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**Post-Secondary Distance Education:
Experiences of Elsipogtog First Nation Community Members**

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1 Introduction

Post-secondary distance education is an option for community members living in many Atlantic First Nations. Currently several universities in New Brunswick, Nova Scotia and further afield offer distance education to community members in Elsipogtog First Nation. The course delivery is offered through videoconferencing or the web for individuals and groups in community classrooms. These courses and technologies offer both opportunities and challenges for students who choose to study in the community where they live and work.

This exploratory paper considers some of these opportunities and challenges. The discussion includes preliminary results from research based on interviews with community members of Elsipogtog First Nation in New Brunswick. Most community members interviewed had taken post-secondary courses by distance education while living and working in their community. This paper is based on an initial analysis of these interviews. The focus is their experiences of distance education, in particular with videoconferencing and online web-based course delivery systems.

2 Research on First Nations Students and Post-Secondary Distance Education

Information and communication technologies (ICT) for distance education at post-secondary level is currently a hot topic for educators wanting to understand how to best deliver courses and engage students living in remote and rural First Nations. A number of studies have been published about the need for and benefits of post-secondary distance education in First Nations (Davis, 2000; Deer & Hakansson, 2005; Ives & Aitken, 2008; Russell et al., 2005). The primary benefit is obvious: studying in the same community where you live with your families and work has many advantages over leaving the community to study elsewhere.

There has been almost no research conducted in First Nations with community members to understand how to best support post-secondary First Nations students studying by distance education. Most of the studies that do exist are evaluations of university or college courses; several of these have considered the broader perspectives of First Nations students living in their communities. For example, Ives and Aitken (2008) discuss the outcomes of delivering social work education at a distance to Community Services staff members in Kahnawake First Nation near Montreal. Two courses were offered through the McGill School of Social Work via McGill's MyCourse website. The approaches and technologies included readings, audio and video clips, reflection logs, quizzes and downloadable toolkits, and instructional support via email and videoconferencing. The authors conclude that communities need to be involved and course material needs to be adapted for First Nations communities otherwise social work could contribute to continued cultural imperialism and colonization.

Although culture influences the acceptance and use of online learning systems, there is a lack of research examining the experiences of learners from different cultural groups. Russell et al. (2005) studied the experiences of Aboriginal nursing students participating in an online nursing university degree program at the University of Manitoba. The courses used various delivery modalities, including videoconferencing, a web-based conferencing system, and email. Researchers emphasized the overall positive student experiences of remaining in their home communities for their educational programs. They also found challenges such as a loss of personal interaction with instructors, leading to: diminished respect for the instructor, learners perceiving they were not learning but merely being programmed, and faculty members' lack of familiarity with the unique culture of distant sites (Russell et al., 2005).

The current study of Elsipogtog First Nation community members is an exploration of their experiences of and perspectives on various distance education options such as videoconferencing and web-based systems. The researchers could find no previous studies exploring the experiences of community-based post-secondary education students with these technologies. This exploratory paper is based on an initial analysis of interviews recently completed with Elsipogtog First Nation community members. We plan to expand on this study in future papers to consider many more issues raised by First Nation community members related to their experiences with distance education.

3 Profile of Elsipogtog First Nation and Education Levels of Community Members

Elsipogtog First Nation, formerly called the Big Cove Band, is a Mi'kmaq First Nation in New Brunswick, Canada with a population of 3,090 registered in the 2006 census. Elsipogtog or L'sipuktuk means *River of Fire*. The community operates an elementary school, Health and Wellness Center, Alcohol and Drug Treatment Center, recreational facility with an arena, youth centre with public computer access, community church, daycare and head start programs, RCMP detachment, Gas Bar and Motor Inn, and a restaurant as well as offering a variety of other services and activities to Elsipogtog First Nation community members.

The Elsipogtog First Nation territory is nine kilometres west of the village of Rexton and about 170 kilometres (a two to three-hour drive) east of Fredericton. The provincial capital is home to two English-language universities - the University of New Brunswick and St. Thomas University.

