

Evaluation of the First Nations SchoolNet Program

Final Report

**Evaluation, Performance Measurement and Review Branch
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List of Acronyms

AFN	Assembly of First Nations
BCN	Broadband Communications North
CEPN	Conseil en education des Premières nations
FNEC	First Nations Education Council
FNESC	First Nations Education Steering Committee
FNIHB	First Nations and Inuit Health Branch
FNS	First Nations SchoolNet
FNSYI	First Nations SchoolNet Youth Initiative
FNTC	First Nations Technology Council
ICT	Information and Communications Technology
INAC	Indian and Northern Affairs Canada
IT	Information Technology
KCDC	Keewatin Career Development Corporation
KO	Keewatinook Okimakanak
KTC	Keewatin Tribal Council
Mbps	Megabits per second
MFNS	Manitoba First Nations SchoolNet
MK	Mi'kmaw Kina'matnewey
RMO	Regional Management Organization

Executive Summary

The summative evaluation of the First Nations SchoolNet (FNS) program is organized around evaluation issues of relevance, design and delivery, success and efficiency. The purpose of this evaluation is to assess whether the rationale for the First Nations SchoolNet (FNS) program 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.

Context

First Nations SchoolNet (FNS) began in 1996 as a component of Industry Canada's SchoolNet Program, which was part of the larger initiative, "Building a More Innovative Economy." This initiative was to provide internet access across Canada ensuring connectivity despite geographic and socio-economic barriers. In 2003-04, additional funding was approved for FNS to ameliorate connectivity through high speed networks and services, such as equipment and software applications, helpdesk support, building capacity in the schools, as well as creating information and communications technology (ICT) content and applications.

FNS was scheduled to sunset in 2006 along with the larger SchoolNet Program; however, additional bridge funding allowed FNS to continue until March 31, 2007. In November 2006, the FNS program was transferred to the Education Branch of Indian and Northern Affairs Canada (INAC). Subsequently, FNS was extended until March 31, 2009, while future options for the program were being considered.

Program Objectives and Expected Results

As stated in 2007 program documentation, the First Nations SchoolNet Program encourages the development and efficient use of internet-based communications systems within First Nation communities by increasing the integration of ICT into learning settings and supporting communities of interest. ICT integration into learning environments is recognized for its development of innovation and technology for the Canadian economy; these are the foundations for improvement in productivity and innovation.

Specifically, FNS program objectives include:

- Innovative uses of ICT and efficient practices in learning settings;
- Availability of technical support and other support for the integration and use of ICT;
- First Nation schools on reserve connected to the internet; and

- Stimulating on-line learning activities.¹

The program is expected to contribute to the improvement of the education in First Nations communities and to the general preparation of learners to continue post secondary education or by enhancing job market skills.

Evaluation Methodology and Limitations

Data collection for this evaluation consisted of multiple lines of evidence, and results were based on the analysis and triangulation of data where possible. The lines of evidence include: a file, document and literature review, key representative interviews by telephone (N=13), key informant interviews through videoconferencing (N=40), a web-based survey of all First Nations schools (respondents N=304 representing 143 schools) and three case studies (Eel Ground, NB; Sioux Lookout, ON; and Paul Band, AB).

Initially, no evaluative work was scheduled for the FNS program. In the fall of 2008, however, it was determined that an evaluation would be the most appropriate means to inform the renewal of the program. Therefore, the Evaluation, Performance Measurement and Review Branch engaged a consulting firm to perform the evaluation from November 2008 to February 2009. This short timeframe presented a significant challenge for the evaluation team to complete the report prior to the expiry of authorities on March 31, 2009.

Furthermore, a lack of baseline and outcome-specific quantitative data limited the capacity of the evaluation to substantiate some findings with numerical data. While this is done where possible, much of the data sources are qualitative in nature. A large amount of quantitative data was collected at the output level, which does not allow for an appropriate assessment of outcomes.

Finally, little to no performance reporting currently exists. This further exacerbated the evaluation team's ability to assess outcomes.

Conclusions

First Nations SchoolNet (FNS) remains an integral part of First Nations education on-reserve. The program has enhanced the educational experience of First Nations students, provided them with valuable skills and capabilities which have increased their competencies, improved their outlook on learning as well as their confidence in their futures. The program has also provided students with the option of staying in their communities with their families as they complete their education through distance learning which has positively affected retention and graduation rates while providing access to opportunities similar to students from provincial schools. This is in line with

¹ Integrated Results-Based Management Accountability Framework and Risk-Based Audit Framework, May 2007.

the Government of Canada's commitment to increasing educational outcomes for First Nations students as well as INAC's commitment to improving overall education programming.

The use of a decentralized Regional Management Organization (RMO) delivery model is seen as both effective and efficient and RMOs have developed partnerships with both the public and private sector to reduce costs, maximize opportunities and provide economies of scale. This has largely supported the success of the program in positively contributing to educational outcomes, cultural education, cultural and linguistic preservation, mitigating isolation and allowing access to other essential services in the schools and the communities. FNS has provided the backbone that is being utilized by other partners, enabling the leveraging of resources.

In terms of program design, issues around consistency of program objectives combined with a lack of performance measurement data made it difficult for the evaluation to assess the achievement of expected results.

FNS has produced broad community impacts, in that connectivity provided to the community by FNS and, in some cases, the hardware and software, are being used by other groups including adult learners, parents, Elders, youth and women's groups. The Government of Canada recognizes that knowledge and technology are key to future opportunities and that investments in these areas are critical. Sustainability of access to technology, ICT, e-learning, video-conferencing and other opportunities is not sustainable in First Nations communities without a direct, targeted investment.

While FNS is meeting real needs in both First Nations schools and the broader community, communities continue to struggle with the effects of geography, distance, and related accessibility issues. The inability to reach connectivity objectives and provincial comparability is significant. Furthermore, evolving ICT and e-learning has meant that equipment investments in schools are not keeping pace with technological advances and will soon outlive their usefulness to access distance learning, videoconferencing and other connections essential to enable access to learning resources. Funding levels to FNS have not allowed this program to keep abreast of technological advances nor to attain its original objectives.

Recommendations

It is recommended that INAC:

1. Consider the renewal of First Nations SchoolNet in order to ensure access to Information and Communications Technology (ICT) and e-learning which contributes to the overall objectives for education and which supports the educational outcomes of First Nations learners.
2. Explore options to ensure adequate technical support is available to SchoolNet, to maximize economies of scale.

3. Integrate First Nations SchoolNet into the overarching Education program within INAC to maximize the impact of ICT to facilitate learning.
4. Develop a Performance Measurement Strategy for First Nations SchoolNet that enables the collection of relevant performance measurement data to be able to measure progress towards articulated outcomes. This strategy will need to be integrated into the broader strategy for Education as a whole.
5. Undertake a review of connectivity to determine whether the broader connectivity needs of First Nation communities are being met by First Nations SchoolNet, whether this is an appropriate role for the program, and whether the Federal Government has a role to play in meeting the broader connectivity needs of First Nation communities.

1.0 Introduction

The summative evaluation of the First Nations SchoolNet (FNS) program is organized around evaluation issues of rationale and relevance; design and delivery; outcomes and success; and efficiency. The objective of the evaluation is to determine whether the rationale for FNS 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. It is anticipated that the findings and recommendations of this summative evaluation will be utilized to support decisions regarding the future of FNS, as well as to initiate any changes to the policy and management of the program.

1.1 Context

The First Nations SchoolNet (FNS) program has its roots in Industry Canada's SchoolNet Program, which began in 1994 as part of the larger initiative, "Building a More Innovative Economy." This initiative was to provide internet access across Canada ensuring connectivity despite geographic and socio-economic barriers. SchoolNet was a family of initiatives and practices which shared the common objective of connectivity of schools and the development of educational tools for the use of this technology.

