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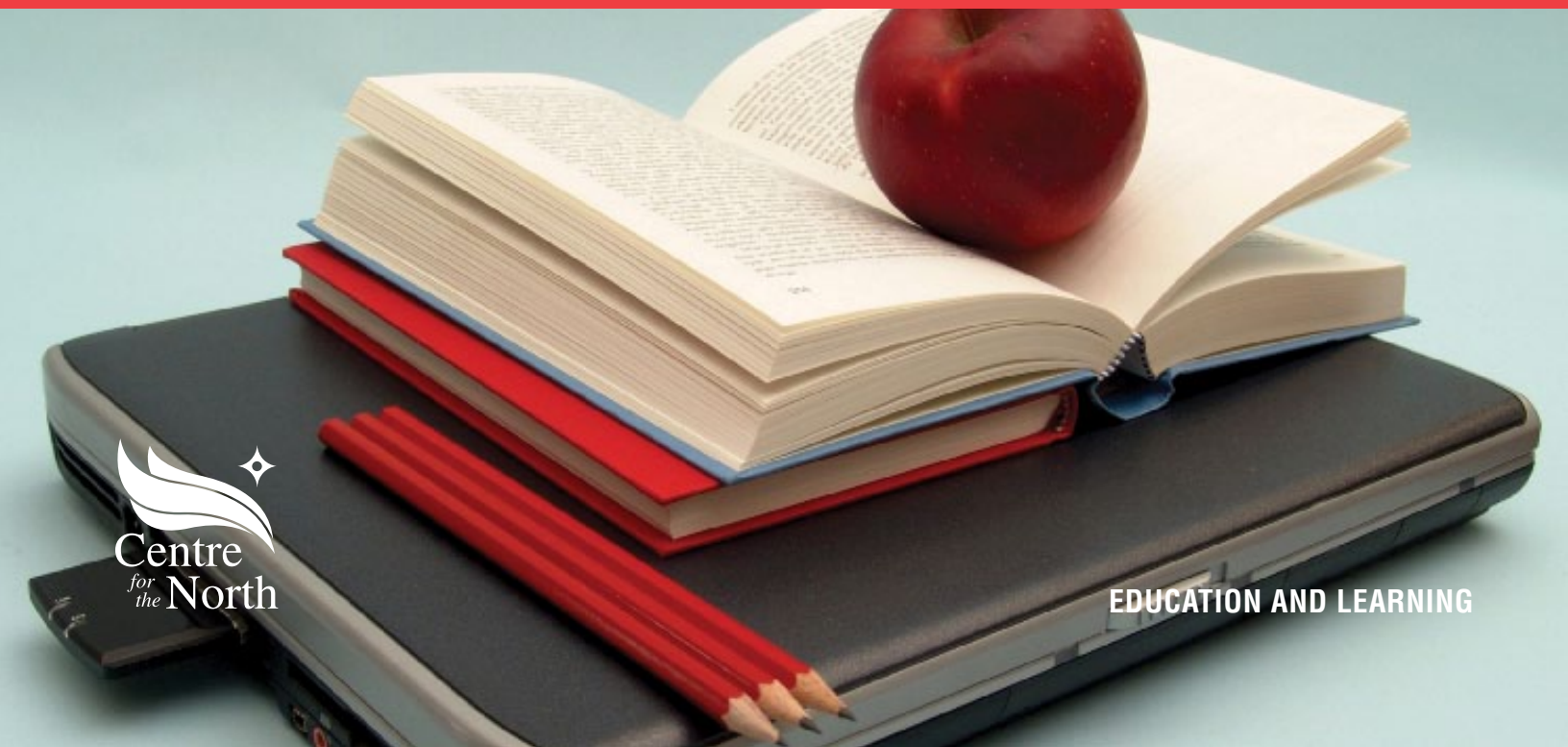
Report May 2010

Optimizing the Effectiveness of E-Learning for First Nations



Centre for the North

EDUCATION AND LEARNING

Optimizing the Effectiveness of E-Learning for First Nations
by *Ashley Sisco*

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Preface

The education gap between First Nations people living on a reserve and non-Aboriginal people in Canada is disconcerting. E-learning has the potential to help close this gap because it is designed to minimize or eliminate the barriers (geographical, cultural, socio-economic, and historical) to educational success that First Nations people living on a reserve face. Based on a brief literature review and 18 interviews, The Conference Board of Canada found that optimizing the effectiveness of e-learning in improving the educational outcomes of First Nations people living on a reserve requires the:

- better engagement of First Nations in the development and implementation of e-learning programs;
- development and implementation of an e-learning strategy;
- an increase in funding for e-learning programs and the supporting software licensing, technical infrastructure, equipment, and technicians;
- extension of funding terms for e-learning programs;
- assessment of community needs and educational outcomes;
- building of tools and capacity;
- development and implementation of a strategy to improve teacher engagement;
- consideration of generational differences among students;
- promotion of student commitment;
- expansion and an increase in the flexibility of programs, with holistic program delivery; and
- better integration of e-learning under the overall Indian and Northern Affairs Canada education umbrella.

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Acknowledgements

The Conference Board of Canada would like to thank research participants who were interviewed for this report. (Please see a list of research participants in Appendix A.)

The Conference Board would also like to thank Indian and Northern Affairs Canada for providing financial support for this research. A special thank you to Lillian Beaudoin, Suzanne Lebeau, and Christine Soulière. Also, thank you to colleagues Louise Chenier who assisted with some of the analysis and Meghan Sullivan who conducted the literature review for this report. And, thank you to colleagues Alison Campbell and Peter Wilson, as well as external reviewers Beverly M. Sembsmoen and Monique Bourgeois. Their advice and review contributed greatly to this report.

The views expressed in this report are the author's and do not necessarily reflect the opinions of Indian and Northern Affairs Canada or of the federal government.

Methodology

Responsibility for the research methodology lies with The Conference Board of Canada. The methodology incorporates Participatory Action Research (PAR) and is guided by the principles of ownership, access, control, and possession (OCAP). We adhered to the overarching principle of respect for the Aboriginal participants and communities that took part in our research.

Research methods for this report included a brief literature review and 18 interviews with representatives of First Nations SchoolNet regional management organizations (RMOs), principals, and other administrators and users of e-learning in First Nations communities.

EXECUTIVE SUMMARY

Optimizing the Effectiveness of E-Learning for First Nations

At a Glance

- E-learning has the potential to help close the education gap between First Nations people living on a reserve and non-Aboriginal people in Canada by minimizing the barriers to educational success that First Nations people living on a reserve face.
- First Nations students living on a reserve face a number of barriers to educational success that place them at a disadvantage.
- Lower educational outcomes among First Nations people are linked with lower employment rates and income levels, as well as a host of socio-economic issues.
- The education gap is set to widen as the First Nations population grows and its younger cohorts continue to show little improvement.
- E-learning has the potential to help achieve education parity—when education levels are matched, the employment gap closes.

Based on a brief literature review and interviews with e-learning administrators and users, The Conference Board of Canada set out to examine how e-learning affects First Nations educational outcomes and what is required to achieve successful results. The results showed that e-learning[1] has the potential to help close the education gap by minimizing the barriers to educational success that First Nations people living on a reserve face.

The education gap between First Nations people living on a reserve and non-Aboriginal people in Canada is disconcerting. More than twice as many non-Aboriginal Canadians have a high school degree than do First Nations people living on a reserve and more than five times as many have a university degree.[2] Further, this gap is widening as a greater number of non-Aboriginal Canadians achieve their high school diplomas and university degrees while the attainment rates for First Nations people living on a reserve have not changed.[3]

Indeed, First Nations students living on a reserve are at a considerable disadvantage when compared with their non-Aboriginal counterparts. In a 2004 Indian and Northern Affairs Canada (INAC) study cited by Mendelson, First Nations youth indicated that they thought that on-reserve schools lagged behind public

1 For the purpose of this report, e-learning (or learning technologies) refers to ". . . the delivery of learning, skills and knowledge through information and communications technologies (ICTs) [within a structured environment to deliver a course or a component of a course]." Murray, *E-Learning for the Workplace*, p. 5. (See Appendix B for a glossary of terms used in this report.)

2 Canadian Council on Learning, *The State of Aboriginal Learning in Canada*, pp. 38, 46.

3 Mendelson, *Improving Education on Reserves*, p. 1.

schools by about two grades.[4] Mendelson also points to an evaluation of on-reserve schools conducted by the Departmental Internal Audit, in which few First Nations educational administrators and departmental officials with INAC believed there is "transferability between grades for First Nations schools and public schools."[5] This might be due, in part, to the high degree of jurisdictional overlap among federal, provincial, and First Nations governments, as well as the lack of accountability with respect to dollars spent on First Nations education. Despite the fact that First Nations people require more funding to address geographical barriers and socio-economic needs,[6] they receive between $1,600 and $2,000 less than non-Aboriginal students on a per capita basis.[7]

E-learning has the potential to help achieve education parity by providing First Nations students with equal access to education by minimizing distance as a barrier.

Further, for the 40 per cent[8] of the First Nations population living on a reserve, access to education is limited. Many First Nations communities do not have high schools or libraries, and residents do not have access to computers. Additionally, residential school survivors tend to demonstrate educational blocks and exhibit a host of socio-economic problems that indirectly affect educational outcomes.[9]

The impacts of lower educational outcomes among First Nations people in Canada are a double-edged sword. The number of unemployed First Nations people living on a reserve is more than double the number of unemployed non-Aboriginal people in Canada (48 per cent, compared with 18 per cent),[10] while the average income of First Nations living on a reserve is half that of the non-Aboriginal population ($15,958, compared with $36,000).[11] This is, in most part, attributed to lower educational outcomes,[12] which, in turn, are linked with poor socio-economic indicators. For example, Aboriginal people represent only 3 per cent of the Canadian population but 22 per cent of all "admissions to custody;"[13] the First Nations population living on a reserve receives about $1.3 billion annually for social programs from INAC;[14] and suicide accounts for one-third of all deaths among Aboriginal youth living on a reserve (the rate is five to six times higher than that of the non-Aboriginal population).[15] These negative impacts will only worsen as the First Nations population grows (it is projected to reach 971,200 by 2017)[16] if its younger cohorts continue to show little improvement.[17]

When education levels are matched, the employment gap closes.[18] While this does not prove a cause and effect relationship between educational attainment and employment, it does signify a strong positive correlation between the two.

