namely its location, infrastructure, staffing, technology/equipment, and other CLC-specific factors that influenced CLC use and sustainability. The second level addresses the environment within the larger community, and considers whether other programs/ resources in the community (e.g. schools housing more desirable equipment) may act as competition with the CLC. It also considers the how community politics might influence sustainability. The third level addresses the environment within the CLC compared to similar programs and resources accessible in nearby urban or non-community settings.

In examining the environment within the CLC, it is evident that each had various components that helped and/or hindered their accessibility and use. Thus, given that use is a reason to sustain a program or not, environmental factors that drew people into or deterred people away from the program were important. Participant data revealed that generally, the CLC needed to offer an incentive that mitigated any environmental barriers within the space. For example, despite the Northern CLC being located in a basement and without wheelchair accessibility, the highly desirable Internet connection mitigated this barrier for the most part. On the other hand, the Southern CLC was also located in a basement that was not wheelchair accessible but because community members could access the same Internet speed and equipment in their homes, they were not drawn into the CLC. This latter point is tied to the second level of

environmental factors, namely the environment of the larger community. It is important to consider other existing programs and resources that might act as competition for the CLCs in terms of drawing people in. For example, and as mentioned above, the Nation Network which provided broadband connection to the homes reduced the need for community members to venture to the CLC to access ICTs. The Eastern community was similar in that community members had Internet access at home, however, the CLC was the only place within the community where community members could take distance education courses and workshops. Also important in the larger community environment is the presence and extent of community politics. The politically tense environment in the Southern community was, as Liz explained, enough to deter people from interacting with other community members, band administration members, and council members. Therefore, community politics can be a negative factor that can deter people from accessing community programs including the CLC.

The third level addresses CLC environment compared to health education programs and resources accessible in nearby urban/non-community settings. Several participants commented on the factors that might encourage community members to learn in the CLC, as opposed to learning environments in nearby urban areas (the College campus as an example). One of the ABE instructors who had taught ABE at the College and the CLC said the following when asked to compare students learning in these contexts:

> And whether it's because of family dynamics, residential schools, who knows what, many of our learners are starting back at 25 or 30 and they feel out of place when they get into a classroom with a bunch of 18, 19 year olds. So for anybody that's different. There's a lot of age and discrimination all around. But I find they're coming here [to the CLC], they're here in the morning, they're laughing, they're joking, they come in and I have coffee going most of the time, and they like..they're comfortable here. And they have no trouble coming in here. Whereas they may have trouble going to the College…The CLC allows them to study at their own pace. Like I saw people coming in here, and it's like "Yes! This is what

> we need." Is them to feel comfortable walking in. Comfortable walking onto a computer. Researching what they need
>
> *- Interview with Sarah (College Instructor)*

One of the CLC users illustrated this perspective when asked to explain why he would learn in a CLC as opposed to somewhere in town:

> Cause there's not like, it's, uh, like you know I'm not a wizard at a computer, right, and I'm comfortable there cause I didn't have to rush around and I don't know, [the lead] was awesome, she extended her time to help.
>
> *- Interview with Gary (User)*

Another participant, also a College instructor, argued that it wasn't necessarily *comfort* that encouraged community members to learn in the community, but that it might be more about convenience than anything, and that learning at a college could actually be quite empowering to students' confidence:

> P: You know, so everybody's motivated by different things…Everybody's different and proximity to your community does not necessarily mean that that's going to be the be-all and end-all.
>
> I: Yeah, that's interesting actually. So where do you find students are most comfortable taking courses, at the College or in the community somewhere such as a learning center?
>
> P: I think that the four who took the course [in the community], the Math and English course felt very comfortable. Of those, two had been students here before and so they felt okay either way. Um, I'm not convinced it was a comfort thing. I think maybe it was easy because their children were there, you know, so right at 3:00 or 2:30 when the school let out, they could run down and pick up their kids.
>
> *- Interview with Karen (College Campus Director)*

Perhaps a smaller college campus in a small town (such as the case in the Northern or Southern communities) is less intimidating than a larger campus (such as the case in the Eastern community), or perhaps it depends on the person. Regardless, the important consideration was that there was flexibility in where these programs are offered, so that students could make the best decision for them. The two participants from the college were both in favour of flexible options, which was key to the successful provision of education to community members: "As far

as being in community, if they ever wanted us to come back there we would certainly do that if we had the money to do it."

3.5.3 Stakeholder Awareness and Support

Stakeholder support was identified as a theme prior to data collection because it empirically shown to influence the likelihood of program sustainability (Scheirer, 2005). In the current study, stakeholder awareness and support refers to the presence and extent of the following groups' support for the CLC: community members, band administration, band council, Nation Council, community-based health professionals, CLC staff hired as research and technical leads, UBC, and the College. These groups were important stakeholders because the more awareness and support they exhibited towards the learning centres, the more utilization of the CLCs occurred. Each case experienced different levels of support from most groups, and it was generally the case that the level of support (or lack of) from one group would influence the level of support from other groups, especially with groups residing in the community (i.e. community members, band administration, and band council). I considered having a general awareness of the CLC to be the most basic form of support, and championing the CLC to support its continual evolution to be the highest form of support.

Generally speaking, support exhibited by community members varied across cases, and depended on environmental factors within the CLCs, as well as the programs and resources that were available. Support exhibited by the band administration also varied across cases, and was dependent on the levels of Band Council support. For example, the recent increase in support from Band Council and Administration in the Northern community both stemmed from a change in Band Council. Before this change, increased support from the Administration level was desired in all cases. In cases where Chief and Council at the Nation level exhibited CLC support,

this support stayed at a very general level, which prevented an on-the-ground manifestation of this support:

> You know it's just, it's almost like there's a disconnect, you know, that they know that they have them there, but the Chief & Council doesn't have a very good concept of *what's* there and what their potential is…I can't tell you how many times when we get together in some of the bigger groups and we'll be talking about something and someone will say 'well jeeze maybe we need to be going to the College and using their computer systems and their labs' and stuff like that and I put my hand up once again and say 'we have it in the communities already' and everybody would go 'oh yeah we do' and then we'd move on. So I don't know what happened there. Whether people didn't draw up the connection or whether it was advertising or what it was, but those learning centers were there.
>
> *- Interview with Dave (Traditional Knowledge Sector Director)*

Speaking to the quote above, getting Chief & Council to grasp the potential of the CLCs was a difficult task, despite frequent efforts made by UBC:

> I think that the UBC team did over and above what they required. Um, even for myself who's been working here for 11 years, I find it very hard to getting things across to Chief & Council some days…I really do think that, um, UBC did a really good job of trying to get that across but there were barriers that were almost impossible.
>
> *- Interview with Dave (Traditional Knowledge Sector Director)*

These barriers Dave referred to above primarily stem from the highly competing demands that are placed on Chief and Council daily, at the Nation and community level that significantly limit the time spent on any one initiative. Dave referred to the CLCs as being "one crumb on the table". On the other hand, all CLC research and technical lead's felt supported by UBC. Jim provides an example:

> Yeah, and you know if it didn't go over well with UBC, you know, we'd have negative outcome of this and I wouldn't have really remembered the work that all the UBC people that were involved and I still remember them. That's how it was you know and how well it should be, you guys should be really proud of yourself.
>
> *- Interview with Jim (Technical Lead)*

Health professionals within the communities exhibited varied support for the CLCs in all cases by using the CLCs as a forum to disseminate health information. Regarding education, the College made their ABE course available through the CLCs in two of the three cases.