As illustrated in Chart 1, the 2006 census found that 65 Elsipogtog First Nation community members had completed a university degree, 20 had a university certificate and 385 had a trades or non-university certificate. The number of university graduates in 2006 was up 30% from the 2001 census. By any standards, this is a significant increase in completion of university studies. Clearly there is a keen interest and capacity in the growing Elsipogtog First Nation community for post-secondary education at both university and college levels.

Chart 1: Education levels of Elsipogtog First Nation community members (census data)

Education characteristics	2006			2001		
	Total	Male	Female	Total	Male	Female
Population 15 years and over	1,285	635	655	1,100	535	560
No degree, certificate or diploma	580	280	300	Not available	Not available	Not available
High school diploma or equivalent only	230	105	130	Not available	Not available	Not available
Trades/apprenticeship or other non-university certificate	385	215	175	Not available	Not available	Not available
University certificate below bachelor level	20	15	10	Not available	Not available	Not available
University degree (bachelor level or higher)	65	25	40	50	15	35

4 Study Methodology

As previously mentioned, this exploratory paper is based on an initial analysis of Elsipogtog First Nation community members’ experiences of and perspectives on post-secondary distance education. In particular we look at their experiences with two technologies - videoconferencing and web-based delivery.

Our study was conducted in collaboration with Elsipogtog First Nation and in partnership with Atlantic Canada’s First Nation Help Desk, Mi'kmaw Kina'matnewey, in Membertou First Nation, Cape Breton, Nova Scotia. The researchers visited Elsipogtog First Nation in November and December 2011 and interviewed 12 community members living and working in the First Nation. Most had experience with post-secondary distance education; several without this experience provided their views on the topic. In January 2012, researchers continued the study with eight Elsipogtog First Nation community members living in Fredericton who were students at either the University of New Brunswick or St. Thomas University. Several had experience with distance education and the others discussed why they preferred to leave the community for their university education. In total 20 Elsipogtog First Nation community members participated in interviews for the study.

The research protocols were reviewed by the research ethics board of the researchers' home institution and follow the ethical guidelines for doing research with First Nations communities outlined in the Tri-Council Policy Statement (CIHR, 2010).

The Elsipogtog First Nation study is part of VideoCom (<http://videocom.firstnation.ca>), a long-term research project investigating how remote and rural First Nations are using broadband networks and information and communication technologies (ICT). The Elsipogtog First Nation study is the first community-based research the VideoCom project has conducted in the Atlantic region. Other communities who have collaborated in studies with the project include Kitigan Zibi First Nation in Quebec (Lockhart et al., 2011; O'Donnell et al., 2012); Fort Severn First Nation in Ontario (Gibson et al., 2012; O'Donnell et al., 2011); and Mishkeegogamang First Nation in Ontario (Gibson et al., 2011a, 2011b).

5 Students' Experiences with Post-Secondary Distance Education in Elsipogtog First Nation

5.1 Overview: Current Use of Post-Secondary Distance Education in the Community

Most of the study participants had personal experience taking university courses via distance education. The universities they mentioned were St. Thomas and the University of New Brunswick in Fredericton, Dalhousie University and Mount St. Vincent University in Halifax and the University of Arizona in the US.

Popular Bachelor programs that students are or were enrolled in include Social Work (BSW), Education (B.Ed) and Nursing (BN). In addition to the main subject areas, these programs include courses such as English, Math and History among other subjects. Several students have taken courses in Technology and Aboriginal Education. In addition to post-secondary distance education, Elsipogtog First Nation works closely with New Brunswick Community College in both Moncton and the Miramichi to help students obtain their GED via distance education.

It is important to note that in addition to distance education, many Elsipogtog First Nation community members are studying for post-secondary qualifications by attending courses part-time in-person by travelling one or several afternoons or evenings a week to universities in the city. As well, some Elsipogtog First Nation community members leave their community for long periods of time to live in the city while studying for university. Aside from university education, Elsipogtog First Nation has developed an innovative approach to post-secondary training for community members who study in the community for trades qualifications; this will be discussed later in the paper.

