A BLENDED APPROACH TO CANADIAN FIRST NATIONS EDUCATION

Mr. Martin Sacher[1], Mrs. Mavis Sacher[1] and Dr. Norman Vaughan[2]
[1]*SCcyber E-learning Community, Suite 200, B102-5212 48 St Red Deer, AB T4N 7C3*
[2]*Mount Royal University, 4825 Mt Royal Gate SW, Calgary, AB T3E 6K6*

ABSTRACT

The purpose of this research study was to investigate if and how a blended approach to Canadian First Nations education could be used to foster student engagement and success. The study examined the SCcyber E-Learning Community program (2012) through the lens of the *Seven Principles of Effective Teaching* (Chickering & Gamson, 1999). Data was collected via an online survey, interviews, and site visits. The study participants indicated that the deliberate and intentional integration of local learning centers and mentors with online teachers, who provide synchronous tutorials through the use of a web-based learning management system and conferencing tool, was the key to academic success.

KEYWORDS

E-learning model, Remote Access, Blended Learning, Canadian First Nations, Synchronous

1. INTRODUCTION

The Sunchild First Nation Reserve (40) is located in the western central part of Alberta, Canada. The reserve has an area of 52.18 square km. As of 2008, the First Nation has a registered population of 1209 people, of whom 732 live on their reserve (Government of Canada, 2008).

In 1999, members of the Sunchild First Nation considered the lack of education in their community and decided alternative methods were needed to reach First Nations students. They discovered that:

- First Nations students faced unique challenges including family and legal situations, time away from class and relocating to new homes.
- Many First Nations students were adults. These students wanted to upgrade and build a better future while meeting their current schedules and responsibilities (SCcyber E-Learning Community, 2012).

In order to address these challenges the SCcyber E-Learning Community Program was established. This program adopted a blended learning approach for high school courses by combining the use of learning centers and local mentors with online teachers who provide synchronous tutorials through the use of a web-based learning management system and conferencing tool.

2. BODY OF PAPER

2.1 Blended Learning

The idea of blending different learning experiences has been in existence ever since humans started thinking about teaching (Williams, 2003). What has recently brought this term into the limelight is the infusion of web-based technologies into the learning and teaching process (Clark, 2003). These technologies have created new opportunities for students to interact with their peers, teachers, and content.

Blended learning is often defined as the combination of face-to-face and online learning (Williams, 2002). Ron Bleed, the former Vice Chancellor of Information Technologies at Maricopa College, argues that this is not a sufficient definition for blended learning as it simply implies "bolting" technology onto a traditional course, using technology as an add-on to teach a difficult concept or adding supplemental

information. He suggests that instead, blended learning should be viewed as an opportunity to redesign the way that courses are developed, scheduled and delivered through a combination of physical and virtual instruction, "bricks and clicks" (Bleed, 2001). The goal of this redesigned approach to education should be to join the best features of in-class teaching with the best features of online learning to promote active, self-directed learning opportunities for students with added flexibility (Garnham & Kaleta, 2002). This sentiment is echoed by Garrison and Vaughan (2008) who state that "blended learning is the organic integration of thoughtfully selected and complementary face-to-face and online approaches and technologies" (p.148). A survey of e-learning activity by Arabasz, Boggs & Baker (2003) found that 80 percent of all higher education institutions and 93 percent of doctoral institutions offer hybrid or blended learning courses (Figure 1).

