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Ethics Statement

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Abstract

Geographic isolation hinders many First Nation communities’ ability to provide their students with access to K-12 educational services. Online distance education is a delivery model used in various First Nation communities to mitigate the issues of remoteness and accessibility to education services. This study examines the policy levers to support the establishment, expansion, and improvement of online education services for rural and remote First Nations. The study uses a review of academic literature on online distance education (ODE) as it relates to First Nation students, as well as expert interviews to provide a background on the policy issue. Further, an analysis of the gathered data provides various policy options. An evaluation of these options offers a recommendation on the optimal model for First Nations to use for their online distance education programming in order to provide their students access to education services.

Keywords: online distance education; First Nation education; on-reserve; K-12; connectivity; Canada
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<th>Description</th>
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<td>APS</td>
<td>Aboriginal Peoples Survey</td>
</tr>
<tr>
<td>AQ</td>
<td>Additional Qualifications</td>
</tr>
<tr>
<td>CMA</td>
<td>Census Metropolitan Area</td>
</tr>
<tr>
<td>CRTC</td>
<td>Canadian Radio-television and Telecommunications Commission</td>
</tr>
<tr>
<td>DE</td>
<td>Distance Education</td>
</tr>
<tr>
<td>EPP</td>
<td>Education Partnerships Program</td>
</tr>
<tr>
<td>FNCFNE</td>
<td>First Nation Control of First Nation Education</td>
</tr>
<tr>
<td>FNESC</td>
<td>First Nations Education Steering Committee</td>
</tr>
<tr>
<td>FNS</td>
<td>First Nations SchoolNet</td>
</tr>
<tr>
<td>ICT</td>
<td>Information and Communication Technologies</td>
</tr>
<tr>
<td>INAC</td>
<td>Indigenous and Northern Affairs Canada</td>
</tr>
<tr>
<td>K-12</td>
<td>Kindergarten to grade 12</td>
</tr>
<tr>
<td>K-Net</td>
<td>Kuhkenah Network</td>
</tr>
<tr>
<td>KiHS</td>
<td>Keewaytinook Internet High School</td>
</tr>
<tr>
<td>KO</td>
<td>Keewaytinook Okimakanak</td>
</tr>
<tr>
<td>LEA</td>
<td>Local Education Agreement</td>
</tr>
<tr>
<td>Mbps</td>
<td>Megabits per second</td>
</tr>
<tr>
<td>MFNERC</td>
<td>Manitoba First Nations Education Resource Centre</td>
</tr>
<tr>
<td>NHS</td>
<td>National Household Survey</td>
</tr>
<tr>
<td>NNEC</td>
<td>Northern Nishnawbe Education Council</td>
</tr>
<tr>
<td>ODE</td>
<td>Online Distance Education</td>
</tr>
<tr>
<td>PD</td>
<td>Professional Development</td>
</tr>
<tr>
<td>RCAP</td>
<td>Royal Commission on Aboriginal Peoples</td>
</tr>
<tr>
<td>RMO</td>
<td>Regional Management Organization</td>
</tr>
<tr>
<td>WVC</td>
<td>Wapawska Virtual Collegiate</td>
</tr>
</tbody>
</table>
Executive Summary

The geographic isolation of many First Nations can negatively impact their capacity to deliver education services (O’Connor, 2013). This isolation prevents First Nations from providing fundamental components of education programming, including pedagogical supports, learning resources, course availability, and staff professional development opportunities (O’Connor, 2013). As such, rural and remote First Nations and their students face many barriers in accessing high quality education services. These barriers produce various negative impacts on students and their communities. Online distance education has been identified as a viable model to deliver services to these communities. However, there are barriers to First Nations being able to offer online distance education programs, specifically financial barriers. This study will examine what policy lever is optimal for First Nations to utilize to overcome barriers and install or upgrade online distance education programming.

The study was directed by the following research question: *What policy mechanisms are required to establish or improve ODE programs for rural and remote First Nation communities?* To answer this question, I used two methodologies – a literature review and expert interviews. First, a review of the literature was used to provide context to the policy problem, such as a definition of online distance education and the history of First Nations education. Additionally, the literature review assisted in identifying current best practices throughout Canada. The interviews were with academics, government officials, school administrators, and industry representatives. A thematic analysis was used to identify and categorize the collected data into themes to help inform the following policy options.

Through an analysis of the data gathered, three policy options were identified: Status Quo – Individual School Delivery; Tuition/Service Agreements with provincial education ministries; and Aggregated Co-Delivery among several First Nation bands. The policy options were assessed based on five criteria. The criteria were as follows: First Nation Leadership Acceptance; Change in Uptake; Minimizing Institutional Barriers; Horizontal Equity among First Nations; and Cost Effectiveness. The purpose of evaluating these options was to demonstrate the trade-offs that exist among options. Based on the analysis of the policy options, this study recommends that in the short term, First Nations should enter into tuition/service agreements with provincial schools.
and education systems, while gradually shifting in the long run to deliver ODE programming through aggregated First Nation education authorities. Additionally, this study recognizes that increased funding is required to assist in improving First Nations education.
Introduction

Geographic isolation, dispersed communities, high operation costs, and difficulty delivering high quality education to K-12 students in remote regions of Canada have called into question the sustainability of rural and remote education. In provincial and territorial school systems, declining rural enrollment has led to school consolidation and increased travel time for students (Government of Alberta, 2010: 4). Despite higher per student funding allocated for rural students compared to urban students (Richards and Scott, 2009: 56-57), rural schools lack the ability to provide vital learning resources. This creates a gap in opportunity for students to receive a quality education between those living in different regions of Canada. While this is true for both indigenous and non-Indigenous rural students, the problem is more acute among Indigenous students.

First Nation students living in rural and remote communities are most affected by lack of local access to high quality education. Many First Nation communities are located in rural or remote areas with small, highly dispersed populations. High population dispersion leads to the dispersion of available financial resources, making it very difficult to provide the proper supports and secondary services needed for academic success. First Nation students, regardless of residence, typically fall behind in terms of academic achievement when compared to non-Indigenous students, and the scarcity of academic resources increases this gap. These issues have led to calls for alternative education models to deliver education services to First Nation students (O’Connor, 2013).

One solution that has realized success in reducing the effects of geographic isolation for First Nations is online distance education (ODE). ODE offers a solution to many problems (O’Connor, 2013). ODE programs have existed as a delivery method in Canada for several decades. ODE’s greatest advantage is that anyone with access to the Internet can participate.

The overarching benefit of ODE programming is that it helps to mitigate the challenges of remoteness by creating economies of scale through the sharing of services to meet the needs of students (Philpott, Sharpe, Neville, 2009). ODE allows students and teachers to access crucial supports that are equivalent to urban or less isolated school environments (O’Connor, 2013). While it is not a remedy for all issues facing rural and remote First Nations communities, ODE can provide First Nation
students with access to high quality education experiences which they may otherwise not receive.

This study will examine the possible models for First Nations to optimally provide their own ODE programs or adapt existing programming to address the issue of access to educational services for rural and remote First Nation communities. For the purposes of this study, ODE programming refers to the provision of kindergarten to grade 12 (or equivalent) programming. This study will offer several policy options that are informed by expert interviews and First Nation-specific ODE best practices. These options will be evaluated and recommendations will be provided based on this exercise.
Background

Presently, there are more than 630 First Nation communities\(^1\) across Canada (INAC, n.d.d). Among these communities, there exist only 447 schools on reserve, with 246 of those schools offering secondary-level courses.\(^2\) Additionally, 164 school buildings on reserve house 100 students or less.\(^3\) Given the limited number of on-reserve schools offering grades 9 to 12, students in many reserves must study off-reserve in a provincial school. Approximately 39% of the First Nation communities have access to a full K-12 education (or equivalent) within their own community (Table 1)\(^4\) but a significant proportion of schools (~37%) support only a small enrollment (less than 100 students). While approximately 60% of the First Nation student population attends school on-reserve (Barbour and LaBonte, 2015: 31), 40% attends a provincial school off-reserve. Based on this evidence, one can conclude that many First Nation students have difficulty in accessing education services on-reserve.

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\(^1\) Indigenous and Northern Affairs Canada only recognizes 618 First Nations as of March 28, 2017 (INAC, n.d.f).

\(^2\) The data is based on the best figures available at the time.

\(^3\) The data is based on the best figures available at the time.

\(^4\) This percentage is based on the author’s calculation based on the number of First Nations bands that provided K-12 programming. The author calculated this percentage by taking the total number of schools (246) and dividing them by the total number of First Nation bands (630). It should be noted that many First Nations have multiple schools, while others do not, so this percentage is an estimate.
Table 1: Roll-up of schools and grades offered on reserve⁵

<table>
<thead>
<tr>
<th>Region</th>
<th># of Bands</th>
<th># of school buildings located on reserve</th>
<th># of schools offering grades 9-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>British Columbia</td>
<td>198</td>
<td>95</td>
<td>28</td>
</tr>
<tr>
<td>Alberta</td>
<td>48</td>
<td>55</td>
<td>40</td>
</tr>
<tr>
<td>Saskatchewan</td>
<td>70</td>
<td>84</td>
<td>64</td>
</tr>
<tr>
<td>Manitoba</td>
<td>63</td>
<td>60</td>
<td>34</td>
</tr>
<tr>
<td>Ontario</td>
<td>139</td>
<td>95</td>
<td>42</td>
</tr>
<tr>
<td>Quebec</td>
<td>40</td>
<td>39</td>
<td>30</td>
</tr>
<tr>
<td>Atlantic</td>
<td>34</td>
<td>19</td>
<td>8</td>
</tr>
<tr>
<td><strong>Totals:</strong></td>
<td><strong>592</strong></td>
<td><strong>447</strong></td>
<td><strong>246</strong></td>
</tr>
</tbody>
</table>

Source: INAC, n.d.g.