Stakeholder support emerged as an interrelated theme to four other themes: uptake, the presence of a champion, fit with community priorities, and funding. As mentioned earlier, higher levels of uptake led to increased stakeholder support. Conversely, different stakeholder groups had resources pertaining to different community priorities, and were likely to make content accessible through the CLC. This enabled the CLCs to better address community priorities which influenced uptake. As will be made apparent in the next section, exhibiting the most positive form of stakeholder support (i.e. championing) added invaluable potential for sustainability. Regarding funding, stakeholders in leadership or administrative roles who supported the CLC were more likely to find funding to support the ongoing operations of the CLCs.

3.5.4 Presence of a Champion

Championing was identified as a theme prior to data collection, namely because previous research conducted by Scheirer (2005) found that having a program "champion" increased the likelihood of that program being sustainable. This was also found in each case, where a CLC champion was necessary to creating an environment that facilitated sustainability. In the current study, the presence of a champion refers to the most positive form of support exhibited by individuals in stakeholder groups. Even if all stakeholder groups exhibited general support for the CLCs, having one champion appeared to significantly impact the success of a CLC:

> I think it's really clear that it's the person that's there that makes it run. The 'on the ground person' is the one that makes it work. I think that's been really clear in all of the situations
>
> *- Sharing Circle with Dave (Traditional Knowledge Sector Director)*

Throughout the study, it became apparent that participants had different conceptualizations of what constituted a champion, indicating a need to return to the literature to define the term and its inherent qualities. Perhaps not surprisingly, Roure (1999) conducted a literature review and found over 15 ways in which a project champion was defined. In the current study, Schreirer's (2005) definition is used with a slight modification: "A person who is strategically located to have access to [stakeholder groups] as well as influence on, or control over, day-to-day program operations. The champion often enthusiastically advocates for the needs of the program, particularly to help secure resources for its continuation" (p. 339).

Taking the above definition as a starting point, it was important to identify whether there was a CLC champion in each case, what stakeholder group they belonged to, and what specific qualities those individuals possessed that enabled them to be leaders and create momentum among their community. Green and Plsek (2002) identified the following actions required of a champion, including to: engage others, overcome barriers, build infrastructure, think/learn reflectively, summarize and communicate, coach for sustainability, and build further organizational capacity to spread the innovation. Most participants in the Northern community identified Jim as a CLC champion primarily due to his long-term dedication and persistence in trying to maximize the CLCs impact on the community (e.g. involving Elders in language resource creation, initiating a grant proposal for sustainability funding, etc.). In the Eastern and Southern communities, both Liz and Nathan self-identified as their CLCs champion, and while this is true in the sense that they were advocates for the CLC, they did not exhibit the above qualities described by Green and Plsek (2002) to influence stakeholder groups, create community-wide momentum, and secure sustainability resources for the CLCs. This was partially due to Nathan's position, which was heavily focused towards CLC technical support,

and Liz' limited on-the-ground training and support to help her develop these qualities. As seen below, Dave elaborated on the specific skills required for an individual to be considered a champion in the CLC project:

> They need somebody that's going to be the magnet to bring everybody in, and if that's the case, yeah, it would be the most successful thing ever, but you need that right person… It should be, it should be anybody, you know, that can do the job, but at least it would be somebody that has that charisma to pull it all altogether and know how to advertise, know how to find the courses, find funding, find the help, find the volunteers, find the whatever, find somebody that can bring the Elders in...
>
> *- Interview with Dave (Traditional Knowledge Sector Director)*

This explanation of a champion describes both specific activities that a champion should do, but also includes those soft skills that would be necessary for an effective champion to have in championing a CLC (e.g. charisma, motivation, creativity, interpersonal skills, networking abilities, etc.). Interestingly, Nathan added an important dimension to the concept of a champion and urged us to question whether or not one person really could make a CLC "the most successful thing ever":

> People will say 'there's a learning center'. That's really the number one, you know, to say there's one champion, well one champion isn't enough no matter how wonderful and charismatic they are because if there's something to be had here, somebody's gonna know it and they're gonna say it to someone else, so that's really the only way that it's probably survived is once people heard about it and saw some value in it, and they'd point other people in this direction.
>
> *- Interview with Nathan (Technical Lead)*

This quote reinforces the importance of 'word of mouth' support exhibited by community stakeholder groups. However, there also needs to be at least one individual who is solely dedicated to driving momentum within the stakeholder groups. An individual who is not financially compensated or allotted sufficient time to work in the CLC likely cannot dedicate the time commitment required to champion the CLC. The role of a 'champion' requires sufficient training for an entry-level research or technical lead.

3.5.5 Funding

Funding refers to the community's ability and motivation to identify and allocate funds to support the ongoing operation of the CLCs. Participants frequently attributed funding as the reason for a CLC being sustainable or not. This factor was fairly self-evident; without funding, a program cannot continue to run. Funding for the CLCs primarily went to the research and technical leads' salaries. During the funding period, each CLC had funding allocated to support one research and one technical lead. Sustaining both of these positions after the funding period was not feasible for any CLC. The Northern and Eastern communities continued to fund one position only on a part-time basis, and the Southern community did not continue to fund their research lead's salary once the initial grant funds ran out. None of the CLCs had any formal operating budget to put on workshops, upgrade equipment, or purchase various materials (e.g. printing paper, learning materials, etc.) Funding can be a legitimate reason to support the decision to sustain a program or not. One of the members of the Nation Council spoke about the ongoing challenges First Nations communities have in funding a program long-term.

> I don't think we've talked about the financial long-term thing and that's the only problem that I could ever foresee and it's the problem that we're always coming back to it at all community level, nation level. It doesn't matter, we can talk business, we can talk anything we want to talk about, you know what I mean? It's all about money and the whole world is about money. It's unfortunate, because money isn't everything but it's damn hard to accomplish things without it. I would like to see it running long-term as long as the community is using it.
>
> *- Sharing Circle with Cody (Band Councilor)*

Indeed, identifying sustainability funding requires forethought. As one Elder said:

> "It's nice to say 'yeah we're going to keep it' without even thinking how are we gonna keep it running? It's just like buying my first car. I was so excited I didn't know you had to put gas in it."
>
> *- Sharing Circle with Betty (Band Councilor)*
>
> -

However, it became evident through this study that a lack of funding could also be an excuse to not sustain a program. If there are not enough stakeholders invested in the CLC, they aren't going to go out of their way to find funding. Alternatively, if there was enough stakeholder support for a program, then they would likely seek out ways to continue to fund the program. One participant illustrated this point: "It doesn't mean that because the funding is not there it can't happen, it just, there needs to be really good strong leaders in there to make the best of what there can be". This quote illustrates the interrelationships between funding, stakeholder support and the presence of a champion.