FNS became a separate program under SchoolNet in 1996 with an initial mandate of connecting all First Nations schools to the internet through dial-up access. In 2000, program delivery was shifted from a centralized approach to a regional, contribution agreement-based model with six First Nations Regional Management Organizations (RMOs). In 2003-04, additional funding was approved to ameliorate connectivity through high speed networks and services, including: the purchase of equipment and software; helpdesk support; building IT capacity in the schools (teachers, students and technicians); and, creating information and communications technology (ICT) content and applications.

Funding for FNS was to terminate in 2006; however, additional bridge funding was approved to allow SchoolNet (including FNS) to continue until March 31, 2007, at which time the main SchoolNet program was scheduled to sunset. In November 2006, the FNS program was transferred to the Education Branch of Indian and Northern Affairs Canada (INAC). Subsequently, FNS was extended until March 31, 2009, while future options for the program were being considered.

1.2 Program Description

The First Nations SchoolNet program's current mandate enables schools and learning centres such as storefronts and internet high schools to connect to online sources and provide opportunities for learners on reserve to acquire the skills and knowledge needed to participate in the expanding knowledge-based economy. It does so by providing

connectivity infrastructure to support new teaching strategies; by supporting the development of culturally relevant online resources that are accessible across the community, across the region and across the country; by providing learners on reserve with technology resources comparable to those available to provincial counterparts; and, supports skill development opportunities to both students and teachers, as well as enhancing employability skills of youth on reserve.

The program pairs connectivity activities with the provision of help desk technical services to facilitate the understanding and use of ICTs. This strengthens overall community capacity by having people with the skills available that make it possible to sustain modern infrastructure within their communities.

A principle objective of the Department's elementary/secondary education programming is the provision of school programs reasonably comparable to those in provincial schools. As connectivity has become an invaluable tool in schools, and with computer skills now considered to be fundamental for participation and success in today's knowledge-based economy, FNS contributes to the improvement of education on reserve and the general preparation of learners to continue their education in post-secondary institutions or to enter the job market. For example, technology is part of every student's basic education in Alberta.²

The First Nations SchoolNet Program encourages the development and efficient use of Internet-based communications systems within First Nation communities by increasing the integration of ICTs into learning settings and supporting communities of interest. ICT integration into learning environments fosters the development of innovation and technology for the Canadian economy.

The FNS program is operated by INAC through annual Contribution Agreements with 6 Regional Management Organizations (RMOs) that administer and manage the program in their respective regions. The list of RMOs is provided below.

Region	Regional Management Organization
British Columbia	First Nations Education Steering Committee (FNESC)
Alberta/Saskatchewan	Keewatin Career Development Centre (KCDC)
Manitoba	Keewatin Tribal Council (KTC)
Ontario	K-Net Keewatinook Okimakanak (KO)
Quebec	Conseil en éducation des Premières nations (CEPN)
Atlantic	Mi'kmaw Kina'matnewey (MK)

A complementary program that dovetails with FNS is the First Nations SchoolNet Youth Initiative (FNSYI). This initiative is designed to help First Nation youth living on reserve, between the ages of 15 and 30, who are facing barriers in finding employment and learning opportunities. The program assists youth in accessing programs and services to help them gain valuable ICT skills training, knowledge, career information

²Alberta Ministry of Education <http://www.education.alberta.ca/admin/technology.aspx>.

and work experience they need to find, create and maintain employment and/or continue their education. The FNSYI is beyond the scope of this evaluation.

Program Funding

While the overall funding for SchoolNet was decreased from \$45M/year to \$25M/year in March 2004, the proportion of the budget for FNS increased from \$12M in FY03/04 to \$15M/year for FY04/05 and FY05/06 to reflect concerns that the quality of services to First Nations schools was well below provincial school standards. SchoolNet was initially scheduled to sunset at the end of FY05/06; however, Cabinet decided to transition the SchoolNet program for an additional year, but with an additional 50% budget cut to \$12.5M of which \$6.68M was allocated to FNS.

As the broader SchoolNet initiative sunset at the end of FY06/07, negotiations began to transfer FNS to INAC. The transfer was made at the end of November 2006. INAC's Treasury Boards submission to Cabinet for the following two years (FY07/08 and FY08/09) was to maintain funding at \$6.68M/year. A departmental reallocation of \$3.1M in FY07/08 brought the funding levels up to \$9.78M; in the current fiscal year (2008/09), the departmental reallocation brought the FNS budget to \$6.9M.

2.0 Evaluation Methodology

2.1 Evaluation Mandate

Summative evaluations of federal government programs involve analysis of program/policy rationale and relevance; design and delivery; outcomes and success, and efficiency or cost effectiveness. The objectives of this evaluation are to determine whether the rationale for FNS remains relevant; whether the intended impacts are being achieved; whether the program obtains value for money; and whether the program is being delivered in a cost effective manner.

2.2 Evaluation Issues

The evaluation focused on the following issues:

- *Relevance:* Is the policy and programming consistent with departmental and government wide priorities and do they realistically address an actual need?
- *Success:* What progress has the policy and programming made in meeting its objectives, within budget and without unwanted negative outcomes?
- *Cost-effectiveness:* Are the most appropriate and efficient means being used to achieve outcomes, relative to alternative design and delivery approaches?
- *Design and Delivery:* Are program roles and responsibilities clear? Are programs being delivered as designed?

2.3 Data Sources

Data collection for this evaluation consisted of multiple lines of evidence, and results were based on the analysis and triangulation of data where possible. Data sources and instruments included:

- Documentation/literature/file review - content analysis;
- Key Representative interviews (N=13) - telephone and in-person interviews;
- Key Informant interviews (N=40) – videoconferences or teleconferences with five groups of informants:
 - Program Funders (INAC), Program Managers, Administrators, and other F/P Government Departments (N=8)
 - Students, Parents/Relatives, Elders (N=9)
 - Teachers, Principals, Directors of Education (N=13)
 - Bands, Tribal Councils, Education Boards, Chiefs (N=1)
 - Other Partners, Research, Industry (N=9)

- Web-based survey (304 responses representing 143 schools) – four audiences;
 - Teachers
 - Principals/School Administrators
 - Students
 - Parents/Relatives/Elders
- Multi-site case studies (3) – interviews, observations, file review.
 - Eel Ground, New Brunswick
 - Sioux Lookout, Ontario
 - Paul Band, Alberta

2.4 Limitations

Initially, no evaluative work was scheduled for the FNS program. In the fall of 2008, however, it was determined that an evaluation would be the most appropriate means to inform the renewal of the program. Therefore, the Evaluation, Performance Measurement and Review Branch engaged a consulting firm to perform the evaluation from November 2008 to February 2009. This short timeframe presented a significant challenge for the evaluation team to complete the report prior to the expiry of authorities on March 31, 2009.

Furthermore, a lack of baseline and outcome-specific quantitative data limited the capacity of the evaluation to substantiate some findings with numerical data. While this is done where possible, much of the data sources are qualitative in nature. A large amount of quantitative data was collected at the output level, which does not allow for an appropriate assessment of outcomes.

Finally, little to no performance reporting currently exists. This further exacerbated the evaluation team's ability to assess outcomes.

3.0 Relevance

Results from the evaluation conclude that:

- The First Nations SchoolNet Program is highly consistent with the objectives of the Government of Canada (GOC) and Indian and Northern Affairs Canada (INAC)
- FNS is an appropriate response to meet the needs of students in First Nations schools and is fulfilling a need for connectivity in the communities

The First Nations SchoolNet Program is highly consistent with the objectives of the Government of Canada and INAC

Improvements to First Nations education has been a consistent objective of the Government of Canada. Recently, in the 2008 Speech from the Throne, the Federal Government committed to:

“...taking steps to ensure that Aboriginal Canadians fully share in economic opportunities, putting particular emphasis on improving education for First Nations in partnership with the provinces and First Nations communities.”³

The Government is furthermore dedicating \$70 million over two years to improve First Nations education outcomes by encouraging integration with provincial systems. It acknowledges that better education outcomes are crucial for First Nations students, their families and their communities.⁴

INAC has primary responsibility for the education of First Nations children and youth on reserve and requires that their education be comparable to provincial standards. Under the Strategic Outcome “The People,” INAC has committed to actively renovating program authorities and other program provisions, including education. The Program Activity “Education,” supports increased educational attainment and skills development through, among others:

- support for culturally relevant elementary and secondary education programs and services, and
- support for curriculum and activities that preserve and promote First Nations and Inuit languages and cultures.