E-learning has the potential to help achieve this education parity. It helps to provide First Nations students with equal access to education by minimizing distance as a barrier. It allows students to access learning opportunities from their communities and homes by sharing connectivity,

4 Ibid., pp. 2, 6.

5 Mendelson, *Improving Education on Reserves*, p. 6.

6 Ibid.

7 Ibid.

8 Statistics Canada, "Aboriginal Peoples in Canada in 2006."

9 Native Women's Association of Canada, *Community Action Fact Sheet*.

10 Gionet, *First Nations People*.

11 Canadian Council on Learning, *The State of Aboriginal Learning in Canada*, p. 45.

12 Ibid.

13 Statistics Canada, "Incarceration of Aboriginal People."

14 Indian and Northern Affairs Canada, *Evaluation of the Income Assistance Program*. The programs are: Income Assistance (IA), Assisted Living (AL), the National Child Benefit Reinvestment (NCBR) Initiative, First Nations Child and Family Services (FNCFS), and the Family Violence Prevention Program (FVPP).

15 Kirmayer, et al., *Suicide Among Aboriginal People*, p. xv.

16 Statistics Canada, "Canada's Aboriginal Population in 2017." This is according to the medium-growth projection.

17 Richards, *Closing the Aboriginal/Non-Aboriginal Education Gaps*, p. 6.

18 Thirty-four per cent of First Nations people with a high school degree are unemployed compared with 26 percent of high school educated non-Aboriginal people; 24 per cent of First Nations people with a university degree are unemployed compared with 13 per cent of university education non-Aboriginal people in Canada. Canadian Council on Learning, *The State of Aboriginal Learning in Canada*, p. 51.

technical equipment, technical support, and teachers, as well as resources for students with special needs. The participants and literature suggest that accessing learning opportunities from their communities and homes improves student engagement and educational attainment rates, computer skills, written communication skills, and understanding of the subject matter.

However, participants noted that the effectiveness of e-learning depends on the level of support students receive, the degree to which it is integrated into the daily curriculum, and which media are used. The report makes 11 recommendations to optimize the effectiveness of e-learning programs in improving on–reserve First Nations educational outcomes:[19]

1. Better engage First Nations in the development and implementation of e-learning programs.
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 programs.
5. Assess community needs and educational outcomes.
6. Build tools and capacity.
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 programs with holistic program delivery.
11. Better integrate e-learning under the overall INAC education umbrella.

19 This is not an exhaustive list, as conducting a rigorous analysis was outside of the scope of this project.

CHAPTER 1

Introduction and Overview

Chapter Summary

- The education gap between First Nations people living on a reserve and non-Aboriginal Canadians is large and growing quickly.
- First Nations students living on a reserve face a number of barriers to educational success related to jurisdictional and funding issues, as well as to a number geographical, cultural, historical, and socio-economic factors.
- Poor educational outcomes are a double-edged sword—resulting in employment, income and, in turn, local economic development deficits, as well as social security costs.
- Educational outcomes of First Nations people living on a reserve are worsening, in relative terms.
- Investing in e-learning might help to improve the employment parity between First Nations people living on a reserve and non-Aboriginal Canadians.

The state of education on reserves and the consequential education gap between First Nations people living on a reserve and non-Aboriginal people in Canada is a cause for national concern. Indeed, Mendelson cites a 2004 public opinion study that found that Canadians rate education as the most important issue related to Aboriginal youth and that Canada's current approach is simply not working.[1] The education gap is inextricably linked with the disparity in socio-economic conditions between these two groups. Canada is a First World country; however, the people indigenous to it live in Third World conditions and ranked 63rd on the United Nations' Human Development Index, according to an INAC study cited by the Assembly of First Nations.[2]

A 2004 study that found that Canadians rate education as the most important issue related to Aboriginal youth.

Delivering education to rural, remote, and isolated communities with unique needs, many of which suffer trauma related to residential school experiences, is challenging. It requires an approach that can overcome geographical, cultural, socio-economic, and historical barriers. E-learning[3] has the potential to help address these challenges and close the education gap between First Nations people living on a reserve and non-Aboriginal students in Canada. (See Appendix B for a glossary of terms used in this report.) However, its

1 Mendelson, *Improving Education on Reserves*, p. 2.

2 Assembly of First Nations, "Fact Sheet."

3 For the purpose of this report, e-learning (or learning technologies) refers to ". . . the delivery of learning, skills and knowledge through information and communications technologies (ICTs) [within a structured environment to deliver a course or a component of a course]." Murray, *E-Learning for the Workplace*, p. 5. (See Appendix B for a glossary of terms used in this report.)

effectiveness in improving educational outcomes for First Nations people living on a reserve depends on a number of factors related to how it is administered, supported, and used.

This report synthesizes the results of 18 interviews—conducted with representatives of regional management organizations (RMOs) of the SchoolNet e-learning program, as well as with teachers, principals, and other e-learning administrators and users—on how e-learning affects First Nations educational outcomes, and what is required to achieve successful results.[4] (Please see the interview guide in Appendix C.) A non-exhaustive literature review has also been incorporated to illuminate findings.

High school attainment rates of First Nations people living on a reserve have not improvedover the past decade, remaining at approximately 40 per cent.

THE GROWING EDUCATION GAP

As a recent Canadian Council on Learning report highlights, there is a need to redefine the way in which First Nations (as well as Inuit and Métis) educational outcomes are measured.[5] However, the normative educational outcomes for First Nations people in Canada (defined by current standards of measurement) are much lower than the outcomes for their non-Aboriginal counterparts. In 2006, only 39 per cent of First Nations people living on a reserve had a high school degree and only 4 per cent had a university degree, compared with 87 and 23 per cent (respectively) of the non-Aboriginal population.[6] As a 2005 Conference Board case study states, "[d]espite recent improvements in educational attainment levels by First Nations learners in Canada, a substantial gap relative to non-First Nations peers still remains. Aboriginal learners continue to be the most disadvantaged segment of the Canadian school population."[7] High school attainment rates of First Nations people living on a reserve have not improved over the past decade, remaining at approximately 40 per cent.[8] In fact, in relative terms, they are worsening:

> During the 1996 to 2006 period, the number of 20- to 24-year-olds in Canada as a whole with less than high school graduation decreased from 19 percent to 14 percent. The high school completion gap among the 20- to 24-year old age cohort on reserve has therefore *increased* in the last decade by five percentage points.[9]

THE PERFECT STORM: A STRONGHOLD OF BARRIERS SUPPORTING THE GAP

There are many factors that contribute to this education gap; among the foremost are jurisdictional and funding issues. The roles and responsibilities of federal, provincial, and First Nations governments with respect to education are unclear, due primarily to legislative overlap. The *Constitution Act* holds that "Indians and land reserved for Indians" are federal jurisdictions and education is a provincial responsibility.[10] This has resulted in a "two-party debate" over jurisdiction of First Nations education.

Adding to this "two-party debate," is the inherent right of First Nations to self-government, including education.[11] First Nations can exercise this right

4 The objective of this report is to respond to the third recommendation put forth in Indian and Northern Affairs Canada's *Evaluation of the First Nations SchoolNet*, p. iv: "Integrate First Nations SchoolNet into the overarching education program within INAC to maximize the impact of ICT to facilitate learning." The budget and timeline did not permit the inclusion of a representative sample of research participants. Subjects were contacted by e-mail and phone and interviews were conducted by phone. Data underwent qualitative analysis; the small sample size would not allow for rigorous quantitative analysis.

5 Canadian Council on Learning, *The State of Aboriginal Learning in Canada*, p. 6.

6 Ibid., pp. 38, 46, 51.

7 Watt, *The Sunchild E-Learning Community Model*, p. 1.

8 Mendelson, *Improving Education on Reserves*, p. 1.

9 Ibid.

10 Williams, *Building Strong Communities*, p. 18.

11 Ibid., p. 19.

and pass laws pertaining to education unilaterally or through treaties.[12] However, in both cases, success has been limited.

When a unilateral approach has been taken, federal and provincial law has superseded this inherent right or forced it into legal frameworks with which it is incompatible. Sections 114 through 122 of the *Indian Act* "permit the Minister to enter into agreements with provinces or religious organizations [but not with First Nations organizations] to run First Nations schools" and makes state imposed school attendance mandatory for First Nations children.[13] The *Indian Act* makes no reference to "the rights of parents to obtain an adequate education for their children."[14] The British Columbia provincial government's *School Act* was amended in 1989 to "enable First Nations to enter into Local Education Agreements with school boards"; however, there has been little success in negotiating these agreements let alone realizing positive impacts from them.[15]

In 2004, Indian and Northern Affairs Canada established an education branch for First Nation people living on a reserve, but it is not a source of educational support.

When First Nations have attempted to exercise this inherent right via treaty, other barriers have emerged. For example, through the James Bay and Northern Quebec Agreement, the Cree established their own school board that falls under provincial jurisdiction.[16] However, they lack the resources to fully exercise the powers they were granted "to ensure that education delivered is culturally appropriate for Cree learners."[17] And, the yet-to-be implemented self-government agreements of the Yukon First Nations, which "contain provisions allowing them to exercise jurisdiction over education," are too vague.[18]

Further confounding jurisdiction of First Nations education is the need for governments to fulfill legislative and treaty responsibilities, while at the same time devolving some of the ownership, control, access, and possession of education programs to First Nations.[19] Often, in pursuit of achieving this fine balance, governments fail to adequately address either need. For example, there is no national educational framework for First Nations people living on a reserve, and in 2004, INAC established an education branch. However, it "does not purport to be a source of educational support."[20]

First Nations people require more funding to address the additional high-cost factors that affect them.

First Nations education is both a federal and provincial fiduciary responsibility.[21] However, between the two governments and the resources leveraged by the communities, there appears to be too little funding to support a successful system. First Nations people require more funding to address additional high-cost factors that affect them, such as "isolated location, high levels of socio-economic need, and high proportions of special needs students in [their communities]."[22] However they receive less on a per capita basis (between $5,500 and $7,500), compared with non-Aboriginal students across

12 Williams, *Building Strong Communities*, p. 22.

13 Mendelson, *Improving Education on Reserves*, p. 3.

14 Ibid., p. 3.

15 Williams, *Building Strong Communities*, p. 19.

16 Ibid., pp. 33–34.

17 Ibid., p. 33.

18 Ibid., 34.

19 Mendelson, *Improving Education on Reserves*, pp. 3–4. Since 1974, Indian and Northern Affairs Canada has funded band-operated schools, paying for "K–adult learners on reserve and student support services such as transportation, counselling, accommodation and financial assistance; and school administration and evaluation. Funding is through several different types of agreements, with varying degrees of autonomy for First Nations."