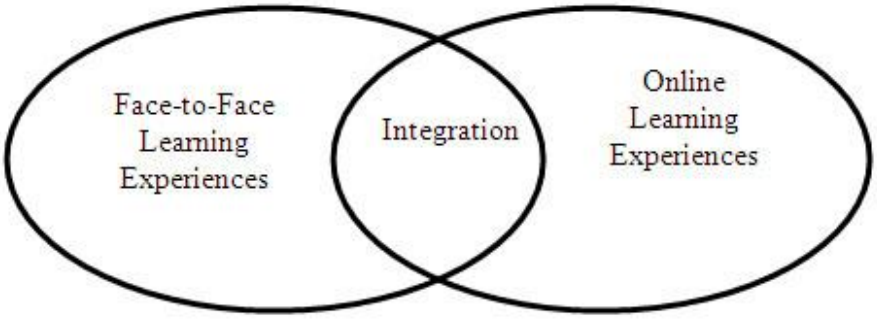

Figure 1. Campus-based blended learning approach

Campus-based environments have their roots in educational systems where classes have been delivered by teachers in synchronous class lecture settings. Initially, blended learning has been used to complement these synchronous lectures through the use of asynchronous discussion forums and learning management systems such as *Blackboard* and *Moodle*. With the advent of synchronous tools, such as *Blackboard Collaborate* and *Adobe Connect*, opportunities have been created to provide students with both synchronous and asynchronous communication possibilities.

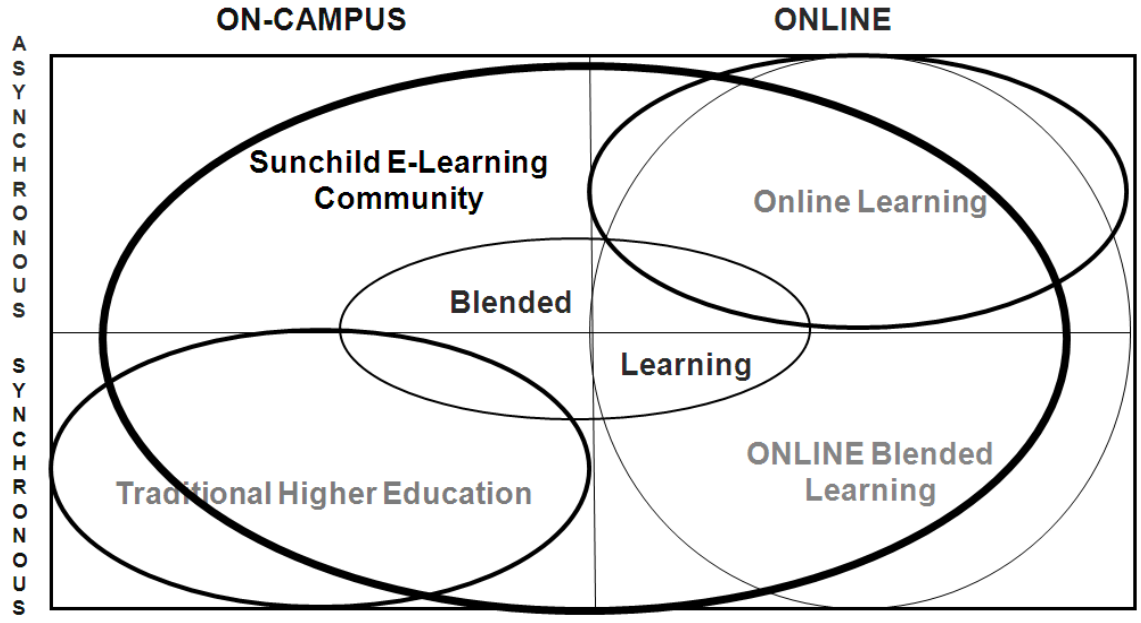

Figure 2. SCcyber E-Learning Community Program Framework

Power (2008) has coined the term Online Blended Learning to describe the simultaneous and complimentary integration and implementation of an asynchronous-mode learning environment (i.e. a course management system, or CMS) and a synchronous desktop conferencing environment (i.e. virtual classroom). The SCcyber E-Learning Community framework has further expanded this conception of blended learning by fully integrating face-to-face and online synchronous and asynchronous learning opportunities for their students through the use of local mentors at physical learning sites and highly qualified online teachers (Figure 2).

