

K-12 e-learning: A case analysis

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Introduction

Newfoundland and Labrador has been characterised as a province of small rural and coastal communities. Most schools are located in rural areas of the province. Approximately 80 of these small rural schools are all-grade schools providing education from kindergarten to grade twelve. Due to staffing and budget issues, providing quality of education to rural students has always been a challenge for rural educators in Newfoundland and Labrador, as well as, elsewhere (Hannum, Irvin, Banks, & Farmer, 2009; Mulcahy, 2007; Patterson, Koenigs, Mohn, & Rasmussen, 2006). Many scholars have criticised the inequality of provision of the educational opportunities for rural high schools students (Riggs, 1987; Sparks & Williams, 2000). Reflecting this need, the Center for Distance Learning and Innovation was established to provide educational opportunities to rural high school students.

Context

The Government of Newfoundland appointed a Royal Commission on Education and Youth in 1964. Dr. Philip Warren was appointed the chair of the commission. The Royal Commission on Education and Youth submitted its 1967 report in two volumes. The Commission made 340 recommendations related to all aspects of schooling in the province. The Commission declared small schools problematic because students could not receive education in those small schools

(Warren, 1967). As a result, a large number of small schools in the province were closed and consolidated to gain the benefit of larger schools. The small rural schools were closed or consolidated on the assumptions that small schools are costly, inefficient, and pedagogically deficient (Hargreaves, Kvalsund, & Galton, 2009; Nguyen, 2004). This was the emulation of policies which were enacted in the rural United States where the reformers presented some arguments to close and amalgamate small schools. Boone (2008) reports that some amalgamated schools were unable to provide comprehensive curriculum either because of a lack of qualified teachers or the lack of facilities.

The Small Schools Study Project

Twenty years later, Dr. Frank Riggs was appointed to conduct a study on small schools in the province. The Report of the SMALL SCHOOLS STUDY PROJECT was initiated in January 1987. The purpose of the project was "to investigate problems peculiar to small schools with an aim toward developing proposals to enhance educational opportunities for students in these schools." So, the challenges and problems associated with small schools were the main focus. Data were obtained from 160 teachers and principals from the smallest schools and 200 random teachers and principals from remaining schools. Riggs (1987) reported on the various challenges confronting small rural schools such as limited curriculum, insufficient staff, inadequate guidance and lack of instructional material. He also pointed out the most critical problem of teacher recruitment and retention in remote communities. Riggs recommended use of technology for program delivery in small schools especially in small high schools. Riggs recommended:

That by direct classroom or by distance education, all

senior high schools should have the ability to offer all courses which are prerequisite to entry into post-secondary institutions and the ability to accommodate particular course requirements of small numbers of students. (p. 26)

Tele-Learning

Upon Riggs' recommendations, it was decided that Telemedicine and Educational Technology Resources Agency (TETRA) network would be used to deliver courses to senior high school students in small rural communities (Johnson, 2011). TETRA had been established in 1977, and was used for research development programs and service delivery in the fields of education and health in Newfoundland and Labrador. In TETRA an audio graphics system is used to conduct teleconferences. The TETRA network uses a combination of audio and computer text, microphones, speakers and telewriters. During the school year 1987/88, Advanced Mathematics 1201 was offered through TETRA to 36 students from 13 schools. Later, additional courses such as Physics, Chemistry and French were also offered to rural high school students through TETRA.

Web-Based Learning

In 1999, the Government of Newfoundland and Labrador appointed a Ministerial Panel on educational delivery in the classroom. Their report "Supporting Learning" was published in 2000. The Sparks-Williams Ministerial Panel recommended that the Department of Education establish a new model of distance learning, "Centre for Distance Learning and Innovation (CDLI)," in the province. In December 2000 the

Centre for Distance Learning and Innovation was established by the Department of Education. This was a shift to web based learning. In its first year CDLI offered 10 courses in Advanced Mathematics, Physics, Chemistry and French to 200 senior high school students from 76 schools through the TETRA network (Barbour, 2007). CDLI is the only institution that provides online courses to high school students in the province. It is run within the Primary, Elementary and Secondary Branch of the Department of Education and Early Childhood Development. Funding is provided by the provincial government. Currently, CDLI offers courses in Art, Career Education, English Language, French, Mathematics, Advanced Mathematics, Science, Music, Social Studies and Technology Education & Skilled Trade. The main purpose of CDLI was to increase learning opportunities and career options for students especially in rural areas. CDLI delivers online courses to senior high school students throughout the province. The vision is outlined on the CDLI website as:

1. Provide access to educational opportunities for students, teachers, and other adult learners in both rural and urban communities in a manner that renders distance transparent
2. Eliminate geographical and demographical barriers as obstacles to broad, quality educational programs and services
3. Develop a culture of e-learning in our schools which is considered to be an integral part of school life for all teachers and students

According to CDLI (2014), CDLI offers 42 senior high school courses to students from more than 110 schools. It is also clearly written on CDLI website that CDLI has 46 staff including a director, two program development specialists, two training specialists, a connectivity and communications specialist, an IT

systems manager, twenty-nine e-Teachers, a guidance counsellor, and nine administration and support staff. All staff serve from 17 different location throughout the province.

Conclusion

Few studies on virtual schooling in the province of Newfoundland and Labrador were conducted in the past. The studies include investigations on the development of distance education (Barbour, 2005; Barbour, 2007; Boone, 2008; Mulcahy, 2007; Press, Galway & Collins, 2003), a review of the literature on virtual schools (Furey & Murphy, 2005), an examination the effectiveness of distance education (Crocker, 2007), perceptions of distance education (Johnson, 2011), the role of on-site facilitators (Barbour & Mulcahy, 2009), web-based course design (Barbour, 2005), the need for change in teaching (Stevens, 2006; Stevens; 2007), and examining enrolment trends in virtual schooling (Barbour & Mulcahy, 2013). Despite its significant role in rural education, only a small amount of research on CDLI has been completed and there has not been systematic and comprehensive research on CDLI. As a result, little is known about its structure and organization, and the effectiveness and educational contribution of CDLI. There are constant calls for higher quality research and for more studies on K-12 online programs (Barbour & Mulcahy, 2009; Barbour & Mulcahy, 2013). In particular there is a need to determine how effective CDLI has been in developing an online pedagogy making use of both synchronous and asynchronous communication and online course design that is responsive to all student ability levels. Research of this nature is required to more fully understand whether the educational needs of students from small communities in Newfoundland and Labrador are being

met, and may also be effective and useful knowledge and insight for researchers working in similar contexts and with similar challenges in other parts of the world.

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