One option to mitigate this issue is for First Nation students to leave their reserves to attend school in the provincial or territorial school systems. Though Indigenous and Northern Affairs Canada (INAC)⁶ provides eligible students with funding to attend school outside their communities, many parents are reluctant to send their children away to a provincial school outside their community. Thus, many students have limited or no access to education. A large body of academic literature has identified the impact of not having completed a secondary school education on an individual’s future health, well-being, and socioeconomic status. ODE has been recognized as a partial solution to this dilemma as this delivery model allows students to access high quality educational services remotely while staying within their community. Though some First Nation communities have implemented ODE programs, many still do not have access to these services due to a variety of factors.

This chapter will explore ODE and how it relates to First Nations education. In order to provide context on how this issue has arisen, I provide a brief history of Indigenous education in Canada, a definition of distance education (DE) and ODE, along with best practices and barriers. Furthermore, I provide an explanation of how ODE is

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⁵ This roll-up does not include the territories; thus the total number of bands does not match the number of recognized bands across Canada. The regional and total band counts were calculated using the First Nation profiles on INAC’s website (INAC, n.d.f).

⁶ As of August 28, 2017, INAC is in the process of being dissolved as a federal department. In its place, two departments will be emerging – The Department of Crown-Indigenous Relations and the Northern Affairs and the Department of Indigenous Services. It has been indicated that education services will continue under the Department of Indigenous Services (Canada, 2017c).
being applied across Canada and how it reduces the barrier of isolation for First Nation communities.

On-Reserve First Nations Education in Canada

A Brief History of First Nations Education in Canada

The contemporary jurisdictional boundaries for the provision of First Nations education in Canada are blurred. Historically, the Constitution Act, 1867 has defined the jurisdictional boundaries of the federal and provincial governments. According to Section 91 (24) of the Act, the federal government has jurisdiction over “Indians and lands reserved for the Indians”. The federal Indian Act further legislates the federal government’s relationship with the First Nation peoples of Canada, including the federal government’s responsibility to provide education services to “Indian” children. This means that INAC, the lead agency facilitating implementation of the Indian Act, has responsibility for financing First Nation schools. Additionally, the “Numbered Treaties” mandate the federal government to provide educational services to First Nation children (Carr-Stewart, 2001: 128-130).

Over time, the administration of First Nation schools has devolved to the First Nations themselves. Before 1972, INAC administered education services on-reserve. In 1972, in response to assimilationist education policies, the National Indian Brotherhood (predecessor to the Assembly of First Nations) petitioned the federal government for “Indian control of Indian education” (Gordon and White, 2014). The government agreed and devolved management authority to individual First Nations, while maintaining its fiduciary responsibility (Gordon and White, 2014). To further contribute to the principle of First Nations Control of First Nations Education (FNCFNE), the Royal Commission on Aboriginal Peoples (RCAP) identified education as one of many core jurisdictions over which Indigenous peoples had the right to exercise authority without the need to seek permission by the federal government (Canada, 1996: vol. 2, p. 159). RCAP identified education as a matter “vital to the life and welfare of Indigenous peoples, their culture and identity” (Canada, 1996: vol. 2, p. 159). Though it no longer administers education services, the federal government is still responsible for funding K-12 First Nation students who are ordinarily resident on-reserve and are counted as part of the Nominal Roll (INAC, n.d.b).
As it stands currently, K-12 education on-reserve is delivered primarily through a single “school house” model (O’Connor, 2013). INAC provides bands funding to provide eligible students, those who are between the ages of 4 and 21 and ordinarily resident on-reserve, access to educational programming, either in schools within their communities or in nearby provincial schools (INAC, n.d.b). The federal government is not financially responsible for First Nation students who do not meet the criteria for the Nominal Roll. First Nation students who live off-reserve and do not receive education funding from the federal government are likely to be enrolled in a provincially-operated or independent school.

This arrangement has created grey areas in the provision of First Nation education. As identified by the 2012 Aboriginal Peoples Survey (APS), high mobility of First Nation students on- and off-reserve exists (Turner and Thompson, 2015), further complicating jurisdiction and responsibility of funding and administrating First Nations education. In recent years, many provinces have entered into tripartite agreements with regional First Nations organizations and the federal government. These agreements vary from province to province, though the goal of each is to support First Nation student movement between reserve and provincial schools (INAC, n.d.d).

**Demographic Data of First Nation Peoples**

Table 2 highlights the Indigenous population demographics from the 2016 Census related to Indigenous populations. Those identifying as First Nation peoples represent 56.4% of the overall Indigenous identity population; 83.9% of those identifying as First Nation are also Registered Indians according to the Indian Act (Canada, 2013a). According to the 2016 Census, roughly two fifths (40%) of the First Nation “Registered Indian” population live on-reserve (Canada, 2017d). Many reserves and their schools are located in remote areas of the country (O’Connor, 2013). As identified by INAC’s Band Classification Manual, nearly half of First Nation bands are located in “rural or remote” communities and approximately one fifth of bands are considered to be located in areas defined as “special access” (Richards and Scott, 2009: 60-61).
Table 2: Self-identified Indigenous Populations, 2016

<table>
<thead>
<tr>
<th>Identity Group</th>
<th>Population</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Nations (North American Indian), single identity</td>
<td>977,235</td>
<td>58.4</td>
</tr>
<tr>
<td>Registered Indian (76.2%)</td>
<td>744,855</td>
<td></td>
</tr>
<tr>
<td>Registered and on-reserve (44.2%)</td>
<td>329,340</td>
<td></td>
</tr>
<tr>
<td>Registered and off-reserve (55.8%)</td>
<td>415,510</td>
<td></td>
</tr>
<tr>
<td>Métis, Inuit, multiple identity, and responses not included elsewhere</td>
<td>696,550</td>
<td>41.6</td>
</tr>
<tr>
<td>Total Indigenous Identity Population</td>
<td>1,673,785</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: Statistics Canada, 2016 Census, 98-400-X2016154

Table 3 highlights the age distribution of First Nation children and youth. These data represent the approximate population of school-aged First Nation children eligible for schooling on- and off-reserve. This population is expected to grow faster than non-Indigenous school-age children due to higher rates of fertility than the non-Indigenous population (Canada, 2013a). It can be inferred from these statistics that as the school-aged population continues to grow, there will be more and more First Nation children without access to education services if action is not taken.

Table 3: First Nation populations, single identity, by age interval and geography, Canada (2016)

<table>
<thead>
<tr>
<th>Identity Group</th>
<th>0 to 4 years</th>
<th>5 to 9 years</th>
<th>10 to 14 years</th>
<th>15 to 24 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>On-reserve</td>
<td>33,525</td>
<td>37,305</td>
<td>32,685</td>
<td>57,850</td>
</tr>
<tr>
<td>Off-reserve</td>
<td>31,065</td>
<td>39,225</td>
<td>38,225</td>
<td>73,715</td>
</tr>
<tr>
<td>Totals:</td>
<td>64,585</td>
<td>76,535</td>
<td>70,910</td>
<td>131,560</td>
</tr>
</tbody>
</table>

Source: Statistics Canada, 2016 Census, 98-400-X2016154

**Issues Concerning First Nations Education**

**Secondary School Attainment and Subsequent Impacts on Socioeconomic Well-Being**

Low educational attainment is a major barrier for Indigenous peoples in realizing higher incomes. As both education and income are social determinants of health, low educational attainment is also a significant barrier to high health status (Public Health Agency of Canada, 2013). Although recent Census results show a slow increase in the
share of Indigenous peoples completing their secondary school diploma, the 2011 National Household Survey (NHS) identified many Indigenous peoples who have not completed high school, particularly among those living on-reserve (White and Peters, 2013). The 2011 NHS identified that 236,770 Indigenous peoples aged 25-64 possessed less than a secondary school diploma in 2011 (White and Peters, 2013). The Office of the Auditor General estimated that it will take 27 years to reduce the achievement gap between Indigenous and non-Indigenous students in Canada (Philpott, Sharpe, Neville, 2009). That time frame will see multiple generations of First Nation students continuing to be negatively affected by not completing their secondary education.

Figure 1: Share of population without High School Certificate, Selected Indigenous Identity Group and Non-Indigenous, by Selected Age Cohorts, 2011

Source: Anderson and Richards, 2016.

As described by Anderson and Richards (2016: 3), a secondary school education is the lowest “rung” on the education “ladder” if adults are to participate regularly in the contemporary economy. Employers and post-secondary institutions often use a secondary school diploma as the minimum requirement to screen applicants for access to jobs and further educational attainment (Anderson and Richards, 2016: 3). However, access to jobs generating a “middle class” income requires a higher “rung” than secondary school; it requires some form of post-secondary training – a trades certificate, college diploma, or university degree (Richards and Scott, 2009: 4). Thus, obtaining a
secondary school diploma is just the first step for an individual advancing themselves economically in contemporary society.