2.2 Methods of Investigation

An action research (Stringer, 1999) and case-based method (Creswell, 1997) were utilized for this study. This approach consisted of a mixture of quantitative and qualitative data collection methods. All students enrolled in the SCcyber E-Learning Community program were invited to complete an online survey in the fall 2011 semester and then follow-up online interviews were conducted in December 2012 with four of the students who completed this survey. In the winter 2012 semester, these online interviews were expanded to include seven mentors, two online teachers, and the principal of the program. Two site visits were also conducted (Chinki Adult Education Center and the Calgary Aboriginal Futures Center).

The educational research literature strongly suggests that student engagement is the key to academic success and retention (Astin, 1999; Kuh, 2008; Pace, 1980; Pascarella & Terenzini, 2005). The National Survey of Student Engagement (NSSE) defines student engagement as the amount of time and effort that students put into their academic studies that lead to experiences and outcomes that constitute student success, and the ways that programs allocate resources and organize learning opportunities and services to induce students to participate in and benefit from such activities (NSSE, 2011). The NSSE is constructed on the Seven Principles of Effective Teaching (Chickering & Gamson, 1999):

1. encourages contact between students and teachers,
2. develops reciprocity and cooperation among students,
3. encourages active learning,
4. gives prompt feedback,
5. emphasizes time on task,
6. communicates high expectations, and
7. respects diverse talents and ways of learning

These seven principles are based on over fifty years of educational research (Graham et al., 2001) and they were used to guide the data collection and analysis for this study.

2.3 Findings and Recommendations

This section begins with a demographic profile of the student participants followed by a summary of the results for each of the three research questions based on the seven principles of effective teaching framework:

1. What are the advantages of a blended approach to Canadian First Nations education?
2. What are the challenges?
3. Recommendations for improving this approach to Canadian First Nations education?

2.3.1 Demographic and Technology Profile of Student Participants

There were approximately three hundred students enrolled in the SCcyber E-Learning Community in the fall 2011 semester. In order to establish a context for the study findings, the initial online survey asked a series of demographic questions (n=24, 8% response rate). Table 1 compares the demographics of the SCcyber E-Learning Community students to students at a university in Calgary, Alberta who had recently completed a similar survey (Vaughan et al., 2011).

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Table 1. Student Comparison of SCcyber E-Learning Community and Mount Royal University Students

Student Item	SCcyber E-Learning Community	Mount Royal University
Gender		
Female	68%	55%
Male	32%	45%
Age		
Under age of 24	54%	89%
Over age of 24	46%	11%
Place of Residence		
Living with parents	46%	62%
Living with own family with children	42%	0%
Living alone	0%	10%
Living with roommates or partner with no children	13%	23%
University residence	0%	5%
Employment Status		
Currently not working	83%	23%
Currently working part-time	16%	65%
Currently working full-time	0%	23%

Two-thirds of SCcyber E-Learning Community students were female and one-third were male. The students surveyed ranged in age from 18 to over 41. There appeared to be a bi-modal age distribution with two-thirds of the students between the ages of 15 to 27 and one-third between the ages of 31 to 41 plus. In terms of place of residence, 46% of the students lived with their parents, 42% lived with their own family with children, and 12% lived with roommates or partner with no children. With regards to employment status, 83% of the students were not currently working compared to only 23% of the Mount Royal students (the remainder have either a part or full-time job).

A similar comparison was made between SCcyber E-Learning Community and Mount Royal University students with regards to access to technology and self-reported skills (Table 2).