3.5.6 Fit and Flexibility in Meeting Community Priorities

Fit and flexibility is addressed in two areas. The *fit* refers to whether the CLC was in-line with community priorities as a whole, and whether community-defined health education issues drove the CLCs resource development. This first aspect was identified as a theme prior to data collection (Scheirer, 2005) but was combined with flexibility to form a more comprehensive sustainability factor. The *flexibility* refers to whether the CLCs programs, resources and staff had the flexibility to meet individual user's needs, and was likely what ultimately brought community members back into the CLC. Whether or not the CLCs were a fit with community priorities and flexible in meeting user's needs came up in several interviews.

In terms of fit, the case descriptions illustrated that there are several high priority issues that First Nations communities face daily. Programs directed to these fundamental needs may take priority over a learning centre, as was seen in the Southern CLC, which was converted into a foster home for troubled youth. Further, political turbulence can influence community priorities, and in the case of the Southern community, the CLC wasn't necessarily a primary focus at that point. However, the CLCs can also be a vehicle to address certain high priority

community health issues, such as traditional language preservation. One of the language course instructors emphasized how CLCs effectively facilitated the provision of language courses:

> R: I mean the language course it's, um, it's online so it's kind of elder driven, like all the resources have been recorded, um, with elders so {I: Right} and then my role is to sort of guide the students along as they're learning.
> I: Okay. So have the learning centers been useful for the purpose of the course?
> R: Oh yeah, absolutely. Like I said I've helped out a few students here and I know that [Jim] took the course, he did a lot of the work from in the lab and other students have, like they all wrote the exam at the same time in the CLC {unclear} so I know it has been utilized for that. And it's nice when we're all together because if there's an issue or anything I can you know call one place and while one person's having an issue, it can all get sorted out at once.
>
> *- Interview with John (Band Councilor)*

Fit with individual community needs refers to the CLCs ability and flexibility to meet user's needs. This was heavily dependent on the leads who worked in the CLC, and whether they were able to make each user's experience in the CLC successful to an extent they would likely return to access the CLC in the future. This, in turn, was dependent on the CLC lead's capacity as a research or technical lead or training to perform in this manner. As will be made apparent, this factor was interrelated to the next sustainability factor, capacity and capacity building.

The CLCs continued ability to fit community priorities (both as a whole and in terms of individual needs), was hindered by the fact that neither of the sustained CLCs employed a research lead beyond the funding period. This was not a conscious decision. Rather, individuals in these positions left near the end of the funding and their roles were not filled because part of the sustainability plan was to reduce maintain one CLC staff member only. The role of the research lead was to determine what the priorities were, and to make resources pertaining to these needs available in the CLC by working with the technical leads to provide it in a technology-enabled format. The technical leads were unable to take over this task because their

time was spent ensuring that the technology was functioning efficiently and providing user support. Jim illustrated this point:

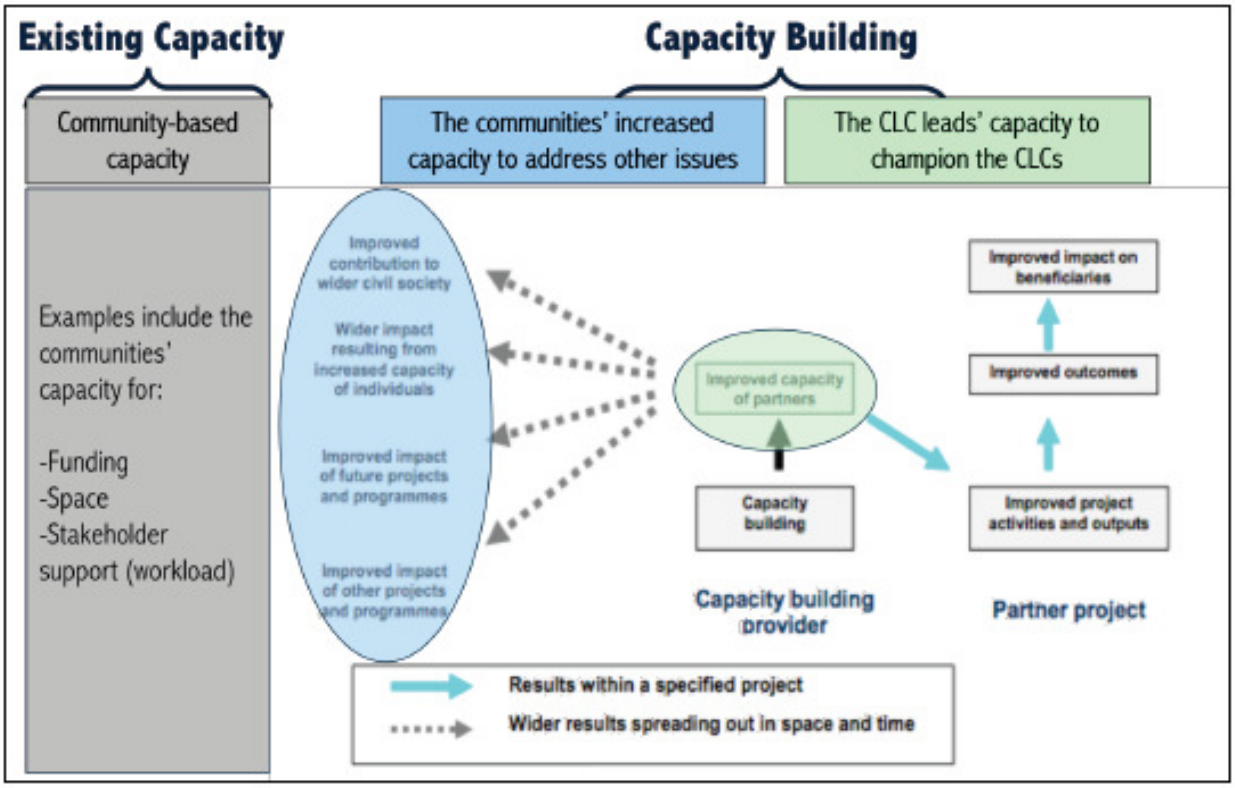
> Now we are trying to get the language with the Elders digitized and now what do you call it, mmm, catalogued down there but we need a research lead to do the research and then I'll be there to show them how to access it on the computer.
>
> *- Interview with Jim (Technical Lead)*

3.5.7 Capacity and Capacity Building

Capacity building was a pre-identified sustainability factor as it consistently emerged in the literature as a complex indicator of sustainability (Shediac-Rizkalla and Bone, 1998; Johnson, Haysb, Centerc, and Daley, 2004; Potvin, Cargo, McComber, Delormier, Macaulay, 2003; Hawe, Noortb, King and Jorden, 1997). While there was discrepancy about what this meant in practical terms, research indicated that building capacity around community skills, structures, resources and commitment helps sustain program impacts (New South Wales Health Department, 2001, p.i), and if health outcomes (including health education) can continually be realized with community-based resources as opposed to external funding, then some capacity building has taken place (Hawe, Noorth, King and Jorden, 1997). Capacity building was implicitly and explicitly discussed in interviews with participants, and its complexity became apparent in each case. When capacity building was discussed, it came up in three contexts: 1) the community's capacity to sustain the CLCs; 2) the capacity within the community research and technical leads to champion the CLCs; and 3) the community's increased capacity to address other issues. Before describing these three contexts in more detail, Figure 2 illustrates where they are situated within earlier illustrations of capacity building in Figure 1 (Simister and Smith, 2010).