20 Ibid.

21 Williams, *Building Strong Communities*, p. 27.

22 Mendelson, *Improving Education on Reserves*, p. 6.

Canada (between $6,800 and $8,400).[23] In fact, budgets for First Nations on-reserve education are set without consideration of provincial funding.[24] Further, funding has been allocated at a greater rate of growth for non-First Nations; whereas, on-reserve funding has been capped:

> Departmental funds for education have reportedly been capped at 2 per cent growth per year for the last several years. In the meantime, several provincial governments—including large provinces with substantial First Nations populations such as British Columbia, Alberta, and Ontario—have significantly increased their funding for provincial schools well beyond 2 percent. Therefore, if there had been comparability with provincial funding levels in the early 2000s, it is *impossible* that there would still be parity today. [25]

Yet, there is some evidence that the cost of closing the funding disparity would more than pay for itself. According to one study, investing a greater amount of funding in Aboriginal education could save Canada "$375 million each year . . . [in] . . . public sector costs":

> Assume that an extremely modest lifetime added cost to the public sector of $250,000 for every person who does not complete high school compared with those who do (given that those who do are also much more likely to go on and obtain a post-secondary degree or diploma). If there are roughly 10,000 potential on-reserve high school graduates each year, the current number graduating from high school would be roughly 4,000. If parity with the general population were to be reached, another 4,500 students would graduate each and every year from high school. But if only 1,500 more students eventually graduate each year from high school, the public sector savings just from that cohort would be about $375 million over their lifetime. Since this would apply to each cohort graduating, this is equivalent to an annualized savings of $375 million each year, more than paying for the public sector costs. In other words, just a little success will more than pay for the costs.[26]

While it might oversimplify the relationship between education and social issues—critics of human capital theory argue, with merit, that education is not the sole solution for, but one among many contributing factors, to improving social problems—this cost assessment suggests that the return on investing in Aboriginal education might outweigh the costs.

If there had been comparability with provincial funding levels in the early 2000s, it is impossible that there would still be parity today.

Undoubtedly, contributing to the funding disparity is a lack of accountability for allocation of funds. In 2004, the Auditor General stated: "At present, the Department does not know whether the funding provided to First Nations is sufficient to meet the education standards it has set and whether the results achieved, overall and by the different delivery mechanisms, are in line with the resources provided."[27]

Beyond the federal government's approach to First Nations education, common reasons cited for high school incompletion among First Nations people in Canada include "[a lack of] student engagement . . . [and] parental engagement and expectations, the school environment and [a lack of a] relevant curriculum."[28] Research participants for this study noted an even broader range of geographical, cultural, historical, and socio-economic contributing factors.

23 Mendelson, *Improving Education on Reserves*, p. 6.

24 Ibid., p. 7.

25 Ibid.

26 Ibid., p. 18.

27 Ibid., p. 7.

28 Canadian Council on Learning, *The State of Aboriginal Learning in Canada*, p. 40.

First, for the approximately 40 per cent of First Nations people in Canada living on a reserve,[29] access to education is generally limited. Many rural, remote, and isolated First Nations communities do not have on-site high schools. Some are too far from any schools to make commuting feasible and "[l]eaving home is a daunting challenge for 13- or 14-year-olds, especially those with little or no family history of academic success and sparse financial resources."[30] Lack of community and family support, as well as culture shock, contribute to high dropout rates among students who leave their communities to attend high school.[31] As well, research participants reported that most communities with schools have inadequate resources, especially when compared with their provincially run counterparts. For example, many First Nations communities lack a local library.[32] Further, "fewer First Nations homes have access to computers and the Internet than other Canadian households."[33] And, the schooling that is available often lacks First Nations content and fails to accommodate First Nations' traditional learning styles (or ways of knowing) and realities (such as a need for options to learn from the home or home community).

Lack of community and family support, as well as culture shock, contribute to high dropout rates among students that leave their communities to attend high school.

Second, a lack of trust in educational institutions is pervasive in many First Nations communities that experienced—and continue to experience—trauma associated with the residential school experience. As a result, many First Nations people continue to view education as "an instrument of oppression."[34] Loved ones, from whom students were separated, are also affected by the legacy of residential schools. For example, research participants noted that some First Nations students sense from family, friends, and/or community caregivers, a deep distrust in the education system. A lack of support from loved ones was mentioned as a particular risk factor for low school attendance and high dropout rates.[35]

The residential school experience has resulted in a host of socio-economic problems for survivors and intergenerational survivors, ranging from alcohol and drug abuse to low self-esteem and teen pregnancy, all of which have an apparent impact on educational outcomes.[36] However, there are more directly correlated impacts, which include "fear of personal growth" and "educational blocks—aversions to formal learning programs that seem 'too much like school,' fear of failure, self-sabotage, [and] psychologically based learning disabilities."[37]

The residential school experience has resulted in socio-economic problems for survivors.

THE DOUBLE-EDGED SWORD OF LOWER EDUCATIONAL OUTCOMES

The impacts of lower educational outcomes among First Nations people in Canada are a double-edged sword. They correlate with an employment, income, and, in turn, local economic development deficit in First Nations communities. In 2006, almost 48 per cent of First Nations people living on a reserve were unemployed,[38] compared with 18 per cent of the general Canadian population.[39] The income gap between First Nations people living on a reserve and Canadians at large was also stark: in 2005 the former had an average annual income of $15,958, compared with almost

29 Statistics Canada, "Aboriginal Peoples in Canada in 2006."

30 Canadian Council on Learning, "E-learning in Canada."

31 Ibid.

32 Indian and Northern Affairs Canada, *Evaluation of the First Nations SchoolNet Program*, p. 8.

33 Ibid.

34 Ibid.

35 Between approximately 1870 until 1996, there were more than 130 residential schools across Canada. "These government-funded, church-run schools were set up to eliminate parental involvement in the intellectual, cultural, and spiritual development of Aboriginal children." Truth and Reconciliation Canada, "About Us."

36 Native Women's Association of Canada, *Community Action Fact Sheet*.

37 Ibid.

38 Gionet, *First Nations People*.

39 Ibid.

$36,000—more than double—for the general Canadian population.[40] It is estimated that "at least half of this discrepancy can be directly attributed to educational attainment."[41]

Additionally, lower educational outcomes are linked with harsh socio-economic realities in First Nations communities, which ultimately cost Canada in dollars spent on social security. For example, Statistics Canada data indicate that lower educational attainment rates, as well as low income and poor housing conditions (both of which are also associated with low educational outcomes), contribute to the high Aboriginal incarceration rate. The rate represents 22 per cent of all "admissions to custody," even though Aboriginal people in Canada account for only 3 per cent of the population.[42] "Analysis based on available data for Saskatchewan and Alberta showed that young adults without a high school diploma and without a job had the highest rates of incarceration . . . [and] incarceration rates declined as the education and employment situation improved."[43] Further, "Indian and Northern Affairs Canada spends approximately $1.3 billion annually on social programs for First Nations individuals and families on reserve."[44]

Most critically, the Aboriginal Healing Foundation identifies "poor performance in school" as a risk factor for suicide among Aboriginal people in Canada.[45]

40 Canadian Council on Learning, *The State of Aboriginal Learning in Canada*, p. 45.

41 Ibid.

42 Statistics Canada, "Incarceration of Aboriginal People." "For instance, in 2007/2008, Aboriginal adults accounted for 17 per cent of adults admitted to remand, 18 per cent admitted to provincial and territorial custody, 16 per cent admitted to probation and 19 per cent admitted to a conditional sentence (Table 3)"; Perreault, *The Incarceration of Aboriginal People*.

43 Statistics Canada, "Incarceration Rates."

44 Indian and Northern Affairs Canada, *Evaluation of the Income Assistance Program*. The programs are: Income Assistance (IA), Assisted Living (AL), the National Child Benefit Reinvestment (NCBR) Initiative, First Nations Child and Family Services (FNCFS) and the Family Violence Prevention Program (FVPP).

45 Kirmayer, et al., *Suicide Among Aboriginal People*, p. xvi.

The suicide rate among First Nations people living on a reserve is about double that of the rate for the overall Canadian population.[46] Suicide is especially prominent among Aboriginal youth living on a reserve:

> [F]rom the ages of 10 to 29, Aboriginal youth on reserves are 5 to 6 times more likely to die of suicide than their peers in the general population. Over a third of all deaths among Aboriginal youth are attributable to suicide.[47]

Among the protective factors related to mental health in Aboriginal youth identified by the Foundation are: "future orientation, direction, and determination, positive attitudes toward school, good school performance, learning ability, and coping/problem-solving skills."[48]

The Aboriginal Healing Foundation identifies "poor performance in school" as a risk factor for suicide among Aboriginal people in Canada.

THE GROWING GAP, GROWING CONCERNS

If something is not done to change First Nations educational attainment rates, demographics imply that the negative impacts will only intensify—and rapidly.

The First Nations population in Canada is young and growing. Between 1996 and 2006, it "increased 29 per cent . . . 3.5 times more than the 8 per cent growth rate recorded by the non-Aboriginal population in Canada."[49] In 2006, there were 698,025 First Nations people in Canada, representing 2.2 per cent of the total Canadian

46 Ibid., p. xv.

47 Ibid., p. xv.

48 Ibid., p. 51.

49 Statistics Canada, "Aboriginal Peoples in Canada in 2006."

population.[50] This population is projected to grow at a rate of 1.9 per cent—to 971,200—by 2017.[51] The projected growth of the First Nations population combined with the fact that ". . . the increase in Aboriginal education levels among younger groups has been disappointingly small" suggests that there is "a widening in Aboriginal/non-Aboriginal gaps at all education levels."[52]

At the same time, First Nations educational attainment is—from a human capital perspective—becoming a national priority, with "Canada's labour shortage . . . expected to reach 950,000 workers by 2020."[53] "[L]abour productivity could be increased, and skills shortages met, by investments in education, skills and knowledge . . . among underemployed or unemployed segments of the workforce," such as First Nations people living on a reserve, almost half of whom are unemployed.[54] When education levels between First Nations people living on a reserve and non-Aboriginal people are matched, the employment gap closes substantially. The 30 percentage point difference in unemployment rates (48 per cent for First Nations people, compared with 18 per cent for non-Aboriginal people) is reduced to 8 percentage points (when only the high school educated among the two populations segments are compared) and 11 percentage points (when only those with university degrees are compared).[55]

Improving First Nations educational outcomes will be among the essential steps needed to prepare the First Nations workforce for employment opportunities arising from current and impending labour shortages. Indeed, "[o]ne of Canada's key challenges is to maintain a skilled and participative workforce in the face of an aging population. . . . First Nations are the youngest and fastest-growing segment of the population [which presents] . . . an opportunity for First Nations workers to significantly contribute to this productivity challenge."[56] Further, it will be paramount for Canada to address skill shortages in order to compete globally.[57] However, the extent of this labour crunch has also led companies to recruit Aboriginal high school students. This dissuades Aboriginal students from completing high school and, in turn, perpetuates skills shortages.[58]

Improving First Nations educational outcomes will be among the essential steps needed to prepare the First Nations workforce for employment opportunities.