Individuals without at least secondary school certification are likely to be unemployed. The 2012 APS identified that Indigenous peoples aged 15 and older with a secondary school education had an employment rate of 53.4% in comparison to 40.5% amongst individuals with less than a secondary school education (Statistics Canada, n.d.). Figure 2 summarizes the employment rates of selected Indigenous and non-Indigenous identity groups by highest education level in 2011. Additionally, the 2011 NHS illustrated the positive correlation between educational attainment and median income levels for Indigenous and non-Indigenous peoples of Canada. Among all identity groups, individuals who possess higher levels of education earn higher median incomes. Figure 3 illustrates the median annual income of Indigenous and non-Indigenous identity groups by highest education level in 2010.
Figure 2: Employment Rates Selected Identity Groups (ages 15 and over), by Highest Education Level, 2011
Source: National Household Survey, 2011
Figure 3: Median Annual Employment Income, Selected Identity Groups, by Highest Education Level, 2010

Source: National Household Survey, 2011
**Academic Barriers for First Nation Students On-Reserve**

There are a variety of barriers facing First Nation students in the current education system. The following examples are not an exhaustive list of barriers, though these are the most relevant barriers impacting students in the ODE context. For example, the academic literature identified that participation in ODE programs requires students to possess certain skills to have successful outcomes. Such skills include basic literacy, self-management, and basic computer/technological literacy (Philpott, Sharpe, Neville, 2009). Students who lack these prerequisite skills will struggle to be successful when entering into these education programs. However, the reviewed literature did identify that ODE is assisting First Nation students to develop new media aptitudes and contemporary skills such as time management and digital literacy (Pulla, 2015: 14; Cavanaugh et al, 2004: 22-23).

Students are not the only ones who lack skills to successfully perform in an ODE program. Teachers may be equally ill-equipped or underqualified since pre- or in-service teacher training often does not prepare many to teach Indigenous students (Waubageshig, 2016: 2) or use ODE programs (Philpott, Sharpe, Neville, 2009). As Waubageshig (2016: 2-5) argues, there is a lack of teacher training to prepare future teachers to teach Indigenous students or utilize ODE programs.

The absence of culturally relevant content has also been a major barrier for First Nation student success in general education programming. This lack of content (Philpott, Sharpe, Neville, 2009) creates a significant barrier as the students’ educational environment is not aligned with their home environment. Additionally, students who are forced to leave their communities to attend secondary school lose their cultural support systems. This move forces students to navigate between two very different cultures - their own and that of the non-Indigenous population. This navigation can be difficult for students to handle and may adversely affect First Nation students’ ability to succeed in their studies. These barriers, coupled with the legacy of residential schools, have created a negative impression among many First Nation communities as to the value of education as a means to improved well-being.
An Overview of Online Distance Education

What is Distance Education?

Like traditional “brick and mortar” education, distance education (DE) is a medium for delivering curriculum and pedagogy. Unlike traditional schools, DE implies instructors and students are physically separated by distance; in some cases, instructors and students can be separated by time as well (McMullen and Rohrbach, 2003: 14). There are several models of DE, each varying in how they deliver curriculum to students. For example, “correspondence” was the popular method of DE for the first part of the 20th century. Traditionally, correspondence involved course material and instruction transmitted to students through the mail (Accrediting Commission for Community and Junior Colleges, 2013: 2). As technology has developed and broadband infrastructure has expanded, ODE has become a prominent delivery method for remote students.

Identified benefits of ODE include increased enrollment in underserved regions, access to resources or instructors not locally available and access to education opportunities for students unable to attend traditional schooling (Cavanaugh et al, 2004: 5). ODE has been found to be just as effective as classroom instruction; a well-designed ODE environment is equivalent to a well-designed classroom environment (Cavanaugh et al, 2004: 16, 20). However, ODE does have distinctions not shared by traditional classrooms; it meets different needs, serves different audiences, provides less time for students to mature within the program (Cavanaugh et al, 2004: 23). Moreover, due to advances in wireless technology, there is a rapid evolution of ODE protocols which is revolutionizing the way ODE is being conducted (Pulla, 2015: ii).

Online Distance Education Program Design: Factors of Success

Much like traditional schooling, the quality of ODE and its impact on student success depends on numerous factors such as design of the program, demands of the content, the abilities and needs of students, and quality of teacher (Cavanaugh et al, 2004: 20). For example, there are two basic methods of ODE delivery - synchronous and asynchronous. Synchronous delivery is when course instruction is delivered to the student in real time, whereas asynchronous instruction implies lesson delivery and student participation take place at different times (AACSB International, 2007: 4). Each method of delivery has advantages and disadvantages.
Additionally, there are First Nation-specific goals to be realized through ODE. Philpott, Sharpe, Neville (2009) cited Gruber and Coldevin’s five essential guidelines for the use of DE to enhance the academic outcomes of Indigenous peoples across Canada:

1. support of the band council and the local community;
2. identification of qualified on-site facilitators, or person willing to undergo appropriate training;
3. adapting course material to the specific needs and context of the Indigenous community;
4. creating a safe and comfortable learning environment;
5. and harmonizing course schedules with activities in the local community.

A report by the Conference Board of Canada (2010: iii) expands on these First Nation-specific requirements for quality ODE programming by providing recommendations on optimizing the effectiveness of ODE programs as they relate to improving the outcomes of on-reserve First Nation students. The recommendations are as follows:

1. Better engage First Nations in the development and implementation of e-learning programmes.
2. Develop and implement an e-learning strategy.
3. Increase funding for e-learning programs and the supporting software licensing, technical infrastructure, equipment and technicians.
4. Extend funding terms for e-learning programmes.
5. Assess community needs and education outcomes.
7. Develop and implement a strategy to improve teacher engagement.
8. Consider the generational differences among students.
9. Promote student commitment,
10. Offer expanded and more flexible programmes with holistic programme delivery.
11. Better integrate e-learning under the overall INAC education umbrella.

**ODE for First Nation Students**

**Potential for ODE in rural and remote First Nation communities**

First Nation ODE programs have existed for many years throughout Canada. As far back as 1996, DE has been recognized as an important best practice to provide First Nation students with access to education services (Canada, 1996). In recognition of the promise shown by DE programs, RCAP’s Recommendation 3.5.11 states that secondary
schools implement such programs to deliver services to students (Canada, 1996). Currently, there are various ODE programs in operation, with many being managed by band administration or First Nation education authorities. Other programs have been offered through collaboration with provincial governments and post-secondary education institutions. Though existing programs vary in their delivery models, based on the needs and limitations of the respective communities, all programs share the common goal of providing First Nation students with access to education services.

ODE programs for remote Indigenous communities have generated mostly positive results (Philpott, Sharpe, Neville, 2009; O’Connor, 2013). For example, Pulla (2015: ii) identified that mobile learning is a highly successful practice for indigenous communities in Africa and Australia, with potential for other indigenous groups as well. O’Connor (2013) highlighted that ODE programming for First Nations in Canada has yielded various benefits, including a student success rate of 50-60% (which is higher than in most local band schools) and a retention rate of 70-80% (compared to previous rates of 30-40%). Pulla (2015: 14) further identified that “virtual” secondary schools in Canada have provided First Nation students with equal access to education by minimizing the barrier of distance. First Nation communities have identified that they are interested in this mode of instruction, and this interest continues to grow (Philpott, Sharpe, Neville, 2009). O’Connor (2013) identified that many First Nation communities are engaging new media and information technology, and support the inclusion of technology in their schools. Though ODE programs are promising, these programs are not a panacea for all education barriers facing First Nation students. Philpott, Sharpe, and Neville (2009) have identified examples where ODE has produced mixed results regarding individual rates of course completion and secondary school graduation.

Benefits of ODE for First Nations

**Individual Benefits**

ODE can provide direct benefits to individual First Nation students, with the most obvious benefit being that ODE provides access for First Nation students to quality education services that they would otherwise not be able to access (Pulla, 2015: ii, 14; Cavanaugh et al, 2004: 5). Additionally, it allows First Nation students to connect with specialized instructors or secondary services (Pulla, 2015: 14; Cavanaugh et al, 2004: 5). This primary benefit is linked to secondary benefits, including reduced
socioeconomic, health, and academic achievement gaps; reduced operational, social, and health costs; community development; and cultural or language preservation. For example, O’Connor (2013) described how ODE programming contributes to improved economic opportunities for First Nation students by providing greater access to the skills and knowledge needed for employment.

**Financial Benefits**

In addition to savings derived from improved socioeconomic and health outcomes, ODE programs can lower operation costs compared to other methods of delivery. For example, the total cost of a complete web course, with all course material and online interaction included, would be $184,000 to develop (Gordon, Hodson, Kitchen, 2014). In comparison to the cost of building an entire school and supplying operating needs, the development of ODE programming is a small sum. Furthermore, as technology develops, and education moves away from wired infrastructure to wireless learning environments, the cost of ODE infrastructure declines (Pulla, 2015: ii).

A significant financial benefit to First Nations that can be realized by the use of ODE is the reduction of transportation costs. Transportation of students is a significant cost of traditional schooling for First Nation students. Many First Nation students are transported long distances daily to attend school either on- or off-reserve. ODE would remedy this issue by instead allowing students to stay within their communities. As cited by McMullen and Rohrbach (2003: 71), a Canadian study examined the financial costs of professional development training during the creation of the Nunavut territory. The results of the study found it was less costly to provide high quality education programs through DE delivery than it was to transfer or transplant students to metropolitan regions to receive the same training.