The first way in which capacity came up was in the communities' capacity to sustain the CLCs. Doing so was a struggle in all cases, particularly in the areas of finances, workload, and space. For example, the Southern and Northern CLCs had limited space to house the CLC in an inviting and easily accessible way.

Figure 2: Capacity Building Outcomes as they emerged in the Current Study



The Eastern and Southern CLC had limited *funds* to support staff in the monitoring and coordinating of CLC activities, which stemmed to the communities' ongoing issues with financial capacity. As one Eastern community's band councilor said: "I don't support anything that isn't gonna be used cause we always struggle with financial capacity, hey, that's always our shortcoming." These struggles ultimately hindered the ease of sustaining the CLCs and emphasized that there was little room for the CLC communities to house and fund programs that were not having a significant impact. Further, creating buy-in from stakeholders such as Nation

Chief and Council and Band Administration was a difficult task, due to many competing demands in their *workloads*:

> To make [the CLCs] a lot more important than they are is very difficult because there are so many things going on in all communities… You know there's certain traditional rights, there's development of traditional, hunting, berries, sacred areas…Even if the Chief & Council says 'okay well give it to [Band Administration] and they'll take care of it', that's just one more thing on their plate of 2000 and they don't even have the time to understand [the project] if they weren't at the meeting. They then think, 'all I know is the Chief said do it and there is a binder full of information to read that's sitting right next to the other 300 binders', so that makes it very difficult to pull that together and understand it.
>
> - *Interview with Dave (Traditional Knowledge Sector Director)*

The second way in which capacity building was discussed was in the improved capacity of partners. Given the scope of the current study, this primarily referred to the CLC research and technical leads ability to champion the CLCs. This is an extremely important area given the limited capacity of other stakeholders to dedicate time and resources to maximize CLCs impact, as discussed above. Given that project funding supported entry-level research and technical lead positions, significant training was required in order to facilitate their development as effective CLC champions. The need for training was evident in Liz's struggles updating Southern CLCs technology, and in Nigel's struggles making the CLC flexible to meet individual users' needs. Some participants felt that training for the leads should have been more comprehensive or that the salary should have been increased in order to attract more qualified individuals. For example:

> I: So just thinking of how the project was designed, um, do you feel like training was incorporated?
>
> P: I think it was to a certain degree but I think we started really, really late in the game. I think we should have right at the very beginning, we should have done a lot more training for the leads that ran those centers in order to have a better understanding of what their position was and what they could do. I think we would have been a lot more successful. Again and we've talked about this before about getting people in there that knew what they were doing or should be doing and had the guts to do it. It's hard to find somebody that makes $8.00 an hour to make something work.
>
> - *Interview with Dave (Traditional Knowledge Sector Director)*

The research and technical leads did receive training in their roles, but this training and mentorship could have been more robust in terms of preparing them for the transition of ownership post project funding. For example, while Jim initiated a proposal for continued CLC sustainability, Nathan and Liz did not have the knowledge and support to do so. Implementing a train-the-trainer model where the CLC leads would have received ongoing support from a mentor or champion, likely would have build up the leads' skills without having to rely on other stakeholders with already limited capacity to support the project in this manner. Despite these issues, sustaining two of the three positions with community-based financial resources speaks to the perceived value of these individuals and their skills.

The third context relates to the communities increased ability to address other issues, as a result of what was learned in the CLC project. There were several examples of capacity building within the various stakeholders in the following skills: digital literacy, health research, education, workshop planning, and proposal writing, as illustrated in the individual case descriptions. One clear example was the technical leads' increased knowledge in web design and technical skills as a result of building the CLC websites. Nathan's position in particular has broadened substantially throughout the project timeframe, from being a technical lead within the CLC, to providing technical support to all three CLCs, to ultimately providing technical support to the Nation Council staff. Another example was how Liz' training as a research lead built her confidence and interpersonal skills to a level that enabled her to complete her ABE and take part in other educational courses at the nearby College campus. There were many examples provided by CLC users where they accessed health information that they then used and applied to themselves or family members, as seen in the individual case descriptions. Other stakeholders involved in the implementation of the project learned a great deal that can be used to enhance the CLCs and

applied to new project developments: “I realized, you know what, we learned an awful lot through this whole thing so we can do an awful lot.”

Chapter 4: Discussion

4.1 Summary of Findings

The literature regarding sustainability consistently suggests that the transition from a project being a university-community partnership to being fully owned and operated by the community is not always straightforward, especially if the community doesn't have the capacity to provide infrastructure funding, or to seek external funding with existing project resources. The current study examined three cases in order to understand: 1) how this transition occurred, 2) whether or not it was successful, and 3) what factors positively or negatively influenced success. A within- and cross- case analysis has led to the identification of seven factors that influenced each case's sustainability, namely: 1) community uptake; 2) environmental factors; 3) stakeholder awareness and support; 4) presence of a champion; 5) availability of funding; 6) fit and flexibility in meeting community priorities, and; 7) capacity and capacity building. These seven factors manifested differently in each case, and were highly interrelated and co-dependent and highlight aspects both related to project design and implementation, and within the broader community environment.

Scheirer (2005) identified the three following empirically supported sustainability factors: the presence of a champion; support provided by stakeholders; and a good fit between the program and the community's mission. Several other researchers have also agreed that capacity building was required in order for a sustainable program to emerge (Shediac-Rizkalla and Bone, 1998; Johnson, Haysb, Centerc, and Daley, 2004; Potvin, Cargo, McComber, Delormier, Macaulay, 2003; Hawe, Noortb, King and Jorden, 1997). Together, these four factors served as a starting point in identifying CLC sustainability factors. While each was found in the current collective case study, they were modified to fit the unique cultural and program CLC

context. For example, in addition to identifying whether CLC champions existed, the current research identified the necessary skills one must exhibit in order to effectively champion the CLC. Regarding stakeholder support, the current study identified the specific groups whose support mattered for CLC sustainability. Regarding program fit, this theme was expanded to address whether the CLC fit community needs as well as whether it was flexible enough to meet individual users needs. Finally, capacity building emerged in three venues, each of which contributes to literature on this complex concept. In addition to the previously found factors related to sustainability, three additional factors emerged as pertinent to CLC sustainability, including: community uptake, environmental factors, and funding availability. While these and other factors were occasionally found to influence program sustainability in the literature, they lacked the empirical support and similar program focus that was required to deem them a priori factors in the current study.