Table 2. Comparison of Technology Access and Skills between SCcyber E-Learning Community and Mount Royal University Students

Technology Item	SCcyber E-Learning Community	Mount Royal University
Home access to the Internet	37%	100%
Access to high-speed home Internet connection	33%	98%
Have your own a mobile communication device (e.g., cell phone)	62%	90%
Have your own laptop computer	38%	89%
Have your own a mobile communication device with Internet access (e.g., Smart Phone)	29%	82%
Personal Rating of Computer Skills		
Novice (not really comfortable using computers)	0%	5%
Intermediate (comfortable using computers)	70%	59%
Advanced (have developed some expertise and enjoy using a computer)	30%	36%

In terms of technology access, only 37% of the SCcyber E-Learning Community students surveyed had home internet access. Two-thirds of the students had a mobile communication device (e.g., cell phone, Blackberry, iPhone), 38% had their own laptop, and 33% had access to a desktop or laptop computer at home that they share with others. Despite this lack of home and personal access to computer technologies, through participation in the SCcyber program, 70% percent of the students rated themselves as intermediate with regards to their computer skills while 30% rated themselves as experts.

2.4 Seven Principles of Effective Teaching Practice Framework

Below are the seven principles analyzed qualitatively in regards to the successful framework in which Sccyber E-learning model operates and highlights how this has resulted in successful course completion rates.

2.4.1 Principle 1: Good Practice Encourages Student-Teacher Interaction

Synchronous and asynchronous communication technologies are being used by students in the SCcyber E-Learning Community to increase access to their online teachers and mentors, help them share useful resources, and provide for joint problem solving and shared learning that is being combined with face-to-face mentoring at the learning centers. These communication technologies are strengthening online teacher interactions with all students, but especially with shy students who are reluctant to ask questions or challenge the teacher directly. These students find that it is often easier to discuss values and personal concerns in writing rather than orally, since inadvertent or ambiguous nonverbal signals are not so dominant.

The roles and responsibilities of the online teacher in this program can become overwhelming and a recommendation has been made to have each of the online teachers log their daily activities for a one week period. Then, at one of the monthly team meetings the results can be shared and strategies developed for managing the workload of an online teacher in the SCcyber E-Learning Community.

2.4.2 Principle 2: Good Practice Develops Reciprocity and Cooperation among Students

The SCcyber E-Learning Community strategically works at creating a cooperative learning environment amongst the students, parents, mentors, and online teachers. The focus of the program is on self-paced learning but the study participants suggested that communication and information technologies could be used to support additional opportunities for study groups, collaborative learning, group problem solving, and discussion of assignments.

In addition, many of the students and mentors emphasized how important it is to create a sense of community at the learning centers (e.g., displaying student work on the walls, creating a student council, creating a lunch and leisure space). A recommendation has been made to have senior mentors travel to new sites to help the new mentors establish their learning centers.

2.4.3 Principle 3: Good Practice Uses Active Learning Techniques

The range of technologies that the SCcyber E-Learning Community uses to encourage active learning is extensive. In the past, apprentice-like learning has been supported by many traditional technologies: libraries, laboratories, art and architectural studios, athletic fields. Newer digital technologies can now enrich and expand these opportunities – especially for those students located in rural and remote parts of Alberta and the Northwest Territories. For example:

- Supporting apprentice-like activities in fields that themselves require the use of technology as a tool, such as statistical research and computer-based music, or use of the Internet to gather information not available in the local library.
- Simulating scientific techniques such as helping chemistry students develop and practice research skills in “dry” simulated laboratories.
- Helping students develop insight. For example, students can be asked to design a radio antenna. Simulation software displays not only their design but the ordinarily invisible electromagnetic waves the antenna would emit. Students change their designs and instantly see resulting changes in the waves. The aim of this exercise is not to design antennae but to build deeper understanding of electromagnetism.

Many of the students enrolled in this program also have their own mobile devices and a recommendation has been made to have them use these devices to document and record their learning in their local communities. For example, they could use their phones to take pictures and record videos that could then be used in the creation of digital stories for course assignments (*Center for Digital Storytelling* - http://www.storycenter.org/).