³ Government of Canada, 2008, Speech from the Throne, November 2008.

⁴ Government of Canada, 2008, Budget 2008: Responsible Leadership.

The importance of culturally relevant material in the school curricula is well identified as an important factor in the success of First Nations learners and in the social well being of the community. FNS has been utilized as a tool for educators to gain access to Aboriginal specific teachings, contact with Elders through video conference technology, and access to culturally relevant First Nations curriculum materials.

Additionally, INAC, through its educational programming, is working to improve educational outcomes for First Nations through increasing graduation rates as well as boosting literacy and numeracy skills. In order to attain better educational outcomes, INAC is seeking to increase and strengthen partnerships with First Nations and provinces.⁵

Due to access to e-learning through FNS, many First Nations youth have the option of completing their education in their own communities. Without access to e-learning resources, these youth would have to attend school outside their communities for much of their education. Principals and teachers report that FNS has helped to keep students in school. They further report that opportunities created through FNS have reduced drop-out rates by creating opportunities for internet based education programs that would otherwise be unavailable to their students. In other words, FNS has provided children and youth in these communities with educational and career opportunities that more closely resemble those afforded to other young Canadians.

Educational advancement is linked to social and economic development, and a majority of people who participated in the survey believe that FNS has provided students with opportunities for advancement. Eighty-seven percent of teachers and 91% of principals and administrators believe that students receive better quality education because of FNS. An overwhelming number (95%) of students feel that they have developed useful knowledge and skills through computers and the internet. All key informants agreed that FNS significantly contributed to education on-reserve.

FNS is an appropriate response to meet the needs of students in First Nations schools and is fulfilling a need for connectivity in the communities

Through FNS programming, First Nations students have the opportunity to develop the essential skills needed to participate and be competitive in the knowledge-based economy. When surveyed, 99% of principals/school administrators, 95% of teachers and 96% of parents/relatives or Elders agreed that services offered through FNS are important to students.⁶

The FNS program has allowed children and youth to acquire important new skills and abilities that are similar to those afforded to students attending provincial schools,

⁵ INAC, 2008, Report on Plans and Priorities.

⁶ Evaluation, Performance Measurement and Review Branch, 2009, Web-Based Survey Technical Report.

including in the ICT domain. Many First Nations schools do not have a library;⁷ however, internet access has provided them with the search engines and information needed to successfully complete projects. Some of the skills and abilities students feel they have learned include how to perform research, use word processing and email, create PowerPoint presentations and graphics, as well as use videoconferencing technology.⁸ Fifty percent of students surveyed feel that the knowledge and skills acquired through FNS would help them get a better job after graduation, while 38% were unsure.⁹

FNS is the only program to provide connectivity and internet access to First Nations schools, and is the backbone upon which other enhancements are built. There are no resources specifically targeted for technology or connectivity in the schools' budgets. While schools have some latitude to move resources to priority areas, schools are not at this time resourced at a level to sustain this service. Research indicates that fewer First Nations homes have access to computers and the internet than other Canadian households. Income constraints and/or lack of access to internet service providers create barriers for many First Nations families to access ICT. As such, FNS provides many First Nations children from these homes with their first and only access to computers and digital technology.

Furthermore, FNS has provided some communities with the ability to create hubs around internet access. Band offices, health centres, social program departments and community members have accessed the connectivity brought by FNS, including access to e-Government services. According to key informants, FNS has come to play a major role in these communities.¹⁰ Many of the people interviewed also made the link between internet access and computer technology through FNS and economic development opportunities for their communities, but acknowledged that these opportunities would likely not be possible without federal funding. Due to the remote location of some communities, some internet providers do not put in place the infrastructure necessary to bring connectivity on reserve.

Summary and Conclusions

The First Nations SchoolNet program is considered to be a highly relevant program in terms of its fit with Governmental and INAC priorities, its appropriateness in meeting a need in First Nations schools, as well as a need for connectivity in First Nations communities.

⁷ Evaluation, Performance Measurement and Review Branch, 2009, Key Informant Interviews Technical Report.

⁸ Evaluation, Performance Measurement and Review Branch, 2009, Web-Based Survey Technical Report.

⁹ Ibid.

¹⁰ Evaluation, Performance Measurement and Review Branch, 2009, Key Informant Interviews Technical Report.

The Government of Canada has made a strong commitment to increasing educational outcomes for First Nations students, and improving educational programming remains a key priority for INAC. The program has created opportunities for students that would not otherwise be available to them, and half of the students surveyed for this evaluation felt that the skills they acquired through FNS would help them get a job after graduation. Finally, the program addresses a large gap in on-reserve connectivity services in communities where there are schools. This has allowed for the creation of multiple partnerships and potential economic development opportunities.

FNS is meeting a real need that is expected to increase as technology advances and First Nations students prepare themselves to enter the labour market. The skills and abilities afforded to them through this program will have numerous long-term benefits.

4.0 Design and Delivery

Results from the evaluation conclude that:

- FNS does not have clearly articulated program objectives or outcome-specific performance measurement data
- Regional Management Organizations (RMOs) are an appropriate mechanism to administer this national program within a regional context
- There continue to be challenges in delivery to overcome

4.1 Design

FNS does not have clearly articulated program objectives or outcome-specific performance measurement data

Program Objectives

Schoolnet's initial objective, when established in 1996, was to provide support for the development and use of internet-based communications systems within the Canadian learning community by increasing the integration of ICT into learning settings, including First Nations Schools.¹¹

Shortly after the transfer of FN SchoolNet to INAC, program documents echo SchoolNet's original objective, while also emphasizing the importance of internet-based communications systems to the development of innovation and technological advances of benefit to the Canadian economy. The 2007 RMAF indicated that the intent of increasing the integration of ICT into learning settings and supporting communities was to encourage the development and efficient use of internet-based communications systems within First Nation communities.

Beyond these larger goals, the FNS specific objectives do not clearly articulate the links between ICT and larger societal or educational goals. Moreover, the evaluation found the Program is operating with at least two differing and inconsistent sets of program objectives. As shown below in Table 1, the INAC Reporting Guide places an emphasis on issues related to access to technology. Other documents go a bit further in making the connection between ICT access and educational outcomes. The RMAF, for example, speaks in a limited way to what should be expected over the short-term once access is achieved (e.g., innovative practices, stimulating on-line learning activities). 2008 program documentation¹² also provided additional program goals as indicated below:

¹¹ Industry Canada. 2006. Treasury Board Submission. Subject: 2006-2007 Industry Canada Sunsetting Programs.

¹² Powerpoint presentation: First Nations SchoolNet Program, March 2008.

Table 1: Program Objectives across Program Documents

2007	2008-09	2008
RMAF	INAC Reporting Guide	Program Documentation
<ul style="list-style-type: none"> Innovative uses of ICT and efficient practices in learning settings; Availability of technical support and other support for the integration and use of ICT; First Nation schools on reserve connected to the internet; and Stimulating on-line learning activities.¹³ 	<p>To provide students and school staff with:</p> <ul style="list-style-type: none"> internet access and IT equipment Technical support and training (also assists schools to connect with e-learning resources).¹⁴ 	<p>2002: provide hi-speed (1.5Mbps) connectivity to all FN schools</p> <p>2007: provide broadband (10 Mbps) connectivity to all FN schools/ communities</p>

Performance measurement indicators, targets and expected outcomes associated with FNS are also inconsistent. As shown below in Table 2, targets are expressed in terms of the ‘maintenance’ of ongoing supports, services and linkages, while expected outcomes are expressed in terms of ‘increases’ in access, in the development of e-learning resources, and increased interest of industry favoring culturally relevant educational e-content.