Additionally, an evaluation of INAC’s First Nations SchoolNet (FNS) program (Canada, 2009: 23) also acknowledged the potential cost savings and cost effectiveness of First Nation ODE programs. The reduced transportation costs could allow for education authorities to redistribute or reinvest the savings towards the provision of course material, delivery software, hardware, and other necessary components of ODE.
Community Benefits

It is well publicized the difficult reality for many First Nations community members, especially the youth, who live on-reserve. Though ODE is not a solution to solve the various community issues, ODE does offer potential benefits for improving community well-being. As previously mentioned, ODE programs allow students to stay within their communities (Voyageur, 2001), which in turn allows students to remain in proximity to their main supports. O’Connor (2013) indicated that by allowing students to stay within their community, ODE helps the individual to build a strong sense of community and culture, which in turn increases academic success. Additionally, by increasing the education attainment of those living in First Nation communities, there is potential for greater on-reserve economic development, as well as increased social cohesion (White and Peters, 2013).

Current Canadian Context: Infrastructure and Funding

Infrastructure

Currently, all thirteen provinces and territories maintain some form of K-12 ODE programming (Pulla, 2015: 12). However, Barbour (2012: 7) has identified that growth in this programming is uneven. As acknowledged in a 2009 report by the Canadian Council of Learning, the current general landscape of ODE across Canada is many “loosely connected provincial, territorial, and federal ODE networks, educational providers (public and private), and targeted initiatives” (Pulla, 2015: 13). The report further states that this landscape leads to duplicated efforts and fragmented goals (Pulla, 2015: 13).

Furthermore, Pulla (2015: 15) identified that Canada is lagging behind the global community in innovating and implementing digital learning infrastructure, specifically within remote communities. The need for internet connectivity and digital technology for remote or rural First Nations goes beyond education. Many daily activities related to band administration activities and community services are now conducted through the Internet (e.g. communication, service provision to community members, reporting to INAC, banking and commerce, remote water system monitoring, health care) (Canada, 2009: 8; Voyageur, 2001). Better connectivity infrastructure is fundamental for the success of First Nations being able to fully participate in the digital and global economy,
improve community well-being, and tackle other social issues (Canada, 2009: 26; Voyageur, 2001).

First Nations’ access to digital telecommunication infrastructure for the purposes of ODE continues to be a challenge in Canada (Pulla, 2015: 16). Both Pulla (2015: 16, 20) and Philpott, Sharpe, and Neville (2009) have identified barriers that currently impede First Nations and their access to broadband services, including a lack of physical infrastructure, issues with connectivity, lack of public access sites on reserve, small number of homes with internet connections, and lack of access to a computer. Satisfactory broadband connectivity is limited in parts of Canada, especially in areas with a high concentration of Indigenous peoples, such as the North (Pulla, 2015: 17, 20). To demonstrate the extent of this issue, in 2009, 52% of First Nation schools received less than 1.5 Mbsp, the speed needed to support Information and Communications Technology (ICT), ODE, and videoconferencing (Canada, 2009: 26). These speeds are well below the Canadian Radio-television and Telecommunications Commission’s (CRTC) target speed of 5 Mbsp download (Canadian Radio-television and Telecommunications Commission, n.d.).

Slow bandwith speeds and connectivity issues have a significant negative effect on the delivery of ODE programming. Activities are limited to those that require low bandwith (Pulla, 2015: 20; Canada, 2009: 26). In addition to physical barriers, financial barriers also have an impact. Pulla (2015: 20) identified Canada as having the most expensive connectivity fees in the world. Likewise, an evaluation report of the FNS program (2009: 26) identified that without funding support, connectivity fees are unsustainable for many First Nations.

According to Pulla (2015: ii), Canada is falling behind the rest of the international community in its ability to keep up with progress towards mobile learning, otherwise referred to as m-learning. The FNS program evaluation suggested that if Canada wants to be competitive in the global economy, the government will need to invest in the necessary infrastructure and technology to provide access to all Canadians, including Indigenous peoples, so everyone can receive these necessary services (Canada, 2009: 26).
In addition to the coverage gaps across the country, the type of technological infrastructure being used is also an identifiable barrier to reliable access. A mapping of First Nations connectivity has revealed three main categories of technology classification: low speed, consumer broadband (either terrestrial or satellite), and industrial/institutional capable broadband (INAC, 2009). Of these categories – (terrestrial) consumer and industrial/institutional capable broadband – are used to deliver services to First Nations (INAC, 2009). For the delivery of e-Education services, consumer broadband cannot support remote real-time, interactive video conferencing for courses not available locally, the development of culturally relevant materials, or web-based collaboration between educators for curriculum and course development and delivery (INAC, 2009). Only industrial/institutional capable broadband can meet these needs (INAC, 2009).

An examination of INAC’s broadband mapping exercise identified 338 First Nation bands (53.65%) currently without access to industrial/institutional broadband as of March 2013 (INAC, n.d.a). Further examination of the mapping exercise illustrated that no communities have a connection to industrial/institutional capable broadband. This evidence would indicate that significant effort will be needed to transfer First Nation communities over to an industrial/institutional capable broadband connection.

**Investments and Funding**

The Government of Canada has begun to recognize broadband access as essential for the well-being of contemporary Canadian society. Budget 2016 made several commitments to support connectivity infrastructure. It committed to invest $500 million over five years to bring high-speed internet to rural and remote communities in Canada (Canada, 2016b). The program, named Connect to Innovate, is investing in “backbone” networks with support for “last mile” applications as well (Canada, 2017a). The funding from the Connect to Innovate program will be distributed to applicants, such as the Manitoba First Nations Technology (Taylor, 2017), which will install the needed connectivity infrastructure. Budget 2016 also committed to providing $255 million over two years starting in 2016–17 to the First Nations Infrastructure Fund to support investments in complementary infrastructure such as roads and bridges, energy

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7 The author calculated this by dividing the 338 First Nations without access to industrial/institutional capable broadband by the total number of First Nation bands.
systems, broadband connectivity, physical infrastructure to mitigate the effects of natural disasters and fire protection services (Canada, 2016). Table 4 depicts the current program offerings, the federal department responsible for the funding, and how much funding is available for First Nations to receive for broadband projects.\(^8\)

In addition to committed budget investments, the CRTC announced their recognition of broadband Internet access services being necessary to the quality of life for Canadians and considered a basic telecommunications service for all Canadians on December 21, 2016. In light of this recognition, the CRTC committed to reducing the existing broadband gap by setting new broadband speed targets. The new target for broadband speeds of 50 megabits per second (Mbps) download and 10 Mbps upload for fixed broadband Internet access services. Furthermore, the CRTC will be setting an unlimited data option for fixed broadband access as well as imputing the latest mobile wireless technology in homes, businesses, and along major Canadian roadways (Canada, 2016a).

For projects that do not meet the new targets, the CRTC is also establishing a fund for applicants to submit proposals to allow the building or upgrading of infrastructure required to access fixed or mobile broadband. The CRTC is investing up to $750 million for the first five years of the fund. The focus of this fund will be on underserved areas (Canada, 2016a), which will likely positively impact many rural and remote First Nations.

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<table>
<thead>
<tr>
<th>Federal Department</th>
<th>Program Name</th>
<th>Investment (Duration of Funding)</th>
<th>Infrastructure Development</th>
<th>Operating Expenses</th>
<th>Connectivity-Bandwidth</th>
<th>Public Access</th>
<th>Computer Access</th>
<th>Education (training)</th>
<th>Research</th>
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<td></td>
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<td>$139 million (2014 - 2019)</td>
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<td>$155 million (2014 -2024)</td>
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<td></td>
<td>New Paths for Education</td>
<td>~$50 million for whole program (2011 – present)</td>
<td>X</td>
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<tr>
<td>Canadian Northern Economic Development Agency (CanNor)</td>
<td>Strategic Investments in Northern Economic Development</td>
<td>$90 million (2009 – 2014)</td>
<td>X</td>
<td>X</td>
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<td>$40 million (2014 -2015)</td>
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<tr>
<td>Federal Economic Development Initiative for Northern Ontario (FedNor)</td>
<td>Northern Ontario Development Program</td>
<td>~$31 million/year (1990s – present)</td>
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The future of First Nation ODE

Each First Nation has its own context for future development and implementation of First Nation ODE programs. Action needs to respect the principle of “First Nations Control of First Nations Education” (FNCFNE). Committing to this principle is fundamental to future program development. Communities, not Ottawa, have been identified to be in the best position to offer these programs due to their ability to recognize the needs of the students, set goals for the program, and address potential issues (Facey, 2001: 5).

While band-operated ODE programs are the most beneficial for First Nation students, it is important to note that not all communities will be able to offer these programs. First Nation communities need to recognize their capacity limitations to develop and operate distance education programs before moving forward with any pilot projects. For communities that do have the capacity to offer distance education programs, best practices have long been established, and there is little sense in “reinventing the wheel”.

Lastly, ODE programs are evolving and some of the programs or resources need to be upgraded (Pulla, 2015: 18). This study recognizes this transition and the impacts it will have on policy moving forward. For example, even established First Nation ODE programs will require financial support to amend their programs to include evolving mobile/wireless technology.
Methodology

The initial research question was “What potential does online distance education have to reduce the service and access gaps for rural and remote First Nation students in Canada?”. As the study evolved, the research question evolved to “What policy mechanisms are required to implement or improve ODE programs for rural and remote First Nation communities?”. In order to develop an understanding of the policy problem, I used a multi-method approach. My approach included a literature review and numerous expert interviews. The majority of the study was conducted within British Columbia, though data were also collected in Saskatchewan, Mexico, and Connecticut through phone or Skype-based interviews.