Increasing First Nations educational attainment rates will also become more important with development, particularly in Canada's North, as companies seek to leverage local talent on traditional Aboriginal territories where natural resources are located. The legal duty to consult and accommodate First Nations (and other Aboriginal Peoples)—a precursor to conducting activities on or affecting land to which they have an asserted or established right—results in increased opportunity for employment in First Nations communities, whether due to provisions for local employment quotas that emerge out of impacts and benefits agreements or informal arrangements with industry.

50 Ibid. "There are 615 First Nations and 10 distinct First Nations language families in Canada."

51 Statistics Canada, "Canada's Aboriginal Population in 2017." This is according to the medium-growth projection.

52 Richards, *Closing the Aboriginal/Non-Aboriginal Education Gaps*, p. 6.

53 Murray, *E-Learning for the Workplace*, p. 4. Note that this estimate is from 2001.

54 Ibid.

55 Thirty-four per cent of First Nations with a high school degree are unemployed compared with 26 per cent of high school educated non-Aboriginal people; 24 per cent of First Nations with a university degree are unemployed compared with 13 per cent of university educated, non-Aboriginal people in Canada. The remaining, albeit smaller, employment gap between First Nations and non-First Nations (when education levels are matched) might be related to a host of other systemic issues, such as limited access to capital on reserve; remoteness of location, in some instances; socio-economic issues that emerge with trauma related to residential school experience; etc. Canadian Council on Learning, *The State of Aboriginal Learning in Canada*, p. 51.

56 Whiteduck, J., "Building the First Nations E-Community," p. 95.

57 Murray, *E-Learning for the Workplace*, p. 4.

58 Silvertown, Phone interview.

In particular, there will be a need to increase First Nations skills in information and communications technologies. "Technological advancements are changing workforce requirements. . . . Workers through globalization will be exposed to tasks that will necessitate the development of increased communication skills, problem solving, and working in teams."[59] The Carcross/Tagish First Nation has started to integrate this training into early childhood development in recognition that these skills are becoming essential for students at an earlier age.[60]

59 Quinney, "Learning for the 21st Century," p. 4.

60 Sembsmoen, Beverly, Implementation Official, Carcross/Tagish First Nation. Personal communication with Ashley Sisco, March 12, 2010.

E-LEARNING—ADDRESSING OLD PROBLEMS WITH NEW TECHNOLOGY

"E-learning may be an effective target for…invest[ing] in addressing skills shortages,"[61] especially because many of the skills shortages Canada faces "are related to information and communications technologies (ICTs)."[62] A 2001 Conference Board report found that "Canada is falling behind other countries because of its relatively poor innovation and productivity performance."[63] ICT—and e-learning specifically—is one means to provide education and training to rural, remote, and isolated First Nations communities that will address skills shortages and prepare youth "to fill the vacancies that Canada will face as the baby boomers retire."[64]

61 Murray, *E-Learning for the Workplace*, p. 4.

62 Ibid.

63 Ibid., p. 3.

64 Whiteduck, J., "Building the First Nations E-Community," p. 95.

CHAPTER 2

Toward Equal Access to Education and Improved Educational Outcomes

Chapter Summary

- E-learning provides an important step toward equal access to education for First Nations students by eliminating distance as a barrier to learning.
- Communities that use e-learning can share connectivity, technical equipment, technical support, and teachers, as well as resources for students with special needs.
- There is some indication that e-learning improves student engagement and educational attainment rates, computer skills, written communication skills, and understanding of subject matter.
- E-learning helps to improve socio-economic conditions in First Nations communities by promoting community learning.
- The effectiveness of e-learning depends on the level of support students receive, the degree to which it is integrated into the daily curriculum, and which media are used.

TOWARD EQUAL ACCESS TO EDUCATION

> [T]he consensus among First Nations students is that their schools are not in fact "comparable." The First Nations students' assessment [from an INAC study published in 2005] was that the on-reserve schools were in reality about two grades behind public schools, and similar assessments seem to be widely shared (although of course among the 550 on-reserve schools there are many that are excellent). . . . [O]f 140 First Nations educational administrators who responded, only about 18 percent believed that there was transferability between grades for First Nations schools and public schools. Of the 221 principals who replied, about 22 percent believed that transferability had been achieved. Remarkably, of the 25 departmental officials who replied, *none* believed that transferability had been achieved.[1]

Research participants reported that, at its core, what e-learning provides is an important step toward equal access to education for First Nations. One participant noted that financing "the required broadband infrastructure . . . [to support] . . . access to ICT and various broadband applications" is part of the federal government's

1 Mendelson, *Improving Education on Reserves*, p. 6.

jurisdictional and treaty responsibility to provide "[q]uality and equitable education opportunities for all First Nations students."[2]

E-learning eliminates distance as a barrier to accessing education for students, so that they do not have to choose between their communities and formal education. This provides students with the option of "remain[ing] home during these critical years and [going south only when they are] better equipped both academically and socially to cope with the challenges of city life."[3] This, in turn, helps to retain local talent in communities, providing greater local employment opportunities and promoting healthier local economies. The fact that First Nations e-learning students can remain in their communities and homes while learning, allows them to remain connected with their family, friends, community, and cultures.

E-learning eliminates distance as a barrier to accessing education for students so that they do not have to choose between their communities and formal education.

E-learning also allows communities to attract and retain high-quality teachers[4] and provides access to learning institutions outside of communities, such as chemistry labs, computer labs, libraries, museums, and galleries. It facilitates resource sharing among First Nations communities, including sharing of connectivity, technical equipment, technical support, and teachers, as well as resources for students with special needs and mentors. For example, the online DreamCatcher Mentoring program connects students in the territories with mentors from around the world. These mentors work in the students' desired fields and provide advice and encouragement on career development. E-learning allows "Aboriginal communities, regardless of [remoteness of location] . . . [to] share with other Canadians the opportunities to participate in global information and technology networks and benefit from the advantages that connections and ICT on a global scale offer."[5]

Additionally, e-learning provides students with greater flexibility because it is deinstitutionalized—"it can be used at any time . . . [and offer] . . . relevant learning . . . and control over learning."[6] Students are empowered to, with the help of a teacher or teacher's aide, engage in self-directed, independent learning. This is particularly important for students whose parents are unable to help them with learning. One participant noted this is common in First Nations communities for a host of reasons related to historical experiences and socio-economic circumstances, especially educational outcomes. Students can also cater their e-learning experiences to their individual cultural, historical, and socio-economic circumstances. The objective is to make learning easy and enjoyable in order to encourage participation.

E-learning provides access to learning institutions outside of communities, such as chemistry and computer labs.

One participant noted that e-learning facilitates cultural preservation and revitalization because technology "works hand-in-hand with culture, language, [and] traditional knowledge." It provides tools for visual learners and offers hands-on support. It also:

- ". . . allow[s] for the development and utilization of culturally relevant materials in the school curricula;[7]
- provide[s] a forum [through] which Elders can connect with other Elders through video conferencing, share their First Nations languages and to deliver traditional teaching and lessons about trappings and land use from a traditional perspective;[8]
- enhances language retention and recovery via interactive language boards and language fonts; and

2 Whiteduck, T., "First Nations SchoolNet," p. 107.

3 Walmark, "KiHS: Bridging the Traditional and Virtual Classroom."

4 Watt, *The Sunchild E-Learning Community Model*, p. 2.

5 Whiteduck, "First Nations SchoolNet," p. 107.

6 Murray, *E-Learning for the Workplace*, p. 10.

7 Indian and Northern Affairs Canada, *Evaluation of the First Nations SchoolNet Program*, pp. 20–21.

8 Ibid.

- allows First Nations students to stay at home with their families rather than move away to obtain their education."[9]

Participants noted that the integration and promotion of cultural content provides an incentive for parents to keep their children in school.

One participant noted that family and community members are often more supportive of e-learning because it is less institutionalized and is therefore less reminiscent of residential schools than provincial programs. This support is important to student attendance, engagement, attainment, and overall success.

Some research participants reported that First Nations students have improved by a full grade level with e-learning.

The capacity for mobile learning, which allows students to complete schoolwork from home,[10] is also beneficial to the high proportion of First Nations teen parents: "[I]n 1999, more than 1 in 5 First Nations babies were born to mothers aged 15 to 19, whereas the comparable figure for Canada as a whole was 1 in 20."[11] In 2000, the incidence of teenage pregnancy of First Nations people living on a reserve was 18 times that of the non-Aboriginal population.[12] Teen parents are less likely to graduate from high school;[13] however, the flexibility of e-learning allows them to balance school with parental responsibilities and attain their high school diplomas.

IMPROVING EDUCATIONAL OUTCOMES

While there is a shortage of metrics related to how e-learning affects First Nations educational outcomes, general trends exist that provide an indication, including:

- improved student engagement;
- increased educational attainment rates;
- improved computer skills;
- improved written communication skills; and
- enhanced understanding of the subject matter.

According to Executive Director and Co-Founder of DreamCatcher Mentoring Josh Silvertown, 90 per cent of students who participated in the DreamCatcher Mentoring program in Yukon have reported that they were more excited about high school and post secondary school than before beginning the program. In addition, 2005, 2006, and 2008 student tracking data from the Yukon Department of Education indicate that 94 per cent of the students who participated in DreamCatcher Mentoring had either graduated or were still in school at the time that the analysis was conducted—almost twice that of the territorial graduation rate.[14] A 2005 Conference Board case study on the Sunchild e-learning program noted that the program "produced a number of measurable successes."[15] It found some positive indicators of student engagement. For example, "in the 2003–04 school year, there were 441 course enrolments and 246 course participants" and "[o]ver the four-year history of Sunchild [as of 2005], 73 per cent of enrolled learners participated in their online course."[16] It also found that of those enrolled in the program in 2005, 65 per cent were completing courses, resulting in "a 79 per cent pass rate at the diploma level, with 24 of 30 students completing their courses."[17]

> [O]ver the course of four years, 27 out of 36 Sunchild learners (75 per cent) have graduated. Although not a directly comparable statistic, this four-year average achievement rate far exceeds recent provincial estimates of high school completion rates of First Nations learners, which indicate that only 5.5 per cent of . . . [First Nations] . . . living on reserve in Alberta had attained a high school certificate, and that 60 per cent had attained less than a high school education.[18]