Distance education in Elsipogtog First Nation is delivered through the use of two main technologies: web-based online courses and videoconferencing. Each is discussed in the next sections.

5.2 Experiences with Course Delivery via Web-based Online Systems

Universities in the Atlantic region use many web-based online systems for distance education. The most common one mentioned by Elsipogtog First Nation students is WebEx. Others mentioned include

Blackboard and Moodle. These systems are accessed via the internet using computers. WebEx allows live video and visual exchange via a computer and audio exchange (voice) using a computer or phone connection. Everyone sees the same thing while someone is talking. Anyone who wants to appear visually to others will require a webcam connected to their computer.

Some Elsipogtog First Nation students described WebEx as a 'virtual meeting place' that provides more flexibility than videoconferencing since it allows them to work from the comfort of their own home and have more control over scheduling the time that they work on courses. Some students explained that the convenience of WebEx technology was that they did not have to commute to get to the classroom set up in the community for videoconferencing and could have more time with their family.

"So at home you can just...it's you and your computer and there's no distractions around you"
(Elsipogtog First Nation Community Member).

Others explained that they were able to participate in peer working groups by meeting in a computer lab designated for distance education. In this lab students are able to utilize SMART board technology along with WebEx to create a classroom environment where they are able to work with and support one another with specific courses.

Both WebEx and videoconferencing can have limitations when students have few computer skills and little or no computer training. Students using WebEx explained that it was important to have a good knowledge of computers and computer programs. For those who struggle with using computer technology because of their inexperience with it, taking courses in this way can be extremely challenging.

"I was so alone. Oh my, I was so alone. Sitting by the computer and by the phone and, you know. No, I was literally sick to my stomach, that's how much I...I'm not a computer learner at all" (Elsipogtog First Nation Community Member).

"There's no face-to-face. There's six people in that course I'm taking now. It's impersonal, I guess"
(Elsipogtog First Nation Community Member).

5.3 Experiences with Course Delivery via Videoconferencing

Videoconferencing technology involves real-time exchange of audio and video streams over broadband networks. This allows students and professors to participate in face-to-face visual and audio contact. In most situations, the videoconferencing system is connecting a university with one or more First Nations communities. In each community students are together in a classroom and the professor is located at a distant university. Typically the visual connection is through a television and camera set up at the front of the classroom, and one or more microphones in each site allows for audio exchange among the classrooms and the professor.

The videoconferencing system requires technical support to monitor the bridge - the unit that connects the different sites with each other. Technical support is also required to be on-call at each site in case

of connectivity or troubleshooting problems. However the systems themselves are generally easy to use by someone with minimal training.

Students who identified as 'visual learners' requiring more interaction with professors and classmates preferred videoconferencing over web-based learning. Videoconferencing also allows students to be engaged via live video and audio with students from multiple communities, which creates a good networking and support system.

Students' perceptions of and experiences of videoconferencing were mixed. Some liked it and some did not, as illustrated by the following quotes.

"To me we were closer in videoconferencing so more of community than [WebEx] because ... Like we're all doing the same thing... we were closer. Like WebEx, to me, there's space there blocking. It's not as personal I don't think" (Elsipogtog First Nation Community Member).

"The courses just seemed as though I was on my own for the whole thing-the whole six years. When it came time for....Thank God for one my classmates for math because that was one of my worst experiences-taking a math class through videoconferencing as I have a really hard time with math and the professor was really rude, for one. But, you know, he didn't take it into consideration that we were all adult students and who haven't been in school for years and didn't take into consideration that some of us had trouble with math (Elsipogtog First Nation Community Member).

The set-up for videoconferencing also has its difficulties if there is a lack of technical support to facilitate the interaction. Some students shared that their experiences with videoconferencing were sometimes unpleasant and annoying due to delays. One community member noted *"it depends on your Internet signal. If it's not good, then you're going to get a lot of pauses in between or the professor will sound different"* (Elsipogtog First Nation Community Member).