In revisiting the literature, it becomes apparent where the current study's findings have addressed some gaps, and where some gaps remain. To examine these gaps, it is important to revisit how sustainability is defined in the current study. More specifically, this study utilizes Shediac-Rizkallah and Bone's (1998) definition – that it is a global, dynamic, and multidimensional concept of the continuation process of a program. This definition is intentionally non-specific such that it can be adapted to fit individual programs, which in the current study, refers to the continuation process of Community Learning Centres. The literature also identified three different conceptualizations of sustainability: 1) maintaining the health benefits that occurred due to a program; 2) continuing program activities within a community or organization, and; 3) building community capacity. As noted earlier, due to issues of scope, this study has focused on the latter two.

Researchers identified that program sustainability is illustrated by the following: 1) the breadth of program uptake by external organizations and original intended users; 3) the extent to which a program is embedded in an organization's operations; and 4) the community's increased capacity to address other health issues (Hawe, Noortb, King & Jorden, 1997; Johnson, Hays, Center & Daley, 2004). Each is briefly examined below and applied to the current study's findings.

Regarding the breadth of uptake by external organizations, the one external organization that made use of the CLCs was the College. While various college courses were accessible in all three communities, they were only delivered in the CLC in two of the three cases. The instructor in the Southern community decided to use a different space despite the CLC being available, namely due to this CLC's small, dark, and uninviting space. This indicates a need for more in-depth needs assessment at the beginning of a project in order to address where students learn best. Continued uptake by originally intended users refers to the extent that community members and community-based health professionals access the CLCs. Continued uptake by these groups did occur in all cases. However, when CLC use before and after the transition of ownership was compared, some interesting trends were revealed. Specifically, the Northern CLC's user uptake was high prior to the transition of ownership, and increased further, namely because of increased stakeholder support that stemmed from a change in band council, as well as Jim's consistent championing of the CLC in order to fulfill its maximum potential. The Eastern CLC's user uptake started high and decreased after the transition of ownership. This change primarily occurred due to the technical lead's position being reduced after the transition, which led to a reduction in CLC monitoring, upkeep, and user support. The Southern CLC's user uptake started

low and decreased until the program was eventually shut down, namely due to a lack of stakeholder support, and barriers in the larger community environment.

In addressing the extent to which a program is embedded in an organization's operations, two of the three cases the CLCs were successfully embedded in community operations. In the Northern community, coordinating CLC hours with ABE courses actually furthered its functionality because it meant that the CLC was open and monitored five days a week during business hours. In the Eastern community, reducing the CLCs hours to match the lead's part-time position had some negative implications in that it wasn't consistently monitored, but the space was still accessible. The Southern CLC was not embedded in organizational operations and the space was converted to a foster home.

Understanding the community's increased capacity to address other health issues as a result of a program is difficult to measure and requires longer-term research. However, in all cases the community experienced increased capacity in other areas. CLC leads in all cases developed their technical capacity, and have passed this knowledge to community members using the CLC by building digital literacy. The research leads developed their capacity as health researchers by conducting the research themselves and disseminating it via the CLCs. Community members accessed and used the information, building culturally appropriate health literacy capacity in the communities. The Northern community also developed their skills in collaboration and proposal writing. This process led to feelings of pride and accomplishment among the groups that participated in writing the proposal, illustrating a sense of empowerment within these groups. One area where capacity building could have been improved was in the training of the CLC leads. That is, in addition to being taught how to work in a CLC, they could

have been trained in how to become a champion of the program itself. This would have helped mitigate barriers in creating buy-in and momentum with stakeholders.

4.2 Developing Tools for Sustainability

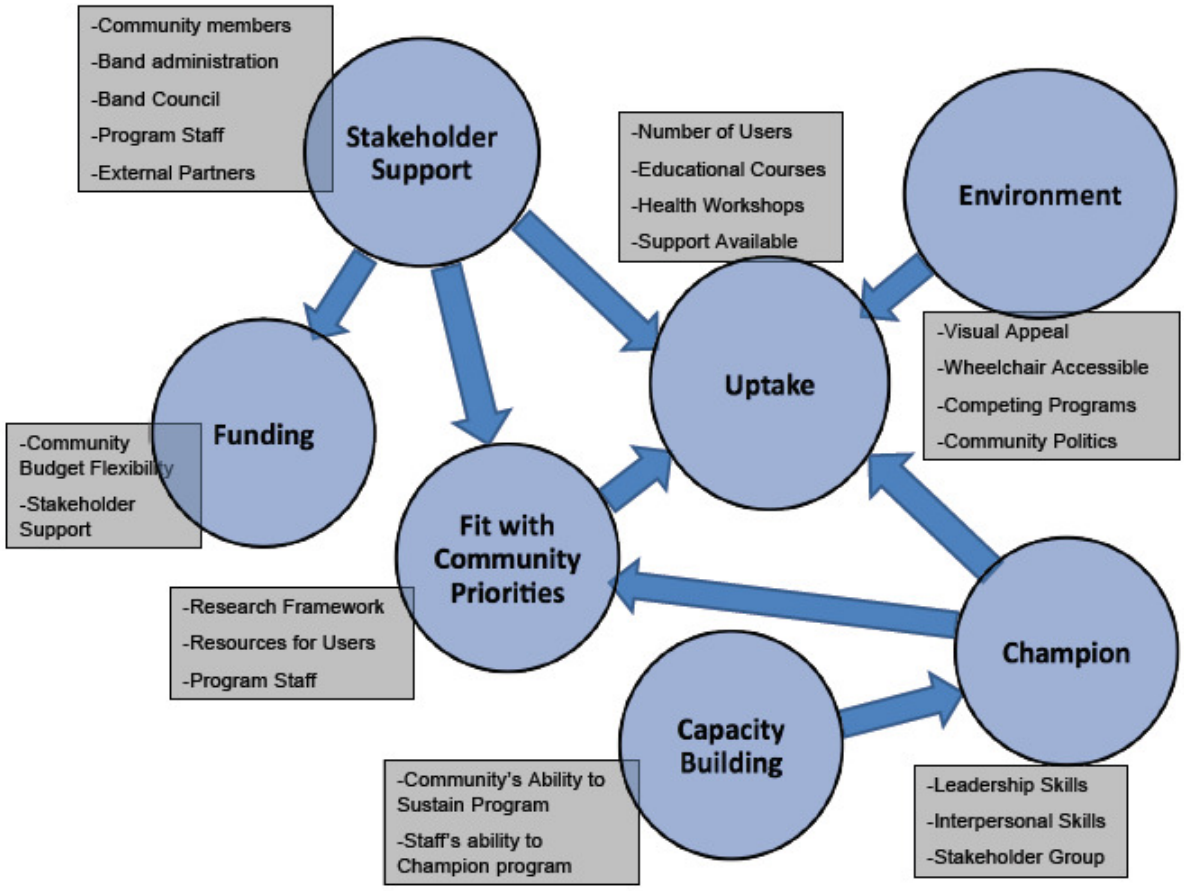
This study reveals seven factors that promoted or inhibited the sustainability of health education programs in three First Nations communities. The ultimate goal of the current study was to identify these factors and integrate them into the beginnings of a sustainability framework. This goal stemmed from the need for researchers to move from casually and passively addressing sustainability at the end of a program, to actively planning to maximize sustainability early in project planning. The first step in developing a sustainability framework is to develop practical tools that communities and academic groups can use when planning for program sustainability in a community-university partnership. To begin to address this step, I developed two sustainability tools. The first tool, Table 2, identifies working definitions for the seven factors that emerged in the current study and outlines questions to consider when measuring their effect on a program.