9 Ibid.

10 Keewaytinook Okimakanak, *G8 Supplementary Courses Program*.

11 Rotermann, *Second or Subsequent Births*, p. 40.

12 Public Health Agency of Canada, *Pro-Action*.

13 Ibid.

14 Silvertown, Phone interview.

15 Watt, *The Sunchild E-Learning Community Model*, p. 6.

16 Ibid.

17 Ibid.

18 Ibid.

Some participants said that students have improved by a full grade level with e-learning. One noted that there have been 300 high school graduates and 150 college graduates in his community, most of whom he believes would not have graduated if it were not for e-learning. Many e-learning administrators mentioned there had been a significant increase in high school graduation rates (to as high as 80 per cent) on the reserves in which e-learning has been introduced.[19] "KiHS . . . [e-learning program's] 12 participating First Nations communities faced graduation rates as low as 15 per cent when the school was cyber-founded in 2000…rates have risen steadily to 55 per cent—and almost 70 per cent of students registering for a particular class complete it."[20]

Naturally, high school attainment rates and post-secondary attainment rates are positively correlated. One research participant told the Conference Board that prior to the introduction of e-learning in his community in 2000, the highest level of education among community members was high school. Since then, however, there have been 130 post-secondary graduates. Participants noted that e-learning allows First Nations students to perform (before college or university) comparably with students enrolled in provincial schools. This "boosts student confidence and satisfaction levels . . . [and] . . . encourages interest in higher education and career paths."[21]

There is also some indication that e-learning is enhancing computer skills among First Nations students. All seven teachers surveyed in 2004 for the *G8 Supplementary Courses Program: Interim Report* responded "yes" or "very much so" to the question "Do you feel that this course has improved the general computer literacy of your students?"[22] The report asserted that "[s]ome [students] had absolutely no computer skills prior to the start of this course, and those skills have grown by leaps and bounds."[23] Through e-learning, students have "learned . . . how to perform research, use word processing and e-mail, create PowerPoint presentations and graphics, as well as use video conferencing technology."[24]

Eighty-seven per cent of student respondents to a 2009 survey evaluating the SchoolNet e-learning program indicated that ICT skills improved students' self-esteem; 96 per cent of parent/relative and Elder respondents said that the program has "given their children new confidence, skills, and opportunities"; and 68 per cent reported that "they believe this has increased the likelihood that their children will graduate."[25]

There is some indication that e-learning is enhancing computer skills among First Nations students.

"Improved typing skills, better sentence structure, improved spelling, and an overall improvement in written communication" is also associated with e-learning,[26] as well as increased understanding of subject matter. Of the seven teachers surveyed in 2004 for the *G8 Supplementary Courses Program: Interim Report,* two reported that "math skills improved 'somewhat,' while the remaining five said 'yes' skills did improve."[27]

IMPROVING SOCIO-ECONOMIC CONDITIONS VIA COMMUNITY LEARNING

In addition to responding to First Nations realities, e-learning also helps to improve socio-economic conditions in First Nations communities by facilitating the

19 Ibid., p. 3.

20 Canadian Council on Learning, "E-Learning in Canada."

21 Watt, *The Sunchild E-Learning Community Model*, p. 4.

22 Keewaytinook Okimakanak, *G8 Supplementary Courses Program*, p. 2.

23 Ibid., p. 4.

24 Indian and Northern Affairs Canada, *Evaluation of the First Nations SchoolNet Program*, p. 8.

25 Ibid., p. 21.

26 Lawrence, "The Kuh-ke-nah Network," p. 3.

27 Keewaytinook Okimakanak, *G8 Supplementary Courses Program*, p. 2.

procurement of better ICT infrastructure and connectivity, networking opportunities, help desk services,[28] and programs to facilitate community learning.[29] E-learning brings connectivity to communities and allows it to be shared with those residents and other facilities in the community (e.g., health centres, band offices, and social programs) that do not yet have access.[30] It provides educational opportunities beyond K–12 education, including education and training in "health, justice, public safety, economic development, and governance."[31] It facilitates the delivery of professional development courses that might otherwise be inaccessible to the community, ranging from financial management, entrepreneurship, and community economic development, to oil and gas industry training. It also provides for the delivery of courses on language, cultural values, drug awareness, and decision making.

Communities sometimes forgo e-learning because it is especially costly in its start-up and implementation phases.

Broadband Internet connects First Nations communities with one another, as well as with communities across Canada and the world. E-learning provides a structured learning environment to acquire knowledge, develop skills, and to share culture and best practices. Elders from different communities have used the Internet to connect with one another to develop strategies that will improve socio-economic issues related to youth. E-learning connects students with role models via e-mentoring programs, which inspire students to continue education.

One participant who grew up in an isolated community said "access to mentorship and role models while growing up in my community helped me to be where I am today."

SOME CAUTIONARY NOTES

The effects of e-learning noted in the literature and the interviews are predominantly positive. However, the effectiveness of e-learning depends on how well the institution guides administrators and students through the process and how well e-learning is integrated into the day-to-day curriculum. Certain e-learning media are considered to be more effective than others and/or require greater support. The type of media that is effective varies depending on the school, community, and philosophical perspective of the learner. Some subjects, such as math, do not lend themselves well to independent study, but require a local teacher.[32]

One participant noted that e-learning is less effective and can even be detrimental to student educational outcomes when mistreated as distance education. He said that "ideally, e-learning is not distance education, but a tool to augment and supplement schooling." The misperception that e-learning is an adequate replacement for on-reserve schools, as opposed to a supplemental learning tool, could be damaging to First Nations people. For example, it could potentially thwart the development of on-site schools in First Nations communities. Furthermore, there is potential for e-learning to discourage students from continuing their education because there is a steep learning curve in acquiring Internet communications technology and e-learning skills.

CHALLENGES TO OPTIMIZING THE EFFECTIVENESS OF E-LEARNING

For many of these challenges, the underlying problem is the lack of funding. Communities sometimes forgo e-learning because it is especially costly in its start-up and implementation phases. Further, e-learning competes

28 This can include, but is not limited to, management of the WAN and LANS; e-mail and web hosting; back-ups/archiving/securing LAN from viruses; ICT equipment training; software; and e-learning modules.

29 It should be noted that these infrastructure developments alone would not be sufficient to sustain a community. As the number of students that attend schools or learn in their home communities increases, the need for infrastructural development in communities will increase.

30 Indian and Northern Affairs Canada, *Evaluation of the First Nations SchoolNet Program*, p. 8.

31 Whiteduck, T., "First Nations SchoolNet," p. 106.

32 Keewaytinook Okimakanak, *G8 Supplementary Courses Program*, p. 4.

directly with other programs that are said to address more immediate community needs, including "high teacher turnover, disaffected youth, economic depression, housing and health concerns, and more traditional telecommunications challenges such as poor analogue connections, high long distance charges, and so forth."[33] One participant noted that, in her experience, communities often receive adequate funding for start-up, but not for implementation, preventing these programs from actually operating. Indeed, "vision without [implementation] is hallucination."[34] Some e-learning programs that are already struggling to survive have faced funding cuts in recent years. For example, funding to First Nations SchoolNet was cut in half in 2006–2007, when it moved from Industry Canada to Indian and Northern Affairs Canada. One participant stated that part of the reason e-learning programs are underfunded is because the band funding formula set by INAC does not allocate anything for training.

Even when First Nations communities do adopt e-learning programs, inadequate funding remains a major barrier to financing the necessary software licensing, technical infrastructure, and equipment, and the support needed to administer them effectively. The expense of purchasing software licenses is very high for First Nations communities because each school must purchase an individual license, whereas provincial schools can share the cost of one license purchased by their respective school divisions.

Geography can make installing, maintaining, and troubleshooting technical infrastructure, equipment, and support for e-learning more challenging. Many of the communities that use e-learning for their Internet high school and post-secondary education are rural, remote, and isolated. Building infrastructure is logistically difficult in non-urban communities and laying fibre optics can be particularly expensive for smaller communities. Maintenance is also challenging in non-urban communities, "[w]eather, combined with geographic location, can impact the infrastructure and the ability to perform timely repairs."[35] One participant noted that many provincial schools have fibre optic infrastructure, whereas most First Nations communities that are in greater need of this advanced infrastructure do not.

Geography also represents a barrier for connectivity, "[t]he more remote and isolated the community, generally the . . . [slower] . . . the connection speed."[36] However, it seems e-learning is changing this. One participant noted that 28 First Nations schools in his province have better connectivity than their provincial counterparts do because they require it for video conferencing.

The expense of purchasing software licenses is very high because each school must purchase an individual license.

"An associated challenge that was articulated was lack of access to broadband (i.e., a high speed connection)."[37] Fewer First Nations communities have access to broadband services than do Canadian cities and small towns (17 per cent, compared with 64 per cent, according to Industry Canada),[38] and those that do, tend to have slower dial-up service.[39] Further, one participant reported that in some communities, homes have access to better connectivity than schools. However, technical infrastructure varies among provinces and communities. For example, research participants reported that connectivity tends to be better in Alberta and Saskatchewan, where there is a provincial connectivity program, than in British Columbia. Participants reported that connectivity, network, and transfer signals are generally substandard and that poor network security (lack of firewalls) has led students to use the little available bandwidth to download music, games, and movies. This limits the capacity of e-learning and slows delivery.

33 Fiser, "A History of Policy Change," p. 26.

34 The quote "vision without [implementation] is hallucination" is adapted from Thomas Edison's famous quote "vision without execution is hallucination." Sembsmoen, Beverly, Implementation Official, Carcross/Tagish First Nation. Personal communication with Ashley Sisco, March 12, 2010.

35 Indian and Northern Affairs Canada, *Evaluation of the First Nations SchoolNet Program*, p. 13.

36 Ibid.

37 Ibid.

38 Canadian Council on Learning, *The State of Aboriginal Learning in Canada*, p. 6.

39 Ibid.

Many communities are in need of technical equipment. Some participants stated they had no equipment in place, others noted their need for new equipment—alluding to very outdated computers and keyboards with missing keys. Delivering technical equipment to remote and isolated communities is logistically challenging. Participants said that even when the equipment is in place, there tends to be a lack of security, technical infrastructure, and/or on-site technical support to maintain it. One participant noted that computers are often stolen because they are not stored securely. Most participants mentioned that there was a shortage of on-site technical support because such positions are high-salaried and, thus, expensive. Funding cutbacks often affect technical support first:

> At INAC, there is a small team overseeing the [SchoolNet] project out of headquarters, which is supplemented by the RMO network. RMOs provide services and support, but are unable to replace the need for on-site technical support. Due to budget cutbacks, RMO services are not as robust as they were and consequently technical support across the network has suffered (including…technical support at the RMO level). Two RMOs have had to discontinue their help desk functions, with one recently being reinstated as a result of a special grant . . . .[40]

Some communities do not have a technician available in their communities or at the RMO level, which can be particularly troublesome for schools that depend highly on e-learning. Consequently, teachers and other staff often take on the additional role of technical support, which can lead to work overload.[41] While this, in turn, makes the need for training for students and teachers to administer and use these programs more important, there is also a lack of funding for such training. One participant noted that there were 14 people across five First Nations communities who were trained to provide technical support; however, the instructor for this training was let go as a result of funding cuts.