Literature Review

A literature review was conducted to identify the historical context and contemporary issues related to the policy problem. A variety of academic sources, including government websites, reports, journal articles, and theses, were examined. The literature search relied on Google and Simon Fraser University’s online library database. The literature not only provided background into the issues related to the research question, it also provided me with themes to explore in the interviews. Due to the evolving nature of ODE, I limited my search to the most recent literature published within the period of approximately 2003-2017; however, I examined some documents published prior to 2003 for historical context.

Interviews

I conducted interviews to fill in gaps and to also help develop potential policy options. The aim was to interview experts with interest and experience in Indigenous and ODE policy. These experts included school administrators, government officials, industry consultants, and academics. Initially, I recruited participants based on suggestions provided by the study supervisor or through “cold calling” potential participants. Additionally, I used a “snowball” recruitment method to expand the pool of potential participants. I asked participants to refer other potential participants who would be willing to participate in the study. The snowball sample was very successful in helping recruit participants.
I conducted interviews using a semi-structured methodology. This methodology allowed me freedom to expand and explore the topics and themes based on the participant’s responses. All interviews were conducted either by Skype or by phone.

**Analysis**

After the interviews were conducted, I used a thematic methodology to analyze the data. Themes were identified by noting common topics or phrases from each interview. The results of this analysis were then used to develop policy options to be tested by various criteria and measures. The criteria and measures chosen were informed by the study background.

**Limitations of the Study**

A number of limitations arose. Difficulties in my ability to organize interviews and recruit potential participants limited the scope of my study. For example, many participants are from British Columbia, so I did not receive a wide array of perspectives of how ODE works for First Nation students across the provinces and territories. Additionally, I was unable to interview Indigenous or female participants. In part, this was due to the use of the “snowball” recruitment strategy as I interviewed suggested colleagues of participants. I did reach out to interview a First Nation education organization, though unforeseen circumstances did not allow the interview to take place during the allotted data collection period.

In an attempt to remedy the omission of a First Nation organizations’ perspective, I made a concerted effort to use Indigenous-related literature whenever possible. The omission of these perspectives limits the scope of this study. For example, having a grassroots perspective on the policy options would have helped with the evaluation criteria related to First Nation acceptance. Furthermore, I did not reach out to the federal government to discuss their current policies and programs. I have made assumptions on the role of federal government as to ODE delivery for Indigenous peoples.
Research Results

The following chapter discusses research results, from the literature reviewed in Chapter 2 and from the semi-structured interviews conducted.

Best Practices from Canadian Examples

This study has identified four examples of successfully implemented ODE programs in rural and remote First Nation communities (Barbour and LaBonte, 2016: 38). Two additional programs were forced to cease their operations in the past three years - the Credenda Virtual High School located in Saskatchewan and the Gai hon nya ni: the Amos Key Jr. E-Learning Institute in Ontario (Barbour and LaBonte, 2016: 38). Through a review of the literature, this study has identified an interest in expanding ODE programming in First Nation communities, though certain barriers are preventing this (Barbour and LaBonte, 2016: 38). Below are brief descriptions of relevant Canadian examples of First Nation ODE best practices.

Wahsa Distance Education Centre

Wahsa Distance Education Centre is a First Nations-operated program based in Sioux Lookout, Ontario that delivers ODE services to communities across Northwestern Ontario (McMullen and Rohrbach, 2003: 17). Operated by the Northern Nishnawbe Education Council (NNEC), the centre provides 23 remote First Nations communities with Ontario Ministry of Education-approved secondary credit courses for grades 9 to 12 (McMullen and Rohrbach, 2003: 17; Northern Nishnawbe Education Council, n.d.). Each community has a Learning Centre for students to access services in their community, with each operated by a Distance Education Coordinator and their assistants (Northern Nishnawbe Education Council, n.d.). The program serves a diverse population of Ojibway, Cree, and Oji-Cree communities (McMullen and Rohrbach, 2003: 17). Programming is flexible based on policies related to attendance and completion dates that allow students to overcome socioeconomic barriers (McMullen and Rohrbach, 2003: 20).

Wahsa operates by providing courses through various ODE platforms, including online radio, SMARTboard Bridgit software, and Independent Learning correspondence coursework (Wahsa Distance Education Centre, n.d.). The courses and academic
support are provided through local and central support systems (Northern Nishnawbe Education Council, n.d.). Wahsa employs certified teachers who have lived and worked in northern remote communities, as these teachers possess the appropriate skills and knowledge needed to properly support students. Teachers work three hours per day broadcasting courses, although they must be available until 10 p.m. seven days per week for student contact. In addition to their routine teaching schedule, each teacher travels to one or two communities each year to provide face-to-face instruction and to build relationships. Qualified tutors provide additional support to individual students for a maximum of four hours per week. (McMullen and Rohrbach, 2003: 19)

Keewaytinook Internet High School (KiHS)

KiHS is another ODE program from Northwestern Ontario. It provides ODE services to 13 communities (McMullen and Rohrbach, 2003: 24). Kuhkenah Network (K-Net), the ICT and telecommunication service provider operated by Keewaytinook Okimakanak (KO), administers the program (McMullen and Rohrbach, 2003: 24). KiHS provides students with Ontario Ministry of Education-approved secondary credit courses for grades 9 to 12 (McMullen and Rohrbach, 2003: 24). The KiHS school year is divided into four blocks of 9 weeks, allowing students to complete eight courses per school year (McMullen and Rohrbach, 2003: 25). Students attend classes daily, with students receiving instruction for a half-day per course (McMullen and Rohrbach, 2003: 25). Though KiHS currently serves only communities in Northwestern Ontario, the program is open to adding communities (Keewaytinook Internet High School, n.d.) and K-Net provides services to many First Nations across Ontario (K-Net, n.d.).

KiHS operates as a network; each participating community provides the network with a teacher. Each teacher possesses a Bachelor of Education and is responsible for teaching one or two primary courses per year. Each teacher develops and presents their primary course lessons, as well as marking assignments or assessments, to the whole network. For example, the designated math teacher develops instruction materials and lessons for the entire KiHS network. When not providing instruction, teachers support the delivery of their colleagues’ lessons and provide support services to students in their local communities. This methodology of delivery allows for all teachers and students to develop a relationship. In addition to providing the network with a teacher, KiHS also requires each participating community to provide classroom space, on-site support staff,
teacherages, and on-site administrative services (McMullen and Rohrbach, 2003: 24-26).

KiHS was developed by Margaret Fiddler, who also helped to develop the Wahsa program. KiHS uses a two-way, asynchronous ODE model to provide First Nation students the opportunity to graduate secondary school without leaving their community. Due to this shared program design and location of the communities in Northwestern Ontario, a few of the communities served by KiHS are also served by Wahsa. The two programs complement one another for the benefit of the communities served. The success of the program has been attributed to the commitment by the serviced communities and their leadership (McMullen and Rohrbach, 2003: 24).

**Wapawska Virtual Collegiate (WVC)**

WVC is a fully-accredited Manitoba program (Wapawska Virtual Collegiate, n.d.b), providing First Nation students access to new learning opportunities (Wapawska Virtual Collegiate, n.d.a). Launched in 2010, WVC is operated by the Manitoba First Nations Education Resource Centre (MFNERC) (Wapawska Virtual Collegiate, n.d.c). WVC offers a range of secondary school courses from grades 9 to 12 to meet the requirements for students to graduate and/or move onto post-secondary education (Wapawska Virtual Collegiate, n.d.a). The program does charge students tuition, which ranges from $2500 to $3200 for a full school year and students are given a full calendar year to complete a full credit course (Wapawska Virtual Collegiate, n.d.b). WVC complements the education opportunities in remote communities by providing additional learning opportunities (Wapawska Virtual Collegiate, n.d.a).

WVC describes itself as a student-centred program that allows students to earn an education that fits the individual’s learning style and interests (Wapawska Virtual Collegiate, n.d.b). This is exemplified by the flexibility derived from allowing students to mix instruction between online and correspondence options (Wapawska Virtual Collegiate, n.d.b). The WVC program follows a semester-based school year, where online courses are delivered synchronously at a specific time during the day (Wapawska Virtual Collegiate, n.d.d). The school day is portioned into four 70-minute periods (Wapawska Virtual Collegiate, n.d.d). Though delivery of instruction is synchronous, all live sessions are recorded and stored in archives for the convenience of the student in case they miss the lesson (Wapawska Virtual Collegiate, n.d.d); these recordings are
available 24 hours a day via the internet (Wapawska Virtual Collegiate, n.d.f). Live instruction is delivered through daily web-conference through the use of Adobe Connect software (Wapawska Virtual Collegiate, n.d.f). Students interact with their teacher in real-time, as well as other students from across Manitoba. WVC teachers are all certified Manitoba teachers and also have experience with ODE delivery (Wapawska Virtual Collegiate, n.d.e).

In addition to the live instruction, students are able to seek further support outside of class by either emailing the teacher or by contacting the program’s after-hours support team (Wapawska Virtual Collegiate, n.d.f). Feedback for students is provided instantly through online testing, or within 24-hours for subjective questions (Wapawska Virtual Collegiate, n.d.f). WVC is looking to expand and evolve their program in the future, as a pilot is underway to test an asynchronous model, called their “flex” option (Wapawska Virtual Collegiate, n.d.d).