The second tool, Figure 3, is a visual representation of the seven sustainability factors, moderators, and interrelationships. In exploring how each factor emerged within and across cases, it became apparent that these factors were largely interrelated and interdependent, and it is important to illustrate these relationships. In addition, the boxes surrounding factors provide examples of moderators and/or indicators for each.

Table 2: Sustainability Factors, Definitions, and Considerations

Factor	Working Definition	Questions to Consider
Community Uptake	If and how users access the program, including the diversity of users, the frequency with which they access the program and what they use the program for.	- How many people access the program and how often? - What is the diversity of users (e.g. age, gender)? - What resources are available within the program? - Are people returning to the program and recommending it?
Environment	The program setting (e.g. location, staffing, equipment, etc.). Also addresses competing community resources, community politics and the effect of similar programs accessible in nearby urban/non-community settings.	- How inviting is the environment and is it being monitored? - Is the technology desirable/up-to-date? - Are there political issues that might inhibit use/support? - What is unique and otherwise unattainable compared to other community-based or non-community-based settings?
Stakeholder Support	The presence and extent of program support exhibited by various groups, including but not limited to: community members, band administration, band council, Nation Council, program staff, and academic institutions.	- Do community stakeholders support the program? - Do external partners support the program? - How is this support manifested? - Is the program being promoted to stakeholders? - Do stakeholder groups work together or in silos?
Presence of a Champion	The most positive form of stakeholder support exhibited by individuals either directly or peripherally involved in the program. Effective champions possess leadership skills.	- Is there a champion(s) directly within the program? - Is there a champion(s) indirectly related to the program? - Do they drive activities in a way that ensures success? - What skills qualify these individuals as champions?
Funding	The community's ability and motivation to identify and allocate funds to support the program's ongoing operation.	- What is the community's financial capacity? - Is there flexibility within community finances? - Are supporters seeking external funding sources?
Fit and Flexibility	The extent to which the program is in line with community priorities as a whole and how adaptable it is in meeting individual user's needs.	- Is research taking place to identify community priorities? - Does the program offer culturally relevant resources? - Does program staff make each user's experience successful? - Are more important priorities hindering program success?
Capacity and Capacity Building	The community's general capacity/ability to sustain the program, the capacity with program staff to champion the program, and the whether the program increased community capacity to address other issues.	- Do stakeholder groups have capacity to develop buy-in? - Was capacity building incorporated into program design? - What did community stakeholders learn from the project? - Are these learned skills (if any) used by the community to address other/new issues?

Figure 3: Interrelationships of Sustainability Factors and Moderators



As illustrated in Figure 3[6], community uptake is dependent on environmental factors, stakeholder support, the presence of a champion, and fit with community priorities because these four factors contribute to the extent that the community accesses the CLC. More specifically, environmental factors such as wheelchair accessibility and Internet speed will facilitate or detract from community uptake; stakeholder awareness and support by multiple groups will increase the number of programs that are available and accessed in the CLC; a champion will effectively network and promote the CLC to the community and; CLC resources that are a fit with community member priorities will lead to increased uptake.

[6] Note that this image does not illustrate all interrelationships. The description of Figure 3 provides more comprehensive details about where these relationships lie.

Stakeholder support was related to community uptake, the presence of a champion, fit with community priorities and funding. Specifically, stakeholders justified their support for CLCs based on the extent of community uptake. Being a champion is the utmost form of stakeholder support and is evidenced by significant time, resources, and passion for CLC success. Regarding community fit, the more the CLC can address community health education needs, the more likely stakeholders working in these fields will support making their resources available in the CLCs. Finally, the more stakeholders in support of the CLCs, the more these groups will work together to seek ways of sustaining the CLC. Capacity and capacity building influences several factors, including for example: the financial and environmental capacity of the community to fund and house the CLCs; the workload capacity of stakeholders to be able to incorporate the CLC as a priority and; the capacity building that was incorporated into the project in order to train CLC leads to be champions. Figure 3 and its description does not provide an exhaustive illustration of all interrelationships between factors, but highlights several prominent examples.

Given the existing lack of tools available for universities and communities to evaluate program sustainability, the above sustainability tools can be used as a starting point to maximize the potential of health education interventions in Aboriginal communities.

Chapter 5: Conclusion

5.1 Strengths, Significance, and Applications

There is a lack of reflection and research on health education interventions that have achieved some degree of sustainability (Leger, 2005). This study has attempted to reflect on three health education intervention cases to do just that. All three CLC communities followed the same implementation plan, and each achieved a different level of sustainability due to various manifestations of sustainability factors. The differences between each case provided a timely and unique opportunity for investigation. Looking at the contextual factors that have influenced these journeys provides important insight into how communities and universities can help guide programs towards a successful and sustainable path.

The current study addressed the following research question: What factors promote/inhibit sustainable health education initiatives and how do these factors contribute to successful program development in a rural/remote Aboriginal context? The outcome of the current study was the identification of seven sustainability factors that have been integrated into a tool that both: 1) supports successful health education intervention development and implementation; and, 2) is applicable to rural/remote Aboriginal communities.

One of the outcomes of this research has been to contribute to the development of a sustainability framework that can be applied to health education interventions in Aboriginal communities. The tools developed in the current research helps to address the existing lack of strategies that are available for evaluating sustainability, and is both grounded in, and builds on existing research in the field. In order to prevent the collapse of programs that clearly benefit communities as soon as original program funding ends, and to ensure that communities can use their own strengths and resources to ensure a program's long-term

success, I recommend that both university and community partners discuss sustainability early on in the project development, and hopefully this framework can facilitate those discussions.

5.2 Limitations of the Study

One limitation of the study is around how my personal involvement with the project and project partners could have influenced the objectivity of their responses and my interpretations. For example, although I reinforced to participants that I was not here as a member of the UBC project team, but as a graduate student (e.g. one of my questions was whether or not UBC provided enough transitional support to ensure sustainability), they might not have been honest. One way to mitigate this is to be aware of, identify, and accept these kinds of potential biases when using a constructivist theoretical approach, as this approach argues that the discussions are inseparable from the contexts with which they occur. Another potential limitation related to my personal involvement is that since I've had so many conversations with the leads about the impact of the CLC, the interviews done for this thesis might have left out important components because participants assumed that I already knew. Having an outside member conduct the interviews could have revealed more in-depth information. However, this approach would have had its challenges as well (e.g. the lack of relationship building and lack of an outsider's knowledge of the project/community context would have limited the depth of the data collection and of the conclusions made).

Another limitation is that despite my best intentions, non-users of the CLCs were not included as participants due to access issues. My general approach was to ask community leads who I should talk to, and also to hang around the CLCs to approach users. Asking non-

users, particularly in the case of the Southern community, may have revealed more in-depth reasons for the lack of community uptake.