Table 2: FNS Performance Measurement Indicators, Targets and Expected Outcomes

Performance Measurement Strategy	Performance Measurement Plan	Performance Measurement Strategy
Indicators	Targets (2007-2009)	Expected intermediate outcomes
<ul style="list-style-type: none"> The level of connectivity provided (i.e. T1, T2, T3 connections); Distance learning technological abilities (video-conferencing); The ratio of computers to students. 	<p>Will have maintained:</p> <ul style="list-style-type: none"> the number of First Nation Schools supported; the number of services provided; the level and nature of e-learning resources and distance learning tools being used by schools; and, the level and nature of linkages with other partners such as health and justice organizations, private sector and provincial education ministries. 	<ul style="list-style-type: none"> Increased access to high speed internet, video-conferencing and other ICT technologies by young First Nation learners and learning professionals; Increased development and availability of e-learning resources/content to cover a full range of educational and career opportunities; and Increased interest of the industry, jointly with First Nation schools, to undertake development of culturally relevant educational e-content.

¹³ Integrated Results-Based Management Accountability Framework and Risk-Based Audit Framework, May 2007.

¹⁴ INAC, INAC 2008-09 Reporting Guide, page 16.

Given the fact that INAC had expected to manage the program for two years prior to its sunset, that the resources available were at a level that allowed for maintenance of current systems and infrastructure, not growth, and that INAC specifically stated that it would maintain operations on an interim basis, the Performance Measurement Plan target's seem to be the best fit with the program's reality.

Regardless of what set of expected outcomes are valid, the program also suffers from very limited or relevant performance measurement data. Two key studies which were expected to inform performance measurement (an Education Review and a Connectivity Review) were not completed. In addition, the FNS reporting requirements call for large amounts of output data including connectivity type, telecom supplier, helpdesk activities and services, number of video-conferencing sessions held, promotional activities and organizational structure.¹⁵ This output data would not have allowed for an appropriate assessment of outcomes, even if the program's goals and expected outcomes were better articulated.

4.2 Delivery

Regional Management Organizations (RMOs) are an appropriate mechanism to administer this national program within a regional context

FNS operates under a decentralized model where most of the program delivery is administered by six RMOs that are funded through annual contribution agreements with INAC. RMOs are responsible for the implementation and administration of FNS in their region. They are accountable to INAC and manage 100% of the contribution funding.¹⁶

The role of INAC is to support and provide information to RMOs and the role of RMOs is to support and provide information to schools. What this support looks like varies among RMOs. The network has also developed informal mechanisms whereby specific RMOs take the lead in particular areas so that each RMO has an area of expertise that can be accessed by all.

Key informants were extremely positive about the RMO model of program delivery; it was seen as the best way to address some of the issues of geography and to meet the needs of schools and learning centres that utilize FNS. The RMOs have established ties with the communities in their region as well as provincial links and were able to bridge the gap between national FNS and regional/community interests.¹⁷ The 2005 Mid Term Evaluation of the First Nations SchoolNet Program noted that the use of RMOs to deliver the program contributed significantly to the success of the program and continued to be

¹⁵ The 2008-09 INAC Reporting Guide, FNS has three reports that RMOs submit to the Department. The Operations Connectivity Table and the Operations Quarterly Activity Report are submitted quarterly and the Operations Annual Activity Report is submitted annually.

¹⁶ INAC, 2007, Treasury Board Submission. Subject: Funding and Extension for the First Nations SchoolNet (FNS) Program.

¹⁷ Adam Fiser, 2004, First Nations SchoolNet Regional Management Organizations (RMO) Backgrounder. Canadian Research Alliance for Community Innovation and Networking Working Paper No.1.

an efficient and effective method of program delivery. This has been reiterated in this evaluation with 89% of survey respondents reporting that the quality of administration by RMOs was good to excellent.

RMO respondents indicated that they felt that they had been given enough information to deliver the FNS Program. They felt that they were given opportunities to communicate, both with INAC staff and each other. This is supported by the fact that SchoolNet has monthly videoconferences with the national office, regional offices if interested, and all six RMOs.

Principals and Directors of Education interviewed all thought that they were given enough information to manage the program and many believed that their schools receive the resources required to deliver the program.¹⁸ Many teachers felt that they were provided with the type of resources and support needed to deliver the programs offered through FNS, although there continue to be unmet needs.¹⁹

There continue to be challenges in delivery to overcome

Challenges articulated by key informants were generally concentrated in three main areas: geography, human resources and sustainability/planning.²⁰ Each is explored in more depth below.

Geography

Given the fact that FNS is a national program that serves 611 sites across the country including a substantial number of remote, isolated and rural communities, geography is a physical barrier to connectivity. The more remote and isolated the community, generally the less the connection speed. Weather, combined with geographic location, can impact the infrastructure and the ability to perform timely repairs. Due to the fact that it is not economically feasible for businesses to provide connectivity to remote and isolated communities, FNS is their only option to access this technology and the resources and advantages that accompany it. An associated challenge that was articulated was lack of access to broadband (i.e. a high speed connection). Access to broadband is required to be able to support ICT and e-learning.

The current configuration of operations of the FNS program is focused on connectivity with the goal of bringing all First Nations schools up to a high speed connection that will support e-learning platforms and videoconferencing options.

¹⁸ Evaluation, Performance Measurement and Review Branch, 2009, Web-Based Survey Technical Report.

¹⁹ Ibid.

²⁰ Evaluation, Performance Measurement and Review Branch, 2009, Key Informant Interviews Technical Report.

The level of connectivity in First Nations schools varies greatly across the country due primarily to the proportion of remote and isolated communities as well as to other geographic constraints. As of December 2007:

- 48% of First Nations schools with high speed connection
 - 6.1% had a connection speed of 10Mbps or greater
 - 41.9% had a connection speed between 1.5 and 10Mbps;
- 80% or more of First Nations schools in Alberta, Québec and the Atlantic region have high speed connection;
- Less than half of First Nations schools in the other provinces have a connection that is considered high speed.

The following table²¹ presents the percentage of schools in each province and region with high speed connection at the 2002 goal of 1.5 Mbps and the current goal of over 10Mbps as of December 2007. The percentage of schools having videoconferencing units is also detailed.

RMO/Province	Number Schools/ Learning Centers	Percent High Speed Connection		% with Video Conferencing Units
		> 10 Mbps	1.5 - 10Mbps	
British Columbia	145	6.2%	11.0%	12%
AB/SK	197	6.6%	53.3%	47%
Alberta	76	14.5%	69.7%	46%
Saskatchewan	121	1.7%	43.0%	47%
Manitoba	84	0	32.1%	18%
Ontario	183	3.8%	44.3%	35%
Quebec	47	25.5%	70.2%	62%
Atlantic	36	2.8%	77.8%	75%
New Brunswick	11	0	90.9%	91%
Prince Edward Island	3	0	66.7%	33%
Nova Scotia	21	4.8%	71.4%	71%
Newfoundland	1		100%	100%
TOTAL	692	6.1%	41.9%	35%

The other 52% of FNS connected schools and learning centres have access slower than 1.5 Mbps which is unable to support ICT, e-learning or video-conferencing.

Human Resources

²¹ Powerpoint Presentation: First Nations SchoolNet Program, March 2008.

Another barrier to implementation is the lack of human resources available to support FNS. At INAC, there is a small team²² overseeing the 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 second level 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. This is a stopgap approach that is not sustainable over time. There is a lack of capacity in many communities to provide this service, and there are schools that utilize their technical support budget very early in the school year with no option for additional support. Some schools try to get around this issue by having existing staff take on additional roles, leading to a workload burden.

Work placements through the FNS Youth Initiative component have complemented FNS activities and its objective of increasing ICT skills and support services in First Nations communities and schools.²³ Most students hired under this initiative over the past three years were hired for one work term only. Very few (28 of 627) were hired for two or more terms. From a community capacity perspective, it may be beneficial to rehire trained youth to access ICT support.²⁴ However, continued use and growth of this expertise is dependent on the school or the community hiring these technicians after their work terms are completed, with funds often not available for this purpose.