**SCcyber E-learning Community program**

The SCcyber E-learning Community program, also referred to as Sunchild E-learning Community program, is an award-winning ODE program from Alberta. SCcyber delivers education services to over 20 First Nations located both in and outside Alberta (State of the Nation, n.d). The program offers students over 80 academic and co-curricular programs (State of the Nation, n.d), with all courses accredited by Alberta Education (SCcyber, n.d.a). Students who graduate from the program receive an Alberta secondary school diploma issued by the Government of Alberta (SCcyber, n.d.b).

The program operates by providing instruction through synchronous delivery with students expected to attend classes at a specific time. Classes are recorded and archived so that students who miss a lesson are able to catch up. Additional support is provided as students can communicate with their teacher at any time through text messaging or a microphone. Students are also provided with a mentor who addresses technical concerns and ensures student participation (SCcyber, n.d.a).

**Interviews**

The following are the eight major themes derived through the analysis of interviews:
Table 5: Participants interviewed for study

<table>
<thead>
<tr>
<th>Name</th>
<th>Background</th>
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</thead>
<tbody>
<tr>
<td>Barry Anderson</td>
<td>Former senior official with the British Columbia Ministry of Education, consultant to the First Nations Education Steering Committee (FNESC)</td>
</tr>
<tr>
<td>Dr. Michael Barbour</td>
<td>Associate Professor of Instructional Design for the College of Education and Health Services at Touro University</td>
</tr>
<tr>
<td>Gordon Milne</td>
<td>Retired superintendent and past president of the BC Virtual School Society</td>
</tr>
<tr>
<td>Dr. Larry Steeves</td>
<td>Associate Professor of Educational Administration at the University of Regina</td>
</tr>
<tr>
<td>Dr. Tim Winkelmans</td>
<td>Manager of the e-Learning Programs Unit with the British Columbia Ministry of Education</td>
</tr>
<tr>
<td>Dr. Barry Carbol</td>
<td>President at Schmidt &amp; Carbol Consulting Group</td>
</tr>
<tr>
<td>Dr. Thomas Fleming</td>
<td>Professor Emeritus in Educational History at the University of Victoria</td>
</tr>
</tbody>
</table>

Feasibility

Many participants identified ODE as a feasible means for First Nations to gain access to educational services. Milne asserted that ODE is a more successful model than correspondence. Anderson added that ODE is a better delivery model than other models as ODE gives more access. Anderson further noted that students in ODE programming will not be any worse off than students in the current system, with the possibility of being better off. Anderson continued that ODE provides rural students access to courses they would not otherwise have accessed and increasing access to ODE will bring the quality of education services closer to that in urban programming.

Additionally, many participants saw ODE as the preferred education model for remote First Nations. Carbol explained that Indigenous students are able to work easier in an ODE program than a traditional school. Milne identified ODE as a means to allow First Nation students access to access subject-specialist teachers. Fleming added that ODE can help to mitigate issues faced by First Nation communities, such as teacher retention.
In contrast, Barbour offered some reservations regarding ODE. Its success depends on how the program is developed and implemented; ODE is just a delivery method and success is dependent on how the program is used. He added that delivery of ODE is dependent on the local community, as each program will have unique needs and barriers. This conclusion was mirrored by Fleming and Anderson as well.

**Operation**

Many participants discussed the needs related to the successful operation and delivery of ODE programming. Synchronous delivery was identified as the better model for the delivery of ODE by Anderson, Barbour, and Milne. Barbour stated that asynchronous delivery has lower success rates. Though synchronous delivery was the preferred method of ODE, Anderson noted that this method is much costlier. Steeves added that consideration is needed to decide how to structure an ODE program with these methods of delivery. Regardless of the method chosen, the key elements of program success are keeping students engaged and building relationships with the students.

Additionally, many participants discussed the need for supports to be built-in to ODE programming. Anderson stated that ODE will not work on its own, and supports are required. Steeves agreed that program supports are required. Both Anderson and Steeves believe that classroom support should come from the local community. Milne added that in-class support is required for the success of students.

Fleming and Winkelmans discussed the size of programming as a factor to successful delivery. For example, Winkelmans asserted that small programs are ideal because they allow for flexibility, choice, and innovation. Milne identified the ideal classroom size for ODE being approximately between 15-22 students.

**Curriculum**

Most participants discussed the requirements of curriculum as it related to ODE programming and First Nation students. Steeves recognized that the curriculum and learning materials needed to be culturally-relevant for success. Most participants agree on how to develop or implement culturally-relevant materials for First Nation students through ODE programming. Anderson, Carbol, and Milne all concluded that bands could take successful, pre-developed curricula and learning materials and transplant them into
their school with some adjustments in order to make them appropriate for the specific band. Milne added that the respective community needs to be involved in the process of making the curriculum more culturally-appropriate. Steeves offered another option, in which bands deliver core courses (e.g. math, science) locally and use ODE to access “add-on” courses.

Secondary Services

Participants were divided on their opinion of ODE programming being able to provide secondary services (e.g. special education) to First Nation students. Anderson stated that the technology to provide secondary services is not perfect, though it is getting better. Anderson further stated that First Nations should collaborate with one another in order to provide secondary services to their students, though a formal school district was not necessary to do this. Milne identified that it is possible to provide these services online, though the ability to do so is quite new and still under development. Milne agreed that partnerships are ideal for providing secondary services and they help to build stronger programs.

Administration

To support the development of the study’s policy options, participants were asked what policy options they thought would be most successful in implementing ODE in First Nation communities. In response to this question, there was no consensus among the participants on how ODE should be administrated. For example, Barbour stated that a national strategy would be more successful than a regional strategy. He argued that a national strategy would allow for a pool of funding for all First Nations to access, with local band councils choosing which models they wished to install in their communities. However, Barbour also stated that the role of the federal government should be as the provider of connectivity needs to First Nations. Carbol added to this by stating that a national strategy would allow for cultural customization by individual bands.

In contrast, Milne felt that the federal government has a role to play in education, but the delivery of education services needs to be local and band-specific due to the unique needs of the respective students/communities. Anderson also thought it difficult to deliver education services under one piece of legislation; he instead argued the merits of school districts. According to Anderson, school districts would allow for First Nations
to pool revenue to support schools, at the same time adding value and efficiency. However, Anderson did note that school districts cannot be forced upon all bands and that band chiefs still required a vote in matters. Fleming disagreed with this approach. He asserted that school districts would be the worst option for the administration of ODE. Instead, he advocated for pilot projects to be used.

**Cost**

Participants had mixed conclusions on the cost-effectiveness of ODE programming. Some agreed that ODE programs are cheaper to administer than other education delivery models. For example, Anderson concluded that ODE programming can be delivered for relatively similar cost per student as would classroom delivery in an urban area. However, other participants concluded that these cost savings may not be realized. Barbour stated that while ODE programs seem more cost effective on the surface, this is due a lack of investment in necessary support measures. Conversely, some participants discussed how ODE can be more expensive than classroom instruction. Milne acknowledged that quality programming is expensive. Winkelmans, Steeves, and Carbol agreed that content development for ODE is expensive. However, Steeves advocated that even if culturally-relevant content is expensive, the investment is worthwhile.

**Funding**

All participants acknowledged that the current funding models for First Nations education on reserve need to be fixed and more money is needed. For example, Carbol noted that K-12 ODE programming is underfunded and that the current models do not reflect the cost of offering programming. In respect to ODE funding, participants had varying conclusions on funding for First Nations ODE. Barbour stated that the current model of funding through the use of Full-Time Equivalents is adequate. He added that creating a pool of funding, through some form of financial contributions from First Nations, would help guarantee that all First Nations are provided with connectivity for the purposes of education.

In contrast, Anderson argued that the current regulations and funding models are outdated and that ministries of education only look at education from the perspective of the traditional school model. Anderson instead advocates for First Nations to be
provided with what he described as “play money” that comes directly from INAC. Based on Anderson’s suggestion, this money would be earmarked for First Nations to achieve certain goals, as well as measure the progress towards realizing these goals. Fleming simply concluded that funding for ODE needed to be fixed.

**Teachers**

Many participants stated that teachers are ill-prepared to teach First Nation students, undertake ODE programming, or both. Anderson identified that teachers are not prepared or have very little experience in teaching through ODE or teaching First Nation students. Anderson added that teacher training programs train teachers to teach only in a physical classroom setting. Fleming added that there is lack of training opportunities for teachers using an ODE model. Milne stated that most teachers hired to work in remote communities are generalists and lack teaching experience.

Though the participants agreed teacher preparedness is lacking, not all participants agreed that teacher training was a key issue to resolve this issue. For example, Milne stated that training is a key issue as teachers are poorly prepared to teach in either a First Nation or ODE environment. However, Anderson disagreed, stating that teachers who are not familiar with ODE programming will soon be considered out-of-date with regard to their professional competencies; job security will be a motivator for teachers to seek professional development opportunities. Milne, Fleming, and Carbol advocated for mentorship programs in order to train teachers for teaching ODE to First Nation students.
Policy Options

Based on the aforementioned government commitments and investments towards broadband connectivity in rural Canada, as well as the infrastructure being installed by First Nation community-based telecommunications organizations, this study assumes that the issue of broadband access is being resolved. Instead, this study examines which model of ODE programming is optimal for First Nations to use in order to implement ODE programs in their communities and provide their students with access to education services online.

This chapter presents three policy options. Though other policy options may exist, these three options are informed by the results of the analysis conducted. These options align with the complexities of First Nation education, such as heterogeneity among First Nations and the principle of FNCFNE. As has been identified, successful First Nation ODE programs exist across Canada and the proposed options should capitalize on them.