Complicating the problem, participants noted that these needs must be addressed simultaneously. For example, purchasing expensive hardware (such as switches, networks, and portable classrooms) is a waste of money if the broadband or connectivity is not in place, or if there is no technical support on-site to maintain it. Keeping up with ever-changing technology is only half the problem. The development of new e-learning content and technology is not coordinated. Technological infrastructure, connectivity, bandwidth, equipment, and support sometimes lag behind the development of e-learning applications and curriculum, and vice-versa. As one participant stated "What you end up with is a chicken and egg scenario."

Many communities are in need of technical equipment. Some participants stated they had no equipment in place and others noted their need for new equipment.

Funding represents a challenge not only because it is inadequate, but also because it is insecure—allotted in terms that require annual applications for continuation, which may or may not be approved.[42] RMOs and communities find it difficult to strategically invest and develop long-term plans, based on short-term funding arrangements.[43] "[I]t is difficult to plan when they are unaware of what resources they will have in the next fiscal year . . . [and this results in an] . . . inability to purchase hardware and software . . . [or] . . . plan for the future."[44] One participant noted that even when communities have the funds to invest in programs that cost as much as $50,000 to $60,000 (such as WebEx, Illuminate, and Telepresence), short-term funding means there is no way to determine whether such applications can be maintained. As a result, administrators are often forced to make less than prudent investments in expensive hardware.

40 Indian and Northern Affairs Canada, *Evaluation of the First Nations SchoolNet Program*, p. 14.

41 Ibid.

42 Beaudoin, Lillian, Phone interview by Ashley Sisco, March 12, 2010.

43 Indian and Northern Affairs Canada, *Evaluation of the First Nations SchoolNet Program*, p. 15.

44 Ibid.

One way of advocating for more funding might be assessing community needs and measuring educational outcomes in communities that administer e-learning, either longitudinally or cross-sectionally with other communities. However, there is no funding for this either. As a result, there is little to no relevant data on performance measurement and the two studies that were intended to find this information were never completed.[45] A lack of consistency across communities in e-learning administration and use also makes it difficult to measure results, since statistics on educational outcomes are more often measured at the provincial, territorial, and national levels. The lack of community needs assessments means funding allocated for technical infrastructure may not take into consideration recent upgrades in equipment or the development of new e-learning programs that require greater bandwidth allowance. For example, one participant explained that current bandwidth allowance in his community is based on needs in previous years when less was required because programs were not as sophisticated. The lack of performance measurement means communities will face more obstacles in demonstrating the case for funding to support program continuation.

Even when First Nations communities do manage to find and keep quality teachers, they have difficulty transitioning them to e-learning curriculum.

In addition to the challenges that are more closely related to a lack of funding, there are those related to the novelty of e-learning. There is a need to develop a curriculum that contains content that meets the educational standards of the rest of Canada (so that students can attend and thrive in Canadian colleges or universities),[46] but that is also relevant to the communities in which it will be administered.[47] According to one teacher, the importance of referring to "snowmobiles rather than subways, [a] local store rather than [a] shopping mall, etc., [for example] . . . cannot be overestimated."[48]

Further, there is a need to engage students and teachers. Engaging young students can be difficult because it requires staying current with ever-changing technology and bringing education to their virtual comfort zone, which includes social media such as Facebook (which are typically banned in classrooms). Indeed, some participants viewed social media as a barrier because it competes with e-learning programs for student attention. At the same time, older students have almost contrary needs; they tend to be less comfortable with technology and, thus, require a more gradual transition.

A lack of consistency across communities in e-learning administration and use makes it difficult to measure results.

First Nations schools are often a training ground for new and inexperienced teachers. Because of their remote locations, these schools are rarely able to attract and retain quality teachers. And one participant noted that salaries for these positions are $10,000 to $15,000 below their provincial counterparts. That same participant reported that over five years he had lost four teachers, who are now mentors in the provincial system. The high turnover rate of teachers, combined with the fact that e-learning programs are generally not well-integrated into day-to-day curricula, means that there is a lack of consistency and continuity in the administration of these programs. Even when communities do manage to find and keep quality teachers, they have difficulty transitioning them to e-learning curriculum. Many do not want to adapt to e-learning because it can be a taxing and uncomfortable process that requires them to meet specific standards for computer literacy and classroom equipment, change the curriculum, and work with others. Moreover, all teachers must decide on the same textbook. This can be difficult because teachers are generally comfortable with their old textbooks and e-learning textbooks tend to be expensive.

45 Ibid., p. 12.

46 Fiser, "ICTs for Education," p.3.

47 Keewaytinook Okimakanak, *G8 Supplementary Courses Program*; Indian and Northern Affairs Canada, *Evaluation of the First Nations SchoolNet Program*, p. 7.

48 Keewaytinook Okimakanak, *G8 Supplementary Courses Program*, p. 5.

CHAPTER 3

Recommendations

Chapter Summary

- This chapter provides a list of 11 recommendations—drawn from interviews with research participants and the literature review—to increase the effectiveness of e-learning programs in improving on-reserve First Nations educational outcomes.

While there are many challenges associated with effectively administering e-learning in First Nations communities, there are steps that can be taken to improve the effects of e-learning on First Nations educational outcomes. The list of 11 recommendations provided in this section responds to challenges mentioned both in interviews with research participants and in the brief literature review conducted for this study. This is not an exhaustive list, as conducting a rigorous analysis was outside of outside of the scope of this project. The recommendations are:

1. Better engage First Nations in the development and implementation of e-learning programs.
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 programs.
5. Assess community needs and educational outcomes.
6. Build tools and capacity.
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 programs with holistic program delivery.
11. Better integrate e-learning under the overall Indian and Northern Affairs Canada (INAC) education umbrella.

In spite of challenges, steps can be taken to improve the effects of e-learning on First Nations educational outcomes.

1. Better engage First Nations in the development and implementation of e-learning programs.

Government departments and agencies, as well as other organizations, can play an important role in facilitating and supporting e-learning programs in First Nations communities. However, these communities must be highly engaged in the development and implementation of the programs. Communities must be central to the development of e-learning curriculum and pedagogy to ensure cultural relevancy, as well as consideration of local history and current socio-economic circumstances. They can also provide increased insight into local needs—related to human resources, technical support, infrastructure, broadband, connectivity, and equipment—to support e-learning, and can leverage this increased engagement to build local capacity.

2. Develop and implement an e-learning strategy.
Optimizing the effectiveness of e-learning for First Nations requires that First Nations communities (independently and in collaboration with one another) develop and implement an e-learning strategy that outlines an action plan (including the roles of various stakeholders) to better integrate e-learning into the community and optimize the positive impacts on educational outcomes. Elders, teachers, youth, and leaders must together define the strategy—incorporating community needs and goals. Governments and RMOs can play a role in encouraging communities to develop strategies and facilitating the necessary discussions. They can also respond, within their respective jurisdictions, to the strategies articulated.

Foremost among the challenges, funding is a major barrier to financing the necessary software licensing, technical infrastructure, equipment, and support.

3. Increase funding for e-learning programs and the supporting software licensing, technical infrastructure, equipment, and technicians.
Inadequate funding was foremost among the challenges mentioned by research participants. It is a major barrier to financing the necessary software licensing, technical infrastructure, equipment, and support. The need for funding is most critical in rural, remote, and isolated First Nations communities. This is because installing, maintaining, and troubleshooting technical infrastructure, connectivity, and equipment—and providing technical support in non-urban communities—are all more costly. It is also important that the provision of funding is coordinated to ensure that technology is developed in synchronization with content.

4. Extend funding terms for e-learning programs.
In order for communities to develop e-learning strategies or long-terms plans, funding terms must be significantly extended beyond one year. Long-term funding would enable communities to make more prudent investments in e-learning. Moreover, "[f]ostering innovation and innovative uses of ICT in education requires a long-term commitment, by all stakeholders, and by federal/provincial governments."[1]

5. Assess community needs and educational outcomes.
The needs of the communities and the educational outcomes of students must be assessed regularly to ensure and demonstrate the quality of the programs offered, as well as to procure and properly allocate funding. One participant suggested that regional offices visit the schools regularly to determine community needs in order to make the most prudent investments in technological equipment, infrastructure, support, capacity building, and tools.

6. Build tools and capacity.
Building tools and capacity in communities to support e-learning is also recommended. For example, "[c]onducting a week-long prep-course aimed at familiarizing teachers with the course as well as the computer skills that they and their students will require" would be helpful.[2] It is essential that teachers and students are ICT literate and that they have access to qualified ICT technicians on-site to support them.[3] Training local residents of First Nations communities would be highly beneficial: the services of these trained individuals could be shared among neighboring communities. There is also a need to build capacity in the management of information, finances, and human resources for e-learning programs. "[R]elatively few of the 633 First Nations governments have sophisticated information management (IM) tools, competencies, and capacities. Good data is required for planning and decision making, to improve accountability, and to measure success."[4]

1 Fiser, "A History of Policy Change," p. 22.
2 Oliveriera, *KiHS Supplementary Grade 8 Science*, p. 5.
3 Whiteduck, J., "Building the First Nations E-Community," p. 95.
4 Ibid.

7. Develop and implement a strategy to improve teacher engagement

Participants identified the engagement of teachers as a major concern. A strategy for teacher engagement could include ICT and e-learning training for teachers to allow them to perform their job well; mentorship programs that pair teachers, who are newer in the communities and less experienced with e-learning, with their more experienced counterparts; support programs for the integration of teachers into communities; and adequate compensation for teachers to account for the additional workload associated with the administration of e-learning.

Participants noted that a high turnover rate of teachers paired with poor integration of e-learning into the daily curriculum means there is little program continuity in the community. New teachers may feel overwhelmed with the efforts required to reintroduce a program. Therefore, it is also recommended that the strategy include an action plan for integrating e-learning into the day-to-day curriculum.

It is important to recognize the role of students in educational success and encourage their commitment to education.

8. Consider the generational differences among students.

E-learning caters to students enrolled in elementary,[5] secondary, post-secondary, and adult learning programs, as well as in special needs programs. A one-size-fits-all program is not suited to students' diverse needs. Programs must be multi-layered to address all levels of technological knowledge, skill, and comfort within the student body. For example, programs might offer a range of options for learning forums, including social networking (which would appeal to younger students) and more traditional options (which would appeal to older cohorts).