A related problem is the issue of high turnover rates of administrative and teaching staff. As the FNS budget has diminished, so has the proportion of available funds for ICT training and professional development. Access to resources, curriculum and training opportunities were seen as positive impacts of FNS that affected teacher retention rates. Diminished access to these resources conversely will negatively impact the ability to retain teachers.

Sustainability/Planning

The final area that was mentioned as a challenge throughout the interview process was sustainability/planning. Key respondents indicated that it is difficult to plan when they are unaware of what resources they will have in the next fiscal year. Concerns about the future were expressed and these have affected the management of the program at the school level. Issues articulated ranged from the inability to purchase hardware and software to the inability to plan for the future. This subject is described in more detail in the Cost-effectiveness section of this document.

Summary and Conclusions

²² Cost of salaries per annum is \$488,722. INAC TB Submission 2006-07

²³ RMO Mid-term and Final Reports.

²⁴ Review of the First Nations SchoolNet Youth Employment Initiative, February 2009.

The inconsistencies found in the program's objectives and performance measurement plan made it difficult for the evaluation to assess the achievement of expected results.

The FNS Program's utilization of regional RMOs to deliver the program was found to be appropriate and appreciated by the First Nation Schools. Given the fact that the RMO's are First Nations organizations, First Nations schools do not have the same issues with these agencies as they would have with a federal government department. Despite satisfaction with the delivery mechanism, challenges continue to exist due to geography, lack of human resources and the lack of sustainability/inability to plan for the future.

5.0 Success

Results from the evaluation conclude that:

- FNS is contributing towards First Nations education outcomes
- FNS is targeting and benefitting the appropriate audience
- FNS has helped students feel less isolated and more connected to other communities and the world
- FNS has contributed to the support and preservation of First Nations culture
- Access to technology has increased confidence in First Nations students

FNS is contributing towards First Nations education outcomes

The original SchoolNet family of programs shared the common objective of connectivity. While some programs focused on connection and the introduction of computers into the classroom, others focused on high quality educational content. Many of the success stories of the FNS program have their origins in these parallel programs, such as SchoolNet's Network of Innovative Schools (NIS). This program recognizes and supports schools that use information and communications technology in meaningful and imaginative ways to improve learning. NIS also developed an on-line network of these schools to share and showcase their innovative practices and to collaborate with other schools.²⁵

In 2007, Eel Ground First Nation School in rural New Brunswick was named one of Canada's most technologically advanced schools by the NIS. Supported by FNS, this small school, which serves 94 students from kindergarten to grade 8, has earned recognition for acquiring and using technology. This has evolved into media projects that have won international awards and been sold to governments, with the funds being reinvested into technology for the school.²⁶ One innovative example of the use of technology is an event called Celebration of Technology which took five communities from various Aboriginal cultures across Canada and connected them via videoconference.

One of the key successes of FNS has been the programs that have evolved as a result of it. Several internet high schools and other programs (such as preparation for grade seven and eight, adult learning and post secondary classes) have emerged as a result of FNS. One respondent who manages a program in western Canada noted that the program has

²⁵ Industry Canada, 2003, Formative Evaluation of the Network of Innovative Schools Program.

²⁶ Eel Ground First Nation School: One of Canada's Most Technologically Advanced Schools.
<http://www.ainc-inac.gc.ca/ai/scr/at/nwrm/gn/efn-eng.asp>.

evolved from an online high school to a school that offers grades one to 12 and post secondary courses from college and university. The respondent stated the following:

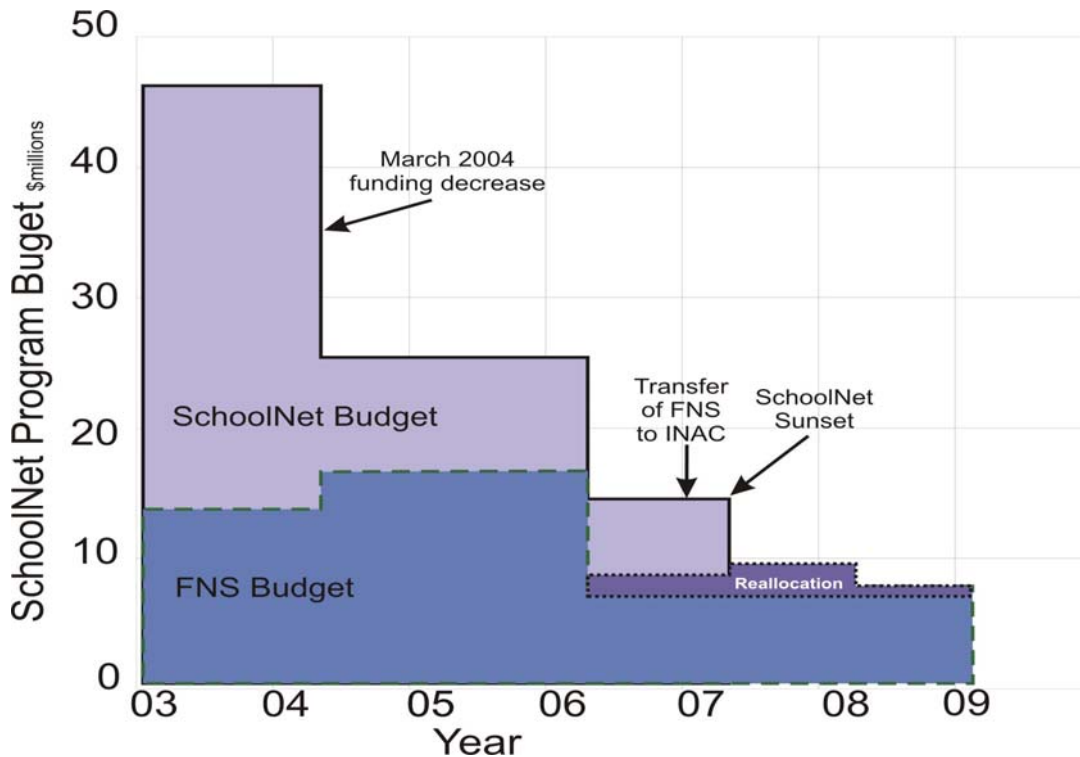
“Over the 40 years preceding the year 2000 we had 7 students who graduated from high school. Since 2000 and with the inception of this program we have had over 100 graduates. We have an 80% success (retention) rate with students entering this program.”²⁷

Without FNS, the above noted program could not deliver education programming/classes to the twenty-five communities it services as connectivity is the requirement that makes it possible. The services of this organization have had a tremendous impact at the community level and have also been recognized on an international level. It is seen as a best practice that other countries are emulating.

For all the good examples of how FNS has contributed to education outcomes, it is despite the fact that it has not been able to reach its goals with respect to connectivity. ICT and e-learning are constantly evolving and require high speed connections (both for uploading and downloading) in order to function properly. In 2002 the connectivity goal was 1.5 Mbps and as of December 2007, only 48% of schools and learning centres have met or surpassed this target. The current connectivity goal of 10 Mbps has only been met by 6.1 percent of schools and learning centres. In addition, only 35% have video-conferencing units as utilization of this technology is dependant on the connection speed.

The inability to meet connectivity goals (and hence enhance access to ICT and e-learning opportunities) can be attributed to the level at which the program is resourced. In FY 2003-04, the program received \$12 million and this increased to \$15 million per year in 2004-05 and 2005-06 when levels were increased to address the concerns that the quality of IT service to First Nations schools were well below provincial standards. The \$6.68 million per year allocated for 2006-07 and 2007-08 was increased to \$9.78 million though departmental reallocations to ensure that critical connectivity could be maintained and to cover legal obligations to delivery partners. Departmental reallocations for the current fiscal year have only brought the total up to \$6.9 million.

²⁷ Evaluation, Performance Measurement and Review Branch, 2009, Key Informant Interviews Technical Report.