Policy Option 1: Status Quo – Individual School Delivery

The status quo implies that individual First Nations, or First Nation education authorities, continue to develop and deliver ODE programming on their own. This requires individual First Nations to acquire or develop education (i.e. curriculum, learning materials) and program resources (e.g. digital hardware, software) on their own. First Nations would also be required to recruit their own teachers and support staff, as well as apply for additional INAC funding (if required) on their own. This option requires no policy change.

Policy Option 2: Tuition/Service Agreements

Tuition/service agreements are a common practice across the country to allow First Nation students to receive education services from provincially- or independently-operated schools. Provinces have agreements with individual First Nations to recover the costs of First Nation students attending school off-reserve. These costs are covered by the core funding that band councils or educational authorities receive from INAC for instructional services.
An example of these agreements is local education agreements (LEAs). This model is currently used in British Columbia to assist in delivering educational services to interested First Nations. A LEA is an agreement between one or more First Nations and a provincial school board. The purpose of these agreements is to allow First Nations or an organization representing First Nations, such as the First Nations Education Steering Committee (FNESC), to purchase educational services from participating provincial or independent schools (First Nations Education Steering Committee, n.d.).

If being used for the purposes of ODE, the agreement would set the rate for services being used. It would allow First Nations to provide their student with access to ODE programming without being responsible for the administration, operation, and maintenance of the programming as the service would be delivered by the partnering school board, not the students’ home community. The participating First Nation would mainly be responsible for the ODE transfers paid to the partnering school board. This model would provide scale economies and probably allow First Nations to receive ODE programming at a lower cost relative to the cost of implementing the program on their own.

This option may require a policy change and implementation may require renegotiation of current education partnership agreements and other considerations, such as changes in provincial regulations.

**Policy Option 3: Aggregated Co-Delivery**

This option suggests that a group of First Nations, ideally 12 or more (Richards and Scott, 2009: 69), enter into some form of partnership to deliver the education services to all relevant schools. There are numerous examples, such as Wahsa and KiHS, which show that co-delivery of programs among First Nations is a feasible “best practice”.

Co-delivery allows for greater scale economies, or “strength in numbers”, compared to delivery by individual First Nations. For example, instead of having to recruit teachers or procure education and technical resources on their own, participating First Nations could share the burden of administering and operating a co-delivered program. This model would potentially further reduce the individual cost to each First
Nation by various activities: purchasing resources wholesale (i.e. hardware, software), reducing duplication of resources, and co-developing curriculum.

There are a number of ways in which this policy option could be implemented. A potential model to emulate is a school board-like entity, such as the recent agreement signed by MFNERC (Manitoba First Nation Education Resource Centre, 2016), or an education (sectoral self-government) agreement, like the one just signed between INAC and the Anishinabek Nation (Canada, 2017b). Interested First Nations and First Nation education authorities could also enter into more informal arrangements, allowing for community autonomy while still allowing for benefits of co-delivery to be realized by communities.

This option would require no new policy change at the federal government level. However, this option may require a policy change amongst First Nations and greater willingness to enter into agreements with one another. It will require INAC to enter into agreements with the participating First Nations.
Analysis of Policy Options

Analysis Criteria and Measures

This chapter provides an overview and description of the criteria and measures used to evaluate the aforementioned policy options. Each criterion will be defined and associated with one or more measures (see Table 6).
Table 6: Criteria and Measures for Policy Evaluation

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Definition</th>
<th>Measures</th>
<th>Measures Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Nation Leadership Acceptance</td>
<td>This assesses the probability of acceptance of a policy option by First Nation leadership, especially on the level of self-determination the policy allows each First Nation in administering ODE.</td>
<td>Will the policy be accepted by First Nation leadership?</td>
<td>Evaluation Measures and Weights</td>
</tr>
<tr>
<td>Change in Uptake</td>
<td>This assesses the policy’s ability to increase the number of potential students enrolled in ODE programming in the short and long terms.</td>
<td>Will the policy increase the uptake of students enrolled in ODE in the short term?</td>
<td></td>
</tr>
<tr>
<td>Minimizing Institutional Barriers</td>
<td>This assesses how effective the policy is in reducing institutional barriers impeding First Nations in the implementation of ODE programming.</td>
<td>Does the policy reduce the number of barriers that would impede the implementation of ODE programming for First Nations?</td>
<td></td>
</tr>
<tr>
<td>Horizontal Equity among First Nations</td>
<td>This assesses whether the policy allows for all First Nations to access INAC programming and funding equally.</td>
<td>Does the policy allow all First Nations to access INAC programming equitably?</td>
<td></td>
</tr>
<tr>
<td>Cost Effectiveness</td>
<td>This assesses the cost effectiveness of the ODE program on a per student or per course basis.</td>
<td>How cost effective is the policy on a per student basis?</td>
<td></td>
</tr>
</tbody>
</table>

Evaluation Measures and Weights

The following section evaluates the policy options against the aforementioned criteria and measures. This evaluation supports the subsequent recommendation on which policy option best leverages funding for rural and remote First Nation communities looking to install or upgrade ODE programming. The evaluation ranks each policy option by measuring how well it scores against each criterion.
To assess the trade-offs among options, each option was given a rating of high, medium, and low with a corresponding numerical score; a rating of high equals a score of 2, a rating of medium a score of 1, and a low rating a score of 0. The maximum score that an option can receive in either the short or long term is 10. Table 7 illustrates the measures that will be used to evaluate the policy options.

**Table 7: Legend of Evaluation Measures**

<table>
<thead>
<tr>
<th>Criteria</th>
<th>High (2)</th>
<th>Medium (1)</th>
<th>Low (0)</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Nations Leadership Acceptance</td>
<td>High Acceptance</td>
<td>Moderate/Neutral Acceptance</td>
<td>Poor/No Acceptance</td>
</tr>
<tr>
<td>Change in Uptake</td>
<td>High Uptake</td>
<td>Moderate Uptake</td>
<td>Poor/Negative Uptake</td>
</tr>
<tr>
<td>Minimizing Institutional Barriers</td>
<td>No Barriers</td>
<td>Limited Barriers</td>
<td>Numerous Barriers</td>
</tr>
<tr>
<td>Horizontal Equity among First Nations</td>
<td>High Equity</td>
<td>Moderate Equity</td>
<td>No Equity</td>
</tr>
<tr>
<td>Cost Effectiveness</td>
<td>High Cost Effectiveness</td>
<td>Moderate Cost Effectiveness</td>
<td>Low/No Cost Effectiveness</td>
</tr>
</tbody>
</table>

Tables 8 through 12 will individually evaluate each option and also provide an explanation of this measurement.

**First Nations Leadership Acceptance**

**Table 8: First Nations Leadership Acceptance Summary**

<table>
<thead>
<tr>
<th>Will the policy be accepted by First Nation leadership?</th>
<th>Option 1</th>
<th>Option 2</th>
<th>Option 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High (2)</td>
<td>Low (0)</td>
<td>Medium (1)</td>
</tr>
</tbody>
</table>

**Status Quo – Individual School Delivery**

This option has been ranked high due to its alignment with the principle of FNCFNE. This principle is highly important to First Nations leadership, and this option aligns closest with it. Under this option, each First Nation would continue to have the independence and autonomy to administer its education services. It can be argued that this option would be preferred by First Nations leadership. This was confirmed through the literature review and interviews.
Tuition/Service agreements

In contrast to option one, this option does not align closely with the principle of FNCFNE, and is ranked low. Individual First Nations would not have the same independence and self-determination over administration as they would under option 1. Instead, First Nations would be required to work in collaboration with the partnering school district. Though there are examples of First Nations entering into agreements with provincial school districts and independent schools, First Nations leadership would likely not view this option favorably based on this criterion.

Aggregated Co-Delivery

This option was given a medium ranking. Under this model, individual First Nations will not have as much autonomy over their education services as with option 1, though partnering First Nations are likely to hold similar goals for their education services (i.e. Indigenous curriculum and learning methodology such as language and culture and land-based education). This measure of acceptance is exemplified by the current trend of aggregation identified in the literature. Many First Nations are moving towards aggregating their delivery of education services (e.g. Wahsha, KiHS, and MFNERC); however, many First Nations will choose not to do so.
Change in Uptake

Table 9: Change in Uptake Summary

<table>
<thead>
<tr>
<th></th>
<th>Option 1</th>
<th>Option 2</th>
<th>Option 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Will the policy increase the uptake of students enrolled in ODE in the <strong>short term</strong>?</td>
<td>Medium (1)</td>
<td>High (2)</td>
<td>Low (0)</td>
</tr>
<tr>
<td>Will the policy increase the uptake of students enrolled in ODE in the <strong>long term</strong>?</td>
<td>Low (0)</td>
<td>Medium (1)</td>
<td>High (2)</td>
</tr>
</tbody>
</table>

**Status Quo – Individual School Delivery**

In the short term, this option has been ranked as medium. This is due to the small population sizes of many First Nation communities and the lack of scale economies. These constraints make it difficult for small First Nations to implement ODE programming and this limits the uptake. Additionally, individual First Nations will be burdened with the task of administrating and operating programs alone (i.e. recruit certified teachers who have a background in teaching ODE, procure fundamental education resources).

In the long term, this option is ranked low. This option is unable to develop scale economies, which will limit its ability to enroll students.