6 Discussion

The Elsipogtog First Nation community members who participated in our study had different learning styles and preferences. For some, the convenience of web-based systems worked well, especially if they had family responsibilities. Others who wanted more group interaction preferred a classroom setting connected by videoconference. Videoconferencing may be more suitable for some students with limited computer experience.

Currently the universities offering courses to Elsipogtog First Nation students are primarily using web-based course delivery. None of the Elsipogtog First Nation community members interviewed had a choice about which technologies to use to match their learning preferences. The universities make the choices about the technologies used to deliver courses to First Nations community members, and the students have no say about the choices the universities make.

Clearly there is significant room for the Elsipogtog First Nation community to take a more active role in determining how the university courses are offered by distance to their community members,

including strategies to ensure that the different learning preferences and styles of the students are accommodated.

The study findings suggest the possibility of a largely unreached pool of potential students in the community who may be more interested to participate in post-secondary distance education if more technology choices were offered. In particular, this study suggests it would be worth exploring if a blended model of online web-based courses and videoconferencing could be tailored to meet their needs. It is important to recognize the unique circumstances of every student using these resources and understand that what works for one may not work for another. Developing course delivery models using a blend of different technologies to create a more positive learning experience for Elsipogtog First Nation community members should be explored and may require additional funding and planning.

One striking observation is that, in contrast to the university courses, the Elsipogtog First Nation community is heavily involved hands-on with the community colleges offering trades qualifications. Currently these courses are not offered by distance education, but the model developed by the community for course delivery warrants further discussion.

In partnership with Apprenticeship New Brunswick, the Elsipogtog First Nation community has developed a model program that allows students to take trades courses to become specialized in areas such as carpentry, welding, plumbing, automotive, and steel fabrication without having to leave the community.

One Elsipogtog First Nation community member explained:

“We developed a program called the Trades Orientation and Skills where individuals would be introduced to those trades [over] a period of 40 weeks. When they were done the 40 weeks they actually graduated at the NBCC [New Brunswick Community College] Moncton... We did that for two years and it was very expensive to bring a specialized program into the community. There were 18 and the drop out rate was very, very low, so it was very successful that's why we had one for the second year. So we thought, okay, well it seems that whenever we have the education and training in the community, we have a higher success rate than supporting those individuals to go and live in Moncton or move to Miramichi and so forth.”

In-community training clearly works well for many Elsipogtog First Nation community members. In future, Elsipogtog First Nation could work with the universities to explore possibilities for courses that blend not only web-based and videoconferencing technologies but also distance education with in-community options. It is entirely possible, for example, for a university instructor to travel to different First Nations in the Atlantic region and provide the instruction using both distance and in-person classroom education at different times during the academic year. This has even been tried in a limited way in the past.

7 Conclusions

Our study of the educational experiences of Elsipogtog First Nation community members provides a new and better understanding of their preferences and needs for post-secondary distance education. We would expect a similar range of experiences in other First Nations communities in the Atlantic region, although this exploratory study cannot be generalized more widely to other communities.

In a study conducted by Davis (2000), she assesses distance education in Aboriginal communities in Canada and highlights future research possibilities. Findings from her study that may guide future research in Atlantic First Nations include: being clear on what distance education means; First Nations control over the distance education content and delivery of courses in their communities; and ensuring delivery modes with higher level of interactivity (such as two-way audio and TV-conferencing) which supports learning for students who prefer that mode. First Nations communities need to define their own educational priorities and to determine the values and perspectives that are informed by their educational experiences.

Similarly, Deer and Hakansson (2005) suggest that knowledge, information and communication are at the core of the emerging global Information Society. Knowledge, information and communication, however, are culturally defined concepts and expressions. Also information and communication technologies are cultural products of the society that developed them. First Nations have their own concepts of knowledge, information and communication and have developed their own forms of information and communication. Therefore First Nations need to take part in the Information Society on their own terms to be able to shape their future according to their unique needs. This study strongly suggests that this would include making decisions about the ways distance education is delivered to meet the needs of diverse community members.

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