FNS is targeting and benefitting the appropriate audience

FNS supports connectivity with the goal of improving education for First Nations students on reserve. The primary reach of this program is to First Nations learners and learning professionals (teachers, principals, administrators and other educators, among others). To the extent that FNS has improved access to curricula, enabled on-line research, developed student skills and abilities that will be required post graduation and contributed positively towards retention and graduation rates, students and educators are indeed the primary beneficiaries of this service.

Also listed under primary reach are First Nations communities.²⁸ This speaks directly to the issue of whether the connectivity should remain in the school or also be utilized for the broader First Nations community. Among key informants, almost all shared access to the technology provided through FNS.

Results from the survey, which were corroborated by responses by key informants, state that the following groups have benefitted from the service and access provided by FNS:²⁹

- Adult Learners (72%)
- Parents (59%)
- Elders (41%)
- Women's Groups (20%)

²⁸ INAC, 2007, Results-Based Accountability Framework for FNS.

²⁹ Evaluation, Performance Measurement and Review Branch, 2009, Web-Based Survey Technical Report.

The responses to the survey also identified government services that are available to community members because of the FNS program:³⁰

- Youth Employment Strategy (33%)
- Tele-Health (28%)
- E-Justice (9%)
- Other services (10%)

In addition, through the RMO network, linkages have been established with the private sector, universities and colleges, internet service providers, federal and provincial government services and others.

FNS has helped students feel less isolated and more connected to other communities and the world

One of the real benefits that have emerged due to FNS is that students feel less isolated from other First Nations communities as well as the rest of the world. Many First Nations communities are geographically remote or isolated and have little contact with other First Nations communities. Students are able to connect with other First Nations students allowing for the sharing of information among peers and accessing cultural and linguistic programs. Video conferencing has been used to share science projects among 100 different First Nations schools, as well as to participate in interactive videoconferencing programs like Breaking Barriers. This series of programs allows students to learn about careers, life stories and educational programs.³¹

When asked what they like about the internet, students responded that they like the ability to connect with students from other First Nations and learn more about the world. Internet access has allowed students to do in depth research about other cultures and countries that they would not otherwise have had the opportunity to learn about³²

Many successful programs made possible through FNS have offered students the chance to interact with other students at a national and international level. Eighty-five percent of students surveyed believe that having computers and the internet helps them feel less isolated and more connected to other schools and communities around the world; 91% of teachers agreed with their students, as did 92% of parents/relatives or Elders surveyed.³³

FNS has contributed to the support and preservation of First Nations cultures

Through access to technological tools as well as the ability to connect First Nations communities to each other, FNS has supported the preservation First Nations cultures. Technology in the classroom has allowed for the development and utilization of

³⁰ Ibid.

³¹ Keewatin Career Development Corporation, 2008, First Nations SchoolNet Workplan 2008-09.

³² Evaluation, Performance Measurement and Review Branch, 2009, Key Informant Interviews Technical Report.

³³ Evaluation, Performance Measurement and Review Branch, 2009, Web-Based Survey Technical Report.

culturally-relevant materials in the school curricula. Eighty-five percent of parents/relatives or Elders surveyed believe that FNS has had a positive impact on supporting and preserving their culture.³⁴ FNS has also allowed students to connect with other First Nations to access cultural teachings and language retention.

FNS has also been a useful tool for Elders. The program has provided a forum with which Elders can connect with other Elders through videoconferencing and share their First Nations languages. One Elder spoke about using technology through FNS to deliver traditional teachings and lessons about trapping and land use from a traditional perspective. Technology has helped students understand their traditions, culture and language. A large videoconference of Elders is planned for 2009 that will bring Elders together to allow for cultural exchanges and common education.³⁵

Another benefit of FNS that supports cultural preservation is the fact that connectivity in their home communities allows First Nations students to stay at home with their families rather than move away to obtain their education. This can be very beneficial for students who wish to learn more about their culture, as families are often the best source for cultural teachings.

Access to technology has increased confidence in First Nations students

The evaluation has found evidence that student confidence levels have increased as a result of the skills and abilities they have gained through programming provided by FNS. Teachers and principals report enhanced self-esteem and confidence in their students, as well as an increased interest in learning as a result of computers available in the classroom and connectivity levels which allow for expanded use.³⁶

Students interviewed attest to their enthusiasm for school and being able to use computers in their classrooms. Students themselves claim to have more confidence and optimism about their futures. Of the students who participated in the survey, 87% say that having computer and internet skills has increased their self-esteem.³⁷ Moreover, 96% of respondents in the parents/relatives or Elder group agree that FNS has given their children new confidence, skills and opportunities, and a further 68% believe that their children are more likely to graduate as a result.³⁸

³⁴ Ibid.

³⁵ Evaluation, Performance Measurement and Review Branch, 2009, Key Informant Interviews Technical Report.

³⁶ Evaluation, Performance Measurement and Review Branch, 2009, Web-Based Survey Technical Report.

³⁷ Ibid.

³⁸ Ibid.

Summary and Conclusions

The First Nations SchoolNet program has been successful at contributing to First Nations education outcomes by appropriately targeting and benefitting students and teachers. The program has also expanded to accommodate some of the larger community needs.

Many success stories have been attributed to FNS, its programming and its services despite the program's inability to reach its connectivity objectives. Much of this is made possible by the positive impact created by partnerships, due in large part to the efforts of RMOs to create these linkages.

Other benefits include contributions to cultural education and cultural/linguistic preservation, mitigating isolation and boosting the confidence of First Nations learners. The connections both to culture and other First Nations communities help provide the support network that is critical for learning and, combined with the tools and technology offered by FNS, helps improve confidence levels of students.

The continued success of this program is essential to the success of the First Nations students who use it. As the improvement of education outcomes for First Nations is a key priority for INAC, the successes of this program should be thoroughly understood by the department, and expanded on where possible.

6.0 Cost-Effectiveness

Results from the evaluation conclude that:

- FNS is creating cost-sharing and cost-saving opportunities that allow for economies of scale
- Investment in new technologies and broadband/bandwidth is needed
- The cost of connectivity would not be sustainable for many schools without FNS

FNS is creating cost-sharing and cost-saving opportunities that allow for economies of scale

Community benefits and best practices

The internet connection provided to the community by FNS and, in some cases the computers, hardware and software, are being used over and above traditional use by students in a classroom setting. These resources have allowed access for a significant number of other groups within the community; notably, community members and groups. Adult learners are using the computers in the schools to take on-line and university courses, and community members are able to access e-Government services through the computer systems and connections available through FNS.

Outside the physical school setting, band administration, health services, public security and justice and local entrepreneurs are among the groups of users that have gained access to the internet by the connection through FNS.

Second and third level service providers have also been able to gain access to communities through the connectivity and technology provided by FNS. Considerable cost-savings have occurred, for example, through videoconferencing technology. One example provided to evaluators was of a second-level service provider servicing communities in northern parts of the region who was able to save an estimated \$10,000 to 15,000 per meeting in travel costs as a result of videoconferencing facilities.

Partnerships, RMO networks and best practices

The RMOs work in partnership through the National Aboriginal Broadband Network to deliver ICT to First Nations communities across the country. Economies of scale are being realized through sharing of resources and best practices, group/bulk purchasing of hardware and software, as well as negotiating long-term leases for connectivity. For example, K-Net (Ontario) negotiations with Bell Canada have substantially reduced the cost of regional access to broadband services. Through bulk purchasing, K-Net was able to reduce the per month community access from almost \$7,000/month to \$3,700/month

for the same services, and as low as \$1,840/month for less bandwidth.³⁹ This represents a net decrease of between 48% and 74% in the total cost of network access.

Intra-regional efficiencies are also being explored and implemented. KTC in Manitoba, K-NET in Ontario and CEPN in Québec are working together on a Northern Indigenous Community Satellite Network to purchase two satellite transponders to provide service to 45 First Nations schools and communities in the northern regions of these provinces. The Atlantic region has also collaborated with Quebec to serve the First Nations schools in Labrador. In addition, videoconferencing programs and resources are being shared across regions and internationally.