9. Promote student commitment.

It is important to recognize the role of students in educational success and encourage their commitment to education. Students can be encouraged to take a greater ownership of their educational performance through agreements, incentives, and other means. For example, Sunchild e-learning requires students to submit a "Sunchild E-Learning Student Letter of Agreement" prior to enrollment "that indicates that the student is committed to succeeding in the school and that they have established graduation and career goals."[6] Smartboards[7] have also been used as incentives for classroom performance, which was reportedly very effective in improving student performance. One participant suggested that e-learning be used to engage parents in their children's learning in order to build parental support and, thus, improve student commitment to programs.

E-learning programs must be multi-layered in order to address all levels of technological knowledge, skill, and comfort within the student body.

10. Offer expanded and more flexible programs with holistic program delivery.

Based on the research conducted for this report, there appears to be a gap in e-learning at the elementary school level. One participant noted the need for e-learning for First Nations students from the junior years of elementary school. Some parents and political leaders in First Nations communities have recommended that e-learning programs include grades seven and eight, "where the grade gap between First Nations and mainstream elementary students begins to widen."[8] Others recommended that they should include students in the last two years of high school.[9] It has also been suggested that e-learning incorporate a greater number of subjects,[10] and offer more flexible, condensed, course options to accommodate for hunting seasons, which vary among communities.[11] Lastly,

5 However, there is no evidence from this study that an "Internet" school concept is being applied at the elementary school level.

6 Watt, *The Sunchild E-Learning Community Model*, p. 3.

7 An interactive whiteboard with a touch sensitive screen.

8 Walmark, "KiHS: Bridging the Traditional and Virtual Classroom," p. 106.

9 Ibid. However, some argue that high school should be completed in provincial schools to better prepare them for college and university.

10 Keewaytinook Okimakanak, *G8 Supplementary Courses Program*, p. 4.

11 Industry Canada, *Internet High School*.

there is an apparent need for more holistic program delivery to ensure that e-learning programs and the supporting technical infrastructure, connectivity, bandwidth, and equipment are managed in a coordinated fashion. This will safeguard against the aforementioned "chicken and egg scenario." (See Chapter 2.)

11. Better integrate e-learning under the overall INAC education umbrella.

One of the recommendations that came out of a 2009 evaluation report of the First Nations SchoolNet program was to "[i]ntegrate First Nations SchoolNet into the overarching education program within INAC to maximize the impact of ICT to facilitate learning."[12] (Descriptions of educational programs offered through INAC are listed below.) Many of these programs already contain an e-learning component; however, the fact that it is not explicitly stated means it can be overlooked and the importance of e-learning in INAC educational programs can be undermined. Recommendations of where and how e-learning might be better integrated, or how this might be explicitly stated, have been inserted into program descriptions (below) in italicized text.

There is a need for more holistic program delivery to ensure that e-learning programs and the supporting technical infrastructure are managed in a coordinated fashion.

INAC Educational Programs

Elementary/Secondary Education: INAC funds band councils and First Nations education authorities for the education of children in K–12 who attend on-reserve schools or who attend provincially-run schools off-reserve. The program pays for instructional services in on-reserve schools; the reimbursement to provinces for tuition costs of students who attend provincial schools off-reserve; and support services such as transportation, counselling, accommodation, and financial assistance.[13] *The program also includes the administration of relevant e-learning programs and Internet high schools, such as Credenda Virtual High School (Prince Albert, Saskatchewan), EdCentre.ca (La Ronge, Saskatchewan), Keewaytinook Internet High School (KIHS) (Ontario's Far North), and Sunchild (Alberta). As well, it includes NED supplementary courses for grades 7 and 8 (Ontario) and e-learning platforms such as MoodleFN.*

Post-Secondary Student Support Program: Funding covers:

- *tuition support for students (may include fees for registration, tuition, and the cost of books and supplies required for courses);*
- *travel support for students who must leave their permanent place of residence to attend college or university; and*
- *living expenses for full-time students to help cover the costs of food, shelter, transportation, and daycare.*

The program also includes items, activities, and programs that facilitate and support distance education and e-learning, such as:

- *connectivity for on-reserve schools and homes;*
- *on-reserve e-centres and community access program (CAP) sites; and*
- *video conferencing and e-learning platforms, such as MoodleFN, for students to take courses from their homes and/or home communities, as well as to connect with their communities from school.*[14]

University College Entrance Preparation Program: Covers financial assistance for Status Indian and Inuit students enrolled in university and college entrance preparation programs (cost of tuition fees, books and travel, and living allowances, when applicable),[15] *as well as the cost of e-learning and e-mentoring programs designed to prepare students for college and university*.

Special Education Program: Provides additional investments in programs and services for First Nations children with identified special needs so they can reach their fullest potential. The program gives them access to quality special education programs and services that are culturally sensitive and comparable to generally accepted provincial

12 Indian and Northern Affairs Canada, *Evaluation of the First Nations SchoolNet Program*, p. iv.

13 Indian and Northern Affairs Canada, "Elementary/Secondary Education."

14 Indian and Northern Affairs Canada, "Post-Secondary Education Programs."

15 Ibid.

standards in that locality.[16] *The program also includes e-learning programs that allow communities to share resources for special education. For example, the program might cover video conferencing that facilitates private, confidential sessions with speech pathologists, social workers, and psychologists*.

Cultural/Educational Centres Program: Funds 110 centres of activity in all provinces and territories to express, preserve, develop, and promote First Nations and Inuit cultural heritage and education, *including e-learning programs that integrate cultural content and encourage language retention*. The program provides financial assistance to First Nations, tribal/district councils, Inuit communities, and First Nations/Inuit non-profit corporations, *such as First Nations RMOs*, for activities that lead to development of curricula for First Nations and Inuit schools that is more culturally relevant to the student population, and an enhanced cultural environment and understanding within communities.[17]

First Nations and Inuit Youth Employment Strategy: The First Nations and Inuit Youth Employment Strategy is part of the Government of Canada's Youth Employment Strategy to help young Canadians (between the ages of 15 and 30) obtain career information, develop skills, find good jobs, and stay employed. The First Nations and Inuit Youth Strategy has two programs:

- First Nations and Inuit Summer Work Experience Program; and
- First Nations and Inuit Skills Link Program.[18]

This program includes e-learning programs that assist with employment for First Nations and Inuit youth, such as training programs for community ICT technicians' certification for supporting schools, band offices, nursing stations, and communities. Distance information technology certification training, like that offered through Keewatin Academy of Information Technology (KAIT) in Saskatchewan RMOs and Cisco Certified courses is included as well.

First Nation Student Success Program: The FNSSP is a proposal-driven program designed to support First Nations on-reserve educators (Kindergarten to Grade 12) in their ongoing efforts to meet their students' needs and improve student and school results. In particular, the program will help First Nations educators to plan and make improvements in the three priority areas of literacy, numeracy, and student retention.[19] *This also includes funding to support First Nations students through e-learning programs. For example, this would cover funding support for a full-time certified technician who is responsible for technical support, and ICT training for teachers, students, band offices, and nursing stations, and it would include professional development programs virtual lectures, and information sessions delivered through video conferencing*.

The First Nations and Inuit Youth Employment Strategy is part of the federal government's Youth Employment Strategy that helps young Canadians, ages 15 to 30.

Education Partnerships Program Overview: This proposal-driven program is designed to promote collaboration between First Nations, provinces, Indian and Northern Affairs Canada, and other stakeholders toward improving the success of First Nations elementary and secondary students in First Nations and provincial schools. The program, which includes a strong e-learning component, supports the establishment and advancement of formal partnership arrangements that aim to develop practical working relationships between officials and educators in regional First Nations organizations and schools, and those in provincial systems.[20] *This program covers developing partnerships with provincial and local (tribal council and hamlet council) governments, and Internet high school organizations to work together in supporting and delivering e-learning programs*.

16 Indian and Northern Affairs Canada, "Post-Secondary Education Programs."

17 Ibid.

18 Indian and Northern Affairs Canada, "First Nations and Inuit Youth Employment Strategy."

19 Indian and Northern Affairs Canada, "First Nations Student Success Program."

20 Indian and Northern Affairs Canada, "Education Partnerships Program Overview."

CHAPTER 4

Conclusion

Chapter Summary

- Foremost among the challenges to effectively administering e-learning in First Nations communities is a lack of funding for software licensing, technical infrastructure, equipment, and support.
- Other challenges include short funding terms; developing a curriculum that contains culturally relevant content, and also meets Canadian education standards; engaging students and teachers; and assessing community needs and program outcomes.
- E-learning will become more important as web-based jobs become more common; and as lifelong learning, as well as connecting with the outside world, become more important to First Nations communities.
- The 11 recommendations made in this report can help to address some of these challenges and optimize the effectiveness of e-learning for First Nations communities.

First Nations people living on a reserve face myriad challenges related to effectively administering e-learning. Of principal concern is the low funding for e-learning, especially for software licensing and technical infrastructure, equipment, and support. Other challenges with First Nations e-learning programs include short-term funding (which discourages long-term planning); challenges associated with creating e-learning programs, (e.g., the need to develop a curriculum that contains culturally relevant content and also meets Canadian education standards); engaging students and teachers; and the need for greater assessment of community needs and program outcomes.

The workplace of the future is likely to involve more web-based jobs and will require more workers with ICT skills.

At the same time, e-learning will only become more important. The workplace of the future is likely to involve more web-based jobs and will thus require more workers with ICT skills. E-learning will also become increasingly critical to the lifelong learning of First Nations communities and to enhancing their connectivity with the outside world. Interviews with research participants and a review of the pertinent literature suggest a set of actions that would help increase the effectiveness of e-learning programs in improving on-reserve First Nations educational outcomes:

1. Better engage First Nations in the development and implementation of e-learning programs.
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 programs.
5. Assess community needs and educational outcomes.
6. Build tools and capacity.
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 programs with holistic program delivery.
11. Better integrate e-learning under the overall INAC education umbrella.

APPENDIX A

List of Participants

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Kevin Burton, Mi'kmaw Kina'matnewey, Atlantic RMO

Chantelle Cardinal, The First Nations of Alberta Technical Services Advisory Group, Alberta RMO

Donald Donahue, Principal, Eel Ground Public School, New Brunswick

Mike Ducharme, Keewatin Tribal Council, Manitoba RMO

Cindy Findlay, Keewatin Tribal Council, Manitoba RMO

Vince Hill, Director, Credenda Virtual High School Inc., Saskatchewan

Randy Johns, Chief Executive Officer, Keewatin Career Development Corporation, Saskatchewan RMO

Samantha Kemash, Assistant Program Manager, Keewatin Tribal Council, Manitoba RMO

Peter MacDonald, Former Principal, Eel Ground First Nation School, New Brunswick

Velma Memnook, School Liaison/Counsellor, Pakan School, Alberta

Vaughn Paul, The First Nations of Alberta Technical Services Advisory Group, Alberta RMO

Mary Jane Quinney, Coordinator of Student Services and Supervisor of Technology, Chief Napeweaw Comprehensive School, Frog Lake First Nation, Alberta

Martin Sacher, Chief Executive Officer, Sunchild E-learning, Alberta

Josh Silvertown, Executive Director and Co-Founder, DreamCatcher Mentoring.