A final potential limitation is the lack of generalizability to different community settings. The collective case study allows for some generalizability, especially given that we worked with cases that were unsuccessful, moderately successful, and extremely successful. However, it is important to acknowledge that every community will operate different, and no community will have the same outcome.

5.3 Future Research Directions

The current research provides a starting point in developing sustainability tools for communities and universities to rely upon in planning health education interventions in First Nations communities. Given that these findings are limited to the cases examined, future research in this area should apply these sustainability factors and tools to other project contexts in order to identify congruencies and discrepancies. Specifically, while four of the seven sustainability factors were already empirically supported, three emerged in the current study and require validation in other contexts. Additionally, two factors (e.g. capacity building and presence of a champion) emerged as complex and require further investigation. Capacity building has multiple facets. For example, measuring whether the community has increased capacity to address other health education issues requires long-term evaluation. Additionally, future research is required to differentiate between capacity issues that can be addressed through the intervention itself, and those that are more complex and are part of the larger community environment. Regarding champion, participants had different conceptions of what constituted a champion, indicating a need to develop a standard definition of the term and its inherent qualities. This will be important for program partners to set reasonable

expectations of program staff and champions, and will assist in measuring whether or not champions are present in a given program.

Applying the current study findings to additional programs early on in their development will help validate and refine the sustainability factors and can potentially identify additional factors, moderators, and considerations. These will be critical first steps in the eventual development of a comprehensive sustainability framework that documents best practices in facilitating meaningful health educational delivery, which ultimately can improve health and its social determinants for Canadian First Nations communities. A comprehensive sustainability framework developed and grounded in university-community collaborations such as the current study can hopefully be applied in different contexts such as geographical locations and cultural groups.

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Appendices

Appendix A Application of the Four R's of Research

The four R's – respect, relevance, reciprocity, and responsibility", can be applied to relationship building between Aboriginal community members and university health researchers. The proposed project intends to integrate the four R's as demonstrated below:

Respect: Recognizing and respecting cultural diversity within and across communities is fundamental to the proposed project. An essential part of the community engagement process is to understand and respect the traditional knowledge and language, cultural traditions and core values of a community in order to provide useful and culturally based health information online. This will be accomplished by engaging community members throughout the research process, and by valuing community members' diverse knowledge towards health matters and health science knowledge. Data collection activities familiar to Aboriginal communities will be used such as sharing circles, and community-based researchers will be engaged to complete interviews with community members. By encompassing respect throughout interactions, Aboriginal community health and wellness can be realized.

Relevance: Each CLC is developed based on individual communities' health and wellness priorities. In order to improve the health of Aboriginals, health education information must be relevant to community-defined health issues. The proposed research will ensure that cultural and community relevance is integrated into all stages of framework development. This will be partially addressed through iterative reflections with community members to verify information. Additionally, the researcher will make every effort to learn about and apply relevant community protocols. Doing so will promote effective research-community relations, ensure mutual expectations about the research relevance, and meet community interests and needs.

Reciprocity: Reciprocity is accomplished through a two-way process of learning and research exchange. In order to maintain reciprocity, ongoing communication will occur between researcher and communities, and community members will have the opportunity to interpret data and review conclusions to ensure accurate portrayals. Communities will be engaged to take part in any dissemination activity and every effort will be made to translate any documents into the traditional language of the community. Fully integrating the OCAP principles of data management into the research process will promote reciprocal research relationships.

Responsibility: By building upon the unique character and strengths of each community, a sustainability framework will enhance the delivery of health education and resources. Participant empowerment will be fostered through active and rigorous engagement throughout all research phases and consent will be obtained by all participants prior to any research taking place. The researcher will address any concerns of individual participants and their communities regarding privacy and confidentiality. The researcher will make an effort to learn about any cultural protocols relevant to the participating communities, and University and community ethical protocols will be adhered to throughout all research stages.

Appendix B Letter of Information

Community Learning Centres:
Sustaining Community Health Education Programs

Background about the Study: The Community Learning Centres (CLC) project was funded from 2006-2009 through a partnership between the Nation and UBC. Evaluations of the learning centres revealed that many community members benefited from accessing them. In October 2009, complete ownership of the learning centres was transferred to the communities. Since then, each learning centre has been uniquely integrated into existing community programs. My Master's thesis involves understanding what factors influence each learning centres' continued operation. I am interested in this topic because while university-community partnerships are often successful during the funding period, success and momentum is not always maintained post project funding. It is therefore very important to develop a sustainability plan early on in the program in order to prevent the unnecessary removal of a service that is clearly of benefit.

Research Question: What factors promote and/or prevent sustainable health education programs in university-community partnerships?

Research Plan: I would like to talk to community members who have ideas around what makes a program such as the learning centres sustainable. I hope to complete 10-15 interviews and 1-3 focus groups with the following individuals:

1. Learning centre research and technology leads
2. Regular users of the learning centres
3. Non-users of the learning centres
4. Members of community leadership

Outcomes: The goal of my research is to understand more about the sustainability of the learning centres. Using the learning centres as case studies, I will develop a sustainability framework that the Nation can use to support the implementation of successful health education programs in the future. It is also hoped that this framework can be adopted by

universities and other Aboriginal communities as a guide to develop health education programs in partnership.

Guiding Principles: My research question will be answered based on active participation and approval from the community's involved. Important Community-Based Research approaches will be used, including the Guidelines for Health Research involving Aboriginal People, and the knowledge management principles of Ownership, Control, Access, and Possession. These guidelines ensure that that respect, relevance, reciprocity, and responsibility is maintained with community members.

If you have any questions about my thesis topic or if you would like more information, please contact me by email or phone at:

(Contact information has been omitted)

If you would like to learn more about the relationship between myself and the research/technical leads, please contact Jim:

(Contact information has been omitted)

Appendix C Participant Consent Form

Interview/Talking Circle Consent Form (For Adults 18 and older)

Department of Educational and Counseling Psychology and Special Education
University of British Columbia
2125 Main Mall, Vancouver, BC V6T 1Z4

Principal Investigators:
Dr. Jenna Shapka, Associate Professor, Educational and Counseling Psychology and Special Education

Co-Investigator:
Katherine Wisener, Master's Student (Thesis), Human Development, Learning and Culture

Title of Project: Health Education Delivery in a Remote Aboriginal Context: The development of a sustainability framework

Invitation: You are invited to be a part of a research study in your community about the community learning centres (CLC), which are a free place to use computers and the Internet.

Purpose: The purpose of this thesis research project is to understand how the Community Learning Centre (CLC) has impacted your community. Your CLC was created through a partnership between the Nation and the University of British Columbia. Money that funded the creation of your CLC ended in September 2009. Since CLC funding ended, your community has kept the CLC running, and we would like to know how this is going. You are invited to participate in the study because you either use the CLC regularly or do not use the CLC at all, and therefore you have important ideas about why you think the CLC is successful or unsuccessful.

Research Procedures:
If you agree to be in this study, you will be asked to participate in an interview and/or a talking circle with myself where you will be asked to share your experience and ideas about what makes the CLC a successful or an unsuccessful community resource. The interview and talking circle will be audio-taped. The interview should take between 30-45 minutes with an extra 10-15 minutes if I need to ask any more questions about your answers. The talking circle should take between 45-60 minutes. You do not have to do anything to prepare for the interview or talking circle.