Moreover, partnerships with government and/or private sector organizations have flourished as a result of the connectivity provided by FNS. Reporting on these partnerships is included in the Annual SchoolNet Activity Report template. Examples include:

- FNEC, the BC RMO, works with the province, Health Canada and the First Nations Technology Council (FNTC) to improve connection to First Nations communities.
- KCDC in Alberta and Saskatchewan work with universities and other educational institutions, as well as with the Saskatchewan Communications Network.
- Partnership with Broadband Communications North (BCN) has allowed MFNS to upgrade connectivity to broadband in many schools.
- In an effort to bring fiber to communities in a holistic fashion, the Atlantic RMO partnered with Health Canada – First Nations and Inuit Health Branch (FNIHB), the Economic Development Office, Membertou First Nation as well as Aliant.⁴⁰
- FNEC in Quebec has partnered with several suppliers in order to maximize economies of scale in attaining technologies as well as with Health Canada. FNEC has also partnered with Health Canada and the INAC regional office for year one of a two year fiber optic proposal to install connectivity to FN communities that do not have this type of connection.
- K-Net successfully accessed funding from FedNor to upgrade services including videoconferencing sites in schools (FNS Final Activity Reports, 2008).
- KCDC, in its five-year plan (Keewatin Career Development Corporation, 2008) is working to expand their helpdesk services to provide technical assistance to Health Centres, Band Offices, Community Agencies and businesses.

FNS has evolved into a multi-partnership model, with a multitude of co-funders, sponsors and partners, which includes:

- School Boards (e.g. New Brunswick District 16);
- Provincial Governments (e.g. Ontario Ministries of Education, Alberta SuperNet, Temiscaming-Abitibi Region of Quebec);

³⁹ K-Net, Affordable Network Access, [<http://www.knet.ca/services>].

⁴⁰ The agreement with Aliant has lapsed and no new agreement has been signed due to the fact that FNS does not have secure funding beyond the current year (email communications from Kevin Burton via INAC, August 2008).

- Federal Government Agencies and Departments (e.g. FedNor, Health Canada, Human Resource Development Canada, Service Canada);
- Universities and Colleges (e.g. University of Toronto, University of New Brunswick); and,
- Tribal/Band Councils.

Another innovative partnership has been with the Cisco⁴¹ Networking Academy. This technology learning organization, in partnership with the RMOs has developed training programs tailored for First Nations which are delivered through e-learning and videoconferencing. Cisco has proposed a new course that would allow First Nations students to remain in their communities while taking an internationally accepted distance learning IT program. Graduates would be able to work in ICT support positions within their community or enter the larger Canadian labour market. The training proposed is dependent on the advanced technical infrastructure and support which is currently paid for by FNS. However, Cisco identifies the instability of FNS funding as a potential barrier to providing this training program. In addition, there is recognition that other services such as health, justice, heritage and language programs that utilize the connections established and maintained by FNS will be jeopardized if the funding cuts seen in FNS over the past few years continue.⁴²

Service provider economies of scale

The need for a more integrated approach to connectivity was a recurring theme in this evaluation study from all lines of evidence.

FNS has provided the conduit for connectivity in many First Nations communities. However, a more community-level holistic approach to connectivity has been promoted by the RMOs as potentially providing better connectivity at a lower and sustainable price to the community. This approach would see a lead department oversee and administer broadband connections provided to a Point of Presence (POP) at a community e-centre with applications to various departments/centers (health, education, justice, governance) from this site. This approach would add efficiency of appropriate technology to current services in a community and allow for needed expansion to other services. Some communities use different providers for their connectivity needs, while aggregating their resources would allow for better coverage and better service at the same time.

Investment in new technologies and broadband/bandwidth is needed

Investing in the future is a key priority for the Government of Canada. As stated in the 2008 Budget, "...technology plays an important role in almost every aspect of our lives,

⁴¹ Cisco is the leading supplier of networking equipment and network management for the Internet. See www.cisco.com.

⁴² Cisco Networking Academy, 2008, A proposal to train First Nations information and communication technology networking professionals for the Department of Indian and Northern Affairs.

and can provide solutions to many of the issues that are most important to Canadians.”⁴³ If Canada is to stay competitive in the global economy, its success will largely depend on the investments it makes on rapidly changing and evolving technologies. Currently, access to new technologies in First Nations schools and communities has been hampered by FNS budget cuts that have kept the program in maintenance mode.

Furthermore, many of those interviewed feel that their computers, hardware and software are in the final stage of their useful life and will soon become obsolete. If no investment is made to replace old technologies, the program will have difficulty providing the services needed to give students the opportunity to compete in the digital era. Many respondents articulated their concern that without the provision of financial resources, First Nations schools will be prevented from advancing to the same level as the provincial public school systems. Most respondents interviewed did not believe that First Nations schools are close to achieving comparability to provincial schools in terms of ICT capacity and resources. While upgrades will require continuous investment, the benefits are considerable, particularly for students who are preparing to enter the labour market.

Moreover, investment in broadband⁴⁴/bandwidth⁴⁵ will be essential if the program is to be successful in the future. As stated earlier in the delivery section, 52% of First Nations schools receive less than 1.5 Mbps, which cannot support ICT, e-learning or videoconferencing. Evaluators were informed that there is broadband infrastructure that currently exists (fibre) in Canada that is not being utilized. As fibre becomes less expensive, one expert interviewed argued that if the government were to take advantage of unused fibre systems (‘dark fibre’), it could multiply bandwidth tenfold.⁴⁶

The cost of connectivity would not be sustainable for many schools without FNS

INAC, through FNS, is providing an essential service to First Nations schools that would otherwise be difficult for many to sustain. Connectivity charges in remote and isolated areas can cost thousands of dollars per month, and without the program, some schools would simply not be able to cover the cost.

When asked about consequences of the FNS Program sunseting, the majority of the respondents who deliver the program (Directors of Education in particular) indicated that they did not have budgets to support the program if funding were cut. They would either have no connectivity or limited connectivity if they could carve out funds to support a small technology budget.⁴⁷ Many teachers, educational administrators, band leaders and

⁴³ Government of Canada, 2008, 2008 Budget: Chapter 3 - Economic Leadership: Investing in the Future.

⁴⁴ Broadband refers to a communications network in which bandwidth can be divided and shared by multiple simultaneous signals (as for voice or data or video).

⁴⁵ Bandwidth refers to the maximum amount of information (bits/second) that can be transmitted along a channel, such as broadband.

⁴⁶ Evaluation, Performance Measurement and Review Branch, 2009, Key Informant Interviews Technical Report.

⁴⁷ Ibid.

RMOs interviewed are concerned about the future of FNS. They worry that without this program, they will not be able to afford the provision of adequate resources and services to their schools and communities.

With regards to the decrease in allocation in recent years, respondents were unanimous in criticizing the negative effects this has had on the FNS program. Some expressed fear that what the program had achieved would be undermined or destroyed. Respondents cite funding uncertainty as a major problem which inhibits any mid to long-term ICT planning. Moreover, 48% of the principals/administrators interviewed responded that they had to reduce or scale back planned activities, particularly in areas like equipment, skills training for teachers and videoconferencing. Equipment that is nearing the end of its useful life is not being replaced, and this will impact on the ability of students and teachers to access ICT and e-learning, as well as other critical elements of the FNS program.

Summary and Conclusions

The First Nations SchoolNet program provides numerous cost-sharing and cost-saving opportunities, though investment in new technologies and broadband/bandwidth are necessary. Without the program, many First Nations schools would not be able to afford the cost of connectivity.

Current practices have provided for economies of scale, though more opportunities are possible. The Government of Canada recognizes that knowledge and technology are key to future opportunities, and that investments in these fields are critical. Technologies in First Nations schools are on the verge of becoming obsolete, and thus investments to replace old technologies will be essential to bridge the gap between First Nations students and their provincial counterparts. Without FNS, many First Nations schools would simply not be able to afford the costs of connectivity, while others are already experiencing a reduction of planned activities due to budgetary cuts.