**Tuition/Service agreements**

In the short term, this option would increase the uptake of students in ODE programming the most. First Nations could probably quickly sign a tuition agreement with a collaborating public or independent school. As this option requires very little set-up, students will be able to enter into an ODE program easily with minimal barriers.

However, in the long term, this option will be less likely to increase uptake of students into ODE. This assumes continuation of the aforementioned trend of First Nations entering into formal partnerships that create education authorities to deliver education services. This means that First Nations will likely move away from the Tuition/Service Agreements model. Additionally, First Nations will likely want to align with the principle of FNCFNE, which will further push interested communities away from this model.
**Aggregated Co-Delivery**

This option must overcome major barriers in the short term which limit the increase in student ODE enrollment. For example, First Nations will be required to formalize an agreement or organization in order to deliver services under this model. This will require time, which is why this option is ranked low for the short term.

However, in the long term, this option is ranked high due to the aforementioned trend of aggregation. This study identified a number of examples of First Nations currently delivering ODE programming under an aggregate organization or moving towards doing so. If this trend continues, more First Nations will aggregate delivery of ODE programming, which will allow for more students to be enrolled.

**Minimizing Institutional Barriers**

**Table 10: Minimizing Institutional Barriers Summary**

<table>
<thead>
<tr>
<th>Does the policy reduce the number of barriers that would impede the implementation of ODE programming for First Nations?</th>
<th>Option 1</th>
<th>Option 2</th>
<th>Option 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low (0)</td>
<td>High (2)</td>
<td>Medium (1)</td>
<td></td>
</tr>
</tbody>
</table>

**Status Quo – Individual School Delivery**

As described in Table 11, this option is ranked low. This option does not address the institutional barriers that impede the implementation of ODE programming. As stated previously, many First Nations yield small populations. Coupled with the burden of self-administering education services and lack of scale economies, many of these First Nations will have difficulty implementing ODE programming on their own.

**Tuition/Service agreements**

In contrast to option 1, this option does minimize the institutional barriers of implementing ODE programming. This option allows First Nations to realize scale economies by including their students into partnering schools with larger student bodies, as well as collaborating and sharing the responsibility of administering education services with partnering schools. Minimizing these major barriers will more likely allow First Nations to implement ODE programming with ease.
**Aggregated Co-Delivery**

This option does reduce some of the barriers that would impede the implementation of ODE programming. Though this option does reduce the burden of administration by distributing responsibility across all participating First Nations, this option does not eliminate that burden as effectively as option 2 does. For this reason, this option has been ranked medium.

**Horizontal Equity among First Nations**

Table 11: Horizontal Equity among First Nations Summary

<table>
<thead>
<tr>
<th>Does the policy allow all First Nations to access INAC programming equitably?</th>
<th>Option 1</th>
<th>Option 2</th>
<th>Option 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>High (2)</td>
<td>Medium (1)</td>
<td>Medium (1)</td>
<td></td>
</tr>
</tbody>
</table>

**Status Quo – Individual School Delivery**

This option presents no distinctions between First Nations. Accordingly, this option is ranked high. Unlike the other options, all individual First Nations will be able, in terms of policy, to implement this option without any impact on one another or need to collaborate with a provincial school system.

**Tuition/Service agreements**

There are federal programs to incentivize First Nations to partner with provincial schools. As not all First Nations will likely choose to partner with provincial schools, these programs are discriminating against those First Nations that insist on independence from provincial school systems. Therefore, this option has been ranked as medium.

**Aggregated Co-Delivery**

Similar to option 2, INAC has incentives available for First Nations to partner together to deliver programming. Accordingly, this option has also been ranked medium. The available funding incentivizes the development of “winners” and “losers” based on the willingness of a First Nation to aggregate or not with other First Nations. Therefore, this option creates penalties for those First Nations that choose not to aggregate their service delivery.
Cost Effectiveness

Table 12: Cost Effectiveness Summary

<table>
<thead>
<tr>
<th>How cost effective is the policy on a per student basis?</th>
<th>Option 1</th>
<th>Option 2</th>
<th>Option 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low (0)</td>
<td>Medium (1)</td>
<td>Medium (1)</td>
<td></td>
</tr>
</tbody>
</table>

**Status Quo – Individual School Delivery**

As described in Table 13, this option has been ranked as low. This is because individual First Nations, especially those with small student bodies, will not be able to realize scale economies. Without being able to realize the cost savings of scale economies, individual First Nations will provide ODE services at a higher cost per student.

**Tuition/Service agreements**

This option has been ranked as medium due to its ability to allow First Nations to realize scale economies through partnering with provincial or independent schools which provide First Nations access to already established ODE programming. These scale economies will likely allow First Nations to realize a lower per student cost. However, the tuition fees are set by a provincial funding formula, thus the fees being charged to First Nations may be set at a high level that does not allow reserves to realize the savings from scale economies.

**Aggregated Co-Delivery**

The implementation of this option will allow partnering First Nations to develop some scale economies, which will assist in reducing the per student rate for the operation of ODE programming. However, First Nations will still be required to fund all aspects of the program, which will likely lead to a higher per student cost than option 2. For that reasoning, this option has also been ranked as medium.

**Summary of Policy Analysis**

Table 13 provides a summary of the evaluation and provide a final score to each option.
<table>
<thead>
<tr>
<th>Criteria</th>
<th>Option 1</th>
<th>Option 2</th>
<th>Option 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Nation Leadership Acceptance</td>
<td>High (2)</td>
<td>Low (0)</td>
<td>Medium (1)</td>
</tr>
<tr>
<td>Change in Uptake</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Short Term</td>
<td>Medium (1)</td>
<td>High (2)</td>
<td>Low (0)</td>
</tr>
<tr>
<td>Long Term</td>
<td>Low (0)</td>
<td>Medium (1)</td>
<td>High (2)</td>
</tr>
<tr>
<td>Minimizing Institutional Barriers</td>
<td>Low (0)</td>
<td>High (2)</td>
<td>Medium (1)</td>
</tr>
<tr>
<td>Horizontal Equity among First Nations</td>
<td>High (2)</td>
<td>Medium (1)</td>
<td>Medium (1)</td>
</tr>
<tr>
<td>Cost Effectiveness</td>
<td>Low (0)</td>
<td>Medium (1)</td>
<td>Medium (1)</td>
</tr>
<tr>
<td><strong>Total Scores</strong></td>
<td><strong>Short Term</strong></td>
<td><strong>6</strong></td>
<td><strong>4</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Long Term</strong></td>
<td><strong>5</strong></td>
<td><strong>6</strong></td>
</tr>
</tbody>
</table>
**Recommendations**

Based on the analysis of the previous chapter, it is recommended that policy option 2: Tuition/Service Agreements be implemented in the short term, gradually moving to the implementation of policy option 3: Aggregated Co-Delivery in the medium to long term. In the short term, Option 2 will allow students to access ODE programming in a relatively expedited period of time, as identified by its scores for Change in Uptake and Minimizing Institutional Barriers.

Though option 2 is the most appropriate for short term implementation, option 3 is a better option for First Nations in the medium to long term. This is because option 3 better reflects the contemporary policy context related to First Nations education as it creates some scale economies and assures greater buy-in from First Nations leadership. Scale economies will also help the participating First Nations to provide secondary services that would be difficult to do with the current standalone model. Examples of these services include specialty course instruction and development of appropriate curriculum material (Richards and Scott, 2009: 69). There is already a trend of First Nations partnering to provide aggregated delivery of ODE services, which eases the implementation of option 3.

**Additional Considerations**

In addition to the evaluation of the policy options, there are a number of considerations that impact the feasibility of each option. Funding ODE programming was identified as the overarching theme of the interviews. The interviews focused either directly or indirectly on adequate funding as a fundamental requirement to provide high quality programming. For example, the requirements needed to offer high quality ODE (e.g. synchronous delivery, reliable access to the Internet) are expensive. However, the underfunding of First Nations education needs to be addressed as well. The issue of general underfunding of education was discussed in the interviews and was also identified in the academic literature. Increased funding and improved funding mechanisms are essential to the improvement of First Nations education, and more funding will help to guarantee the success of the chosen policy option.
Furthermore, a body of academic research has identified that some gender differences exist in the realm of education. A portion of this literature has examined the impacts gender has on participation and access to education services, specifically with online learning as well. An intersectional or gender-based analysis should be conducted to identify the impacts of the recommended policy option has on the various gender identities. This analysis will help add robustness to this study’s conclusions by identifying further analysis and consideration that should be made, if differences are found to exist.
Conclusions

The core conclusion of this study is that in the short term, First Nations should enter into tuition/service agreements with provincial schools, while gradually shifting in the long run to deliver ODE programming through aggregated education authorities. Additionally, this study also recognizes that more funding is required to assist in improving First Nations education.

However, it is evident that ODE is not the “silver bullet” for every First Nation to access educational services. ODE will only be successful for certain First Nations. For those First Nations interested, it is clear from the literature and interviews that ODE is the best practice for delivering education to students wanting to remain on-reserve. Additionally, the time for action regarding this policy is now, as emphasized by Anderson. Inaction will allow for the continued widening of the achievement and attainment gaps between First Nations and non-Indigenous Canadians, and the resources required to improved education program – specifically community elders - are limited or quickly disappearing.
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Statistics Canada. (n.d.) *Table 578-0001 - Aboriginal peoples survey, educational attainment and labour force status, by Aboriginal identity, age group and sex, population aged 15 years and over, Canada, provinces and territories, occasional (persons unless otherwise noted), CANSIM (database).* (accessed: September 25, 2016).