Risks and Benefits of Participating:
There are no known risks to participating in the project. You and your community may benefit from participating in this project because the research results will be given back to the community leadership, who may use the information to improve the CLCs.

Confidentiality:
If you consent to participate in this project your identity will be kept strictly confidential. The completed consent form will be kept separate from the data to protect your identity. All data from the

interview will be kept in a locked filing cabinet and stored in a locked filing cabinet with Dr. Jenna Shapka for five years in the Faculty of Education at the University of British Columbia. Only members of the project team from UBC and your community will have access to this data (please see bottom of this consent form for a list of names). Your name or any other identifying information will not appear in any reports on the completed project. Please note that only limited confidentiality can be offered for individuals who choose to participate in the focus group sessions. At the outset of the focus group sessions we will encourage all participants to refrain from disclosing the content of the discussion, however, we cannot control what other participants do with the information afterward.

Contact Information for the Study:
Myself (Katherine) and my supervisors (Jenna) from the University of British Columbia are conducting the study. If you have any questions or desire further information with respect to this study, please contact one of us with the contact information listed at the end of this form.

Contact for Concerns about the Rights of Research Subjects:
If you have concerns about your treatment or rights as a research subject, you may contact the Research Subject Information Line in the UBC Office of Research Services at 604-822-8598.

Consent:
Your participation in this project is entirely voluntary. You may withdraw from the project at any time without any consequences. Your consent to participate is not required immediately.

You have received two copies of a consent form to participate in this project. By signing below you are consenting to participate in this project. Please indicate which one of the activities you would like to participate in by checking one or more of the boxes for the methods of data collection.

If you choose to participate, we ask that you keep a copy of this consent form for your records and return the other signed copy.

Please print, sign, and date below if you agree to participate in this study:

_____ Participant Name	_____ Participant Signature	_____ Date

Sincerely,

(Contact Information has been omitted)

Appendix D Participant Demographics

	Name	M/F	First Nation	Registered Community Member	Position	Category	Data Collection Type
1	Meghan	F	Northern	Yes	Administrator	Leadership	Interview
2	Betty	F	Northern	Yes	Band Councilor	Leadership	Sharing Circle
3	John	M	Northern	Yes	Band Councilor	Leadership	Interview
4	Lesley	F	Northern	Yes	User	User	Interview
5	Melissa	F	Northern	Yes	User	User	Interview
6	Barb	F	Northern	Yes	Research Lead	Staff	Interview
7	Jim	M	Northern	Yes	Technical Lead	Staff	Interview
8	Sarah	F	Northern	No	College Instructor	External Partner	Interview
9	Cody	M	Eastern	Yes	Band Councilor	Leadership	Sharing Circle
10	Dave	M	Eastern	No	Traditional Knowledge Director	Leadership	Interview & Sharing Circle
11	Pat	F	Eastern	Yes	Traditional Knowledge Staff	Leadership	Sharing Circle
12	Dawn	F	Eastern	Yes	Elder	Leadership	Sharing Circle
13	Michelle	F	Eastern	Yes	User	User	Interview
14	Jeff	M	Eastern	Yes	User	User	Interview
15	Nathan	M	Eastern	Yes	Technical Lead	Staff	Interview
16	Selena	F	Southern	Yes	Band Councilor	Leadership	Interview
17	Gary	M	Southern	Yes	User	User	Interview
18	Liz	F	Southern	Yes	Research Lead	Staff	Interview
19	Karen	F	Southern	No	College Instructor	External Partner	Interview

Appendix E Interview Protocol

Preamble: The Community Learning Centres (CLC) project was funded from 2006-2009 through a partnership between the Nation and UBC. Evaluations of the learning centres revealed that many community members benefited from accessing them. In October 2009, complete ownership of the learning centres was transferred to the communities. Since then, each learning centre has been uniquely integrated into existing community programs. My Master's thesis involves understanding what factors influence each learning centres' continued operation. I am interested in this topic because while university-community partnerships are often successful during the funding period, success and momentum is not always maintained post project funding. It is therefore very important to discuss sustainability early on in the program in order to prevent the unnecessary removal of a service that is clearly of benefit to its users. The goal of my research is to understand more about the sustainability of the learning centres. Using the learning centres as case studies, I will develop a sustainability framework that the Nation can use to support the implementation of successful health education programs in the future. It is also hoped that universities and other Aboriginal communities can adopt this framework as a guide to develop health education programs in partnership.

Protocols – CLC Staff /Leadership (Actual questions depend on participant's involvement)
Reflecting on your involvement both throughout the project and currently:

1. Can you describe how the CLC currently operates in your community?
    a. Probes: Who works there, what are the hours, what programs are available (internal and external), what are the day-to-day operations, who is involved?
    b. What is your role specifically?

2. Can you describe the overall transition of the CLCs from being a university-community partnership to being fully owned and operated by the community?
    a. How are current CLC operations mentioned above different from when the project was funded through UBC?
        i. Probes: staffed positions, hours, services, location
    b. Why were these adjustments needed?
    c. Do you think this transition was:
        i. Easy/difficult?
        ii. Successful/unsuccessful?
    d. Do you think these adjustments have influenced the impact the CLC continues to have on the community?

3. Do you think that UBC provided enough support to ensure that the transition of CLC ownership to the communities was successful?
    a. What else could have been provided?

4. Do you think that the Nation and the Band Administration provided/provides enough support to ensure that the transition of CLC ownership to the communities was successful?

a. What else could have been provided?

5. Who would you say is the biggest champion of the CLCs, and what kinds of things has she/he done to maintain its operation?

6. How do you think the CLC fits with community health priorities? Do you think it fits more or less now that the CLC is fully operated by the community?

7. Do you think that the skills and resources developed as a result of the CLC project will help the community address other health issues?

8. I'm curious to know how you would define "sustainability" and how the CLC fits into this definition.
    a. What do you think are the key factors that have helped support continuation of the CLC as well as those factors that have prevented the CLC from being as successful as it could be.

9. Do you have anything else to add with regards to the sustainability of the CLCs?

Protocols – CLC Users – Perspectives on Community Impact

1. What you think the purpose of having a CLC in your community is?
    a. How do you see the CLC impacting your community?
    b. What do you use the CLC for personally?

2. Do you feel like your community supports the ongoing operation of the CLC?
    a. Are there any barriers that prevent the community from supporting the CLC?

3. Do you feel like the role of the CLC has changed over the years? Think about from when you first heard about it/accessed it to now. What has changed?
    b. Which CLC resources and programs have been a good fit with community health needs over time?

4. Who would you say is the biggest supporter of the CLC? What does he/she do to make sure it is successful?

5. Take me through the steps of what you would do/where you would go/who you would talk to if you wanted to:
    c. Do some research to learn about a health issue?
    d. Learn how to use computers and the Internet effectively?
    e. Take an educational course, for example, a course on the language or a high-school/college level course?
    f. Use the Internet for social networking/checking email?