Countless opportunities exist with knowledge, innovation and technology. Given the cuts to funding, the program has done an exceptional job at continuing to create and maintain partnerships, as well as to share resources and maximize benefits to First Nations students and communities. Further consideration of how this program can benefit First Nations and the Government of Canada should be considered.

7.0 *Conclusions*

First Nations SchoolNet (FNS) remains an integral part of First Nations education on-reserve. The program has enhanced the educational experience of First Nations students, provided them with valuable skills and capabilities which have increased their competencies, improved their outlook on learning as well as their confidence in their futures. The program has also provided students with the option of staying in their communities with their families as they complete their education through distance learning which has positively affected retention and graduation rates while providing access to opportunities similar to students from provincial schools. This is in line with the Government of Canada's commitment to increasing educational outcomes for First Nations students as well as INAC's commitment to improving overall education programming.

The use of a decentralized Regional Management Organization (RMO) delivery model is seen as both effective and efficient and RMOs have developed partnerships with both the public and private sector to reduce costs, maximize opportunities and provide economies of scale. This has largely supported the success of the program in positively contributing to educational outcomes, cultural education, cultural and linguistic preservation, mitigating isolation and allowing access to other essential services in the schools and the communities. FNS has provided the backbone that is being utilized by other partners, enabling the leveraging of resources.

In terms of program design, issues around consistency of program objectives combined with a lack of performance measurement data made it difficult for the evaluation to assess the achievement of expected results.

FNS has produced broad community impacts, in that connectivity provided to the community by FNS and, in some cases, the hardware and software, are being used by other groups including adult learners, parents, Elders, youth and women's groups. The Government of Canada recognizes that knowledge and technology are key to future opportunities and that investments in these areas are critical. Sustainability of access to technology, ICT, e-learning, video-conferencing and other opportunities is not sustainable in First Nations communities without a direct, targeted investment.

While FNS is meeting real needs in both First Nations schools and the broader community, communities continue to struggle with the effects of geography, distance, and related accessibility issues. The inability to reach connectivity objectives and provincial comparability is significant. Furthermore, evolving ICT and e-learning has meant that equipment investments in schools are not keeping pace with technological advances and will soon outlive their usefulness to access distance learning, videoconferencing and other connections essential to enable access to learning resources. Funding levels to FNS have not allowed this program to keep abreast of technological advances nor to attain its original objectives.

8.0 Recommendations

It is recommended that INAC:

1. Consider the renewal of First Nations SchoolNet in order to ensure access to Information and Communications Technology (ICT) and e-learning which contributes to the overall objectives for education and which supports the educational outcomes of First Nations learners.
2. Explore options to ensure adequate technical support is available to SchoolNet, to maximize economies of scale.
3. Integrate First Nations SchoolNet into the overarching Education program within INAC to maximize the impact of ICT to facilitate learning.
4. Develop a Performance Measurement Strategy for First Nations SchoolNet that enables the collection of relevant performance measurement data to be able to measure progress towards articulated outcomes. This strategy will need to be integrated into the broader strategy for Education as a whole.
5. Undertake a review of connectivity to determine whether the broader connectivity needs of First Nation communities are being met by First Nations SchoolNet, whether this is an appropriate role for the program, and whether the Federal Government has a role to play in meeting the broader connectivity needs of First Nation communities.

Management Response and Action Plan

Evaluation of the First Nations SchoolNet Program
Sectors: Education Branch

Management Response:

The evaluation concluded that First Nations SchoolNet Program (FNS) is an integral part of First Nations education on-reserve. It notes that the program has enhanced the educational experience of First Nations students, provided them with valuable skills and capabilities which have increased their competencies, improved their outlook on learning as well as their confidence in their futures. It also stated that for many First Nations learners, FNS has had a positive impact on their personal lives. In some cases, the program has provided them the option of staying in their communities with their families as they complete their education through distance learning, acquiring a high school diploma and going beyond to post-secondary education and training.

Below is our response to the recommendations contained in the report:

Recommendation 1:

Recommendations	Actions	Responsible Managers	Planned Implementation Date
Consider the renewal of First Nations SchoolNet in order to ensure access to Information and Communications Technology (ICT) and e-learning which contributes to the overall objectives for education and which supports the educational outcomes of First Nations learners.	INAC Education Branch has obtained a renewal for the FNS program until March 31, 2011 at status quo funding levels. The Branch is also developing program documentation to support, on a go forward basis, access to ICT and eLearning for First Nations learners.	Director General, Education Branch	Renewal – complete. Other documentation - September 2009

Recommendation 2:

Recommendations	Actions	Responsible Managers	Planned Implementation Date
Explore options to ensure adequate technical support is available to First Nations SchoolNet, to maximize economies of scale.	<p>An in-depth follow up is planned to review current and future FNS requirements for technical support including: connectivity levels, help desk support, capacity building and ICT skills development. This will allow the Education Branch to develop and assess policy and programming options with the specific objective of ensuring that adequate technical support is provided to FN schools. These options will build upon and enhance IT RMO strategies in maximizing economies of scale and scope.</p> <p>The resulting study will entail: 1) an environmental scan; 2) a gap analysis; and, 3) the development of options and modalities for program delivery.</p>	Director General, Education Branch	Environmental Scan – July 2009; Gap Analysis – October 2009; Options – December 2009.

Recommendation 3:

Recommendations	Actions	Responsible Managers	Planned Implementation Date
Integrate First Nations SchoolNet (FNS) into the overarching Education program within INAC to maximize the impact of ICT to facilitate learning.	<p>INAC Education Branch will review FNS objectives and outcomes against those of the overarching INAC Education program. The important role ICTs play for the facilitation of learning will be considered in the development of INAC's Reforming First Nations Education efforts.</p> <p>An assessment related to eLearning is currently underway as a critical first step to support this work.</p>	Director General, Education Branch	<p>A preliminary eLearning assessment is to be completed by September 2009.</p> <p>Other efforts are ongoing.</p>

Recommendation 4:

Recommendations	Actions	Responsible Managers	Planned Implementation Date
Develop a Performance Measurement Strategy for First Nations SchoolNet that enables the collection of relevant performance measurement data to be able to measure progress towards articulated outcomes. This strategy will need to be integrated into the broader strategy for Education as a whole.	<p>The Education Branch has begun the process of developing a Web-based Performance Measurement System for Education (PMSE) that will be a comprehensive national education information system for school/institution-based learning in which INAC and First Nations have a shared interest and responsibility. The PMSE is intended to integrate information about all of the education programs managed by INAC, including First Nations SchoolNet.</p> <p>An important part of the development of the PMSE is the early identification of relevant performance measures and corresponding data requirements for each education program, including First Nations SchoolNet.</p>	Director General, Education Branch	Strategy to be completed by January 2010, after discussion with First Nations in Fall 2009. The PMSE will be operational in September 2011.

Recommendation 5:

Recommendations	Actions	Responsible Managers	Planned Implementation Date
Undertake a review of connectivity to determine whether the broader connectivity needs of First Nation communities are being met by First Nations SchoolNet, whether this is an appropriate role for the program, and whether the Federal Government has a role to play in meeting the broader connectivity needs of First Nation communities.	<p>The Education Branch has recently commenced work on a project to develop a "Connectivity Review" of First Nations communities, including schools.</p> <p>In order to ensure we build on work and investments already in place, this review will be undertaken with counterparts in other directorates and branches at INAC and other OGDs to:</p> <p>1) identify the organizations best fitted to address various responsibilities and accountabilities for the components involved in the delivery of the First Nations SchoolNet Program, and</p> <p>2) to meet the Government's commitment to ensure adequate connectivity access and to support First Nations schools.</p>	<p>Director General, Education Branch</p> <p>In collaboration with:</p> <p>Director General, Economic Development, Community Investments Branch</p> <p>Director General, Community Infrastructure Branch</p>	Ongoing September 2009