Tim Whiteduck, CIT Coordinator, Conseil en Éducation des Premières Nations, Québec RMO

Denise Williams, Youth Initiatives Officer, First Nations Education Steering Committee, British Columbia RMO

Duncan Wu, The First Nations of Alberta Technical Services Advisory Group, Alberta RMO

APPENDIX B

Glossary of Terms

E-learning: "E-learning and learning technologies . . . refer to the delivery of learning, skills, and knowledge through information and communications technologies (ICTs) [within a structured environment to deliver a course or a component of a course] . . . . E-learning uses information and communications technologies (ICTs) to deliver content (learning, skills, and knowledge) on a one-way or two-way basis:

1. One-way (asynchronous) technologies are technologies that deliver content (learning, skills, and knowledge) one way at one point in time. They include:
   - broadcast television that delivers learning content;
   - computers;
   - CD-ROMs;
   - audiovisual aids;
   - e-mail;
   - film;
   - internet/intranet/extranet networks;
   - video;
   - wireless technologies; and
   - digital video disk (DVD).
2. Two-way (synchronous) technologies are technologies that deliver content (learning, skills, and knowledge) two ways or more at the same time. They include:
   - ICQ/IRC—interactive conferencing and chat rooms;
   - teleconferencing;
   - internet/intranet networks;
   - web conferencing; and
   - wireless technologies."[1]

E-learning solution/strategy: "An e-learning solution or strategy is composed of content, technology, and services. *Content* includes courses, curriculum, and knowledge or skills development modules. *Technology* is the method used to deliver the content, including the Internet and teleconferencing. *Services* relate to maintenance, content upgrades, and technical upgrades to both delivery and content. Understanding these components is an important first step to understanding what e-learning is and how it is delivered. . . . "[2]

E-literacy: "E-literacy involves the ability to learn how to use ICTs and the ability to use ICTs to learn and transfer knowledge"[3]

First Nations SchoolNet: "First Nations SchoolNet connects First Nations students and schools to the world. Internet access through the First Nations SchoolNet program has opened the doors to educational, economic, personal, and

1 Murray, *E-Learning for the Workplace*, pp. 2–3.

2 Ibid., p. 11.

3 Ibid., p. 2.

professional opportunities for First Nations students and on-reserve teachers. All 515 First Nations on-reserve schools have access to the Internet with close to 50 per cent connected by a high speed digital telephone line [as of 2008]. Access means students can connect and learn from each other, develop new skills, and participate in national and international events. It also means that many federal services are brought into communities thanks to SchoolNet. First Nations SchoolNet was established by the Government of Canada in 1996 to provide Internet access, computer equipment, and technical support to on-reserve First Nations schools across Canada. [Seven] non-profit First Nations SchoolNet regional management organizations deliver the program in their respective region, working with Indian and Northern Affairs Canada."[4]

The purpose of First Nations SchoolNet, as defined by the Manitoba First Nations, is to:

- promote the use and adoption of information and communications technology (ICT) by Aboriginal and remote communities;
- advocate for the adoption and use of ICT by Aboriginal and remote communities;
- connect Aboriginal and remote communities to the world;
- educate Aboriginal people and members of remote communities in the uses and applications of ICT;
- encourage the development and the ongoing utilization of ICT in Aboriginal and remote communities;
- implement resources for Aboriginal and remote communities;
- facilitate access to ICT;
- broker the establishment of ICT by working with government and communities; and
- enable Aboriginal and remote community residents to participate in the 21st century economy.[5]

SchoolNet: "SchoolNet is a partnership with the provincial and territorial governments, the education community, and the private sector, which promotes the effective use of information and communications technologies (ICT) in learning. The SchoolNet partnership connected Canada's schools and public libraries to the Internet on March 30, 1999—a global first."[6] SchoolNet's mission is to "read[y] learners for the knowledge-based society. It champions lifelong learning and the creation of world-class educational resources through information and communications technology (ICT) and partnerships."[7]

4 Murray, *E-Learning for the Workplace*, p. 2.

5 Keewatin Tribal Council, "Manitoba First Nations SchoolNet."

6 Indian and Northern Affairs Canada, "First Nations SchoolNet."

7 Ibid.

APPENDIX C

Study Context

CONTEXT FOR INTERVIEWS

BACKGROUND

From November 2008 to February 2009, a consulting firm conducted an evaluation of the First Nations Schoolnet (FNS) program to "assess whether the rationale for [it] . . . remains relevant; whether the intended impacts are being achieved; whether the program is obtaining value for money; and, whether the program is being delivered in a cost-effective manner."[1] The report concluded that the FNS program "remains an integral part of First Nations education on-reserve"[2] and makes several recommendations for Indian and Northern Affairs Canada (INAC) with respect to the treatment of the program.

OBJECTIVES

The objective of this proposed briefing report will be to respond to the third recommendation put forth in the *Evaluation of the First Nations SchoolNet Program: Final Report*, "Integrate First Nations SchoolNet into the overarching education program within INAC to maximize the impact of ICT to facilitate learning."[3]

SCOPE OF WORK

The Conference Board of Canada proposes to respond to this recommendation by producing a briefing report (approximately 20–25 pages in length) for INAC that synthesizes data collected from interviews with the seven regional management organizations and at least seven teachers and/or educational authorities and/or representatives of INAC regional offices about e-learning applications (including Internet high schools). In particular, the briefing will report on how, in the view of the research participants, e-learning applications (including Internet high schools) affect outcomes for students and what is required to achieve successful results.

RESEARCH PARTICIPANT/INFORMANT INTERVIEW QUESTIONS

The questionnaire on the following page is a sample of the interview questions that participants/informants will be asked.

1 Indian and Northern Affairs Canada, Evaluation of the First Nations SchoolNet Program, pp. i–ii.

2 Ibid., p. iii.

3 Ibid., p. iv.

RESEARCH PARTICIPANT/INFORMANT INFORMATION

Name: .....

Position: .....

Phone number: .....

E-mail address: .....

1. Please define e-learning in your own words.

2. Please briefly describe your experience using, administering, and/or facilitating First Nations e-learning applications.

3. Do you think e-learning for First Nations communities is different? Do you think it should be different? If so, how?

4. What is the importance of e-learning in First Nations communities? What need is e-learning filling in First Nations communities?

5. How is e-learning currently being integrated into everyday learning activities and curriculum development?

6. What technology is required to effectively deliver education in First Nations communities? What technologies and technical support are currently in place for e-learning in First Nations communities?

7. How do First Nations e-learning applications support or fail to support teachers? How can teachers be encouraged to integrate and adapt technologies into their day-to-day activities?

8. What types of challenges have you faced as an administrator and/or user of First Nations e-learning applications? What might be a solution(s)?

9. What types of challenges have you noticed administrators and users face with First Nations e-learning applications? Is there suffucient funding for e-learning applications? Are there adequate resources and/or equipment to successfully administer these programs? What might be a solution(s)?

10. How have First Nations e-learning applications changed over time? What have been the impacts of these changes (positive or negative) on e-learning users?

11. Do you think First Nations communities define education differently? If so:
    - Do you think current e-learning applications take these differences into consideration? Please explain.
    - Do you think these differences are taken into consideration when educational outcomes for First Nations students are measured? Please explain.

12. In your experience, how do First Nations e-learning applications affect outcomes for First Nations students? Please explain and provide specific examples. Please refer to specific programs.

13. How might First Nations e-learning applications be more effectively administered? What is required to achieve better results with respect to the educational outcomes of First Nations users?

14. Specifically, what is required to achieve better results from: INAC? The regional offices? The RMOs? The teachers? The students?

15. Please describe any other impacts (positive or negative) on the e-learning user or community.

16. Is there overlap among current First Nations e-learning applications? Do they lack coordination?

17. What do you see as the future of First Nations e-learning? What kinds of changes do you anticipate? How do you expect these changes will affect learning outcomes? What kinds of challenges might they pose? What steps should be taken now in preparation for these changes to ensure that the benefits are optimized and the negative impacts minimized?

18. The administration of e-learning applications is currently focused on the school setting. Do you think other community organizations might benefit from this technology? Please explain.

Thank you for your time and insights!

APPENDIX D

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APPENDIX E

Related Products and Services

Council on Corporate Aboriginal Relations

This network helps corporate Aboriginal relations executives build and manage relationships with Aboriginal groups and businesses across Canada. It provides a forum for Canada's foremost leaders in Aboriginal relations to candidly share their experiences—including challenges and best practices—in an *in-camera* environment. Council members meet twice a year to network and learn about current Aboriginal relations issues. Past meetings have covered timely topics such as corporate citizenship and Aboriginal relations; corporate Aboriginal business partnerships; and corporate engagement in Aboriginal economic development.

Centre for the North

The main purpose of the Centre for the North (CFN) is to work with Aboriginal leaders, businesses, governments, communities, educational institutions, and other organizations to achieve a shared vision of sustainable prosperity in the North. Our goal is that within five years, the Centre will have built a common vision of sustainable prosperity among key Northern stakeholders and helped them establish and implement policies, strategies, and practices capable of transforming that vision into reality.

The Canadian Council for Learning and Development

This network brings together learning and development professionals to examine and share best practices in corporate learning, human resources, and organizational development. If you're looking for innovative ways to recalibrate your learning strategy, hoping to find out what initiatives are yielding positive results, or trying to keep current with emerging issues facing L&D professionals, then the Canadian Council for Learning and Development is the place to find the answers.

True to Their Visions: An Account of 10 Successful Aboriginal Businesses

Aboriginal entrepreneurs are not only making a difference, but making a profit and creating jobs as well. This report explores the factors that determine whether a business will succeed or fail. It features 10 successful Aboriginal businesses from across Canada and draws out the common challenges and keys to success, forming an easy-to-use Aboriginal business guide. The featured businesses demonstrate that strong leadership, sound business practices, and solid relationships and partnerships are key to overcoming these challenges and realizing success.

From Vision to Venture: An Account of Five Successful Aboriginal Businesses

This report shows that Aboriginal business development creates wealth and employment, which can ensure the well-being of Aboriginal people at both the individual and the community levels. It profiles five successful Aboriginal businesses and proposes best practice guidelines based on common success factors and lessons learned. These guidelines are designed to inspire and encourage others to develop successful Aboriginal businesses.

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Publication 10-255
E-copy: Complimentary

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