2.4.4 Principle 4: Good Practice Gives Prompt Feedback

The combination of a learning center mentor and online teacher for each course ensures that all students enrolled in the SCcyber E-Learning Community receive timely and regular feedback about their academic studies. Students receive a report card every Monday morning and they can make adjustments to their work level for course completion on a weekly basis. Computers also have a growing role in recording and analyzing personal and professional performances. Teachers can use technology to provide critical observations for an apprentice; for example, video to help a novice teacher, actor, or athlete critique his or her own performance. Teachers (or other students) can react to a writer's draft using the "hidden text" option available in word processors: Turned on, the "hidden" comments spring up; turned off, the comments recede and the writer's prized work is again free of "red ink."

In addition, as Alberta Education moves toward portfolio assessment strategies, computers can provide rich storage and easy access to student products and performances. Computers can keep track of early efforts, so teachers and students can see the extent to which later efforts demonstrate gains in knowledge, competence, or other valued outcomes. Performances that are time-consuming and expensive to record and evaluate — such as leadership skills, group process management, or multicultural interactions — can be elicited and stored, not only for ongoing critique but also as a record of growing capacity.

2.4.5 Principle 5: Good Practice Emphasizes Time on Task

The SCcyber E-Learning Community program allows students to work at their own pace in a safe environment with constant monitoring of their progress. The mentors and online teachers interviewed indicate that some students have problems completing their assignments in a timely fashion and thus, have to hastily complete a large portion of them at the very end of the semester. Strategies have been put in place to enforce regularly-distributed deadlines that encourage students to spend time on tasks and help them avoid procrastination. These deadlines also provide a context for regular weekly contact with the mentors and online teachers.

2.4.6 Principle 6: Good Practice Communicates High Expectations

This program does an excellent job of communicating high expectations and publicly praising students through the *Wall of Success* (student course completion certificates) at each learning center. Communicating high expectations for student performance is essential. An additional way for teachers to do this is to give challenging assignments. For example, assigning tasks that require students to apply theories to real-world situations rather than remember facts or concepts. This case-based approach involves real-world problems with authentic data gathered from real-world situations.

Another way to communicate high expectations is to provide examples or models for students to follow, along with comments explaining why the examples are good. Teachers can provide examples of student work from a previous semester as models for current students and include comments to illustrate how the examples met the required expectations. In addition, the online teacher can provide examples of the types of interactions she or he expects in the discussion forum. One example would be to provide an exemplary posting while also providing an example of what *not* to do, highlighting trends from the past that she or he would like students to avoid.

2.4.7 Principle 7: Good Practice Respects Diverse Talents and Ways of Learning

Finally, the SCcyber E-Learning Community clearly demonstrates how communication and information technologies can be used to support different methods of learning through powerful visuals and well-organized text; through direct, vicarious, and virtual experiences; and through tasks requiring analysis, synthesis, and evaluation, with applications to real-life situations. These digital tools are also being used to encourage self-reflection and self-assessment. In addition, technologies are being used in this program to help students learn in ways they find most effective and broaden their repertoires for learning. The

technologies, with the mentor and online teacher's support, are supplying the structure for students who need it while leaving assignments more open-ended for students who don't. Fast, bright students can move quickly through materials they master easily and go on to more difficult tasks; slower students can take more time and get more feedback and direct help from the online teachers and mentors.

3. CONCLUSION

If students learn to make education a priority they are *going to succeed in life.*
(SCcyber Mentor Interview)

The study participants indicated that the blended approach of the SCcyber E-Learning Community program through the deliberate and intentional integration of local learning centers and mentors with online teachers, who provide synchronous tutorials through the use of a web-based learning management system and conferencing tool, was the key to academic success. They also emphasized how this blended approach helped First Nations students overcome major learning challenges such as remote locations, lack of access to digital technologies, high speed internet access, and quality teachers.

Finally, every SCcyber E-Learning Community student who participated in this study commented on the "passion and commitment" that the mentors, online teachers, and administrators involved in this program had for student success. They all emphasized that the SCcyber E-Learning Community was "making a difference for their lives". This enthusiasm for learning is definitely infectious and it is strongly recommended that more government departments, educational institutions, and corporations partner with this program in order to expand the positive impact on the lives of First Nations students in Canada.

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