

Colloquium

From telematics to web-based: the progression of distance education in Newfoundland and Labrador

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Introduction

The province of Newfoundland and Labrador is located on the east coast of Canada. The province, which has both an island and mainland portions with a total area of 505 066 square kilometres, has a population of approximately 550 000 people. With about 60% of the population living within a 150-kilometre radius of the capital region, the remainder of the province is sparsely populated. The majority of the roughly 300 schools are located in these rural communities. Approximately one-third of which have been determined as necessarily existent (ie, when a school is located so far from another school that it makes bussing the students impossible because of the distance).

As with most rural areas, many of the schools in Newfoundland and Labrador do not have many teachers and are unable to offer many aspects of the provincially mandated curriculum. In this environment, the rural schools could not compete with their larger, urban counterparts. It is for this reason that the rural secondary schools have had to rely upon distance education, first through a telematics and later through web-based delivery, to provide their students with the same opportunities as the urban students.

Telematics distance education programme

In 1987, the *Small Schools Report* conducted a review of the literature from the early 1980s and found there was either no significant difference or an improvement of student scores as school size decreased (Riggs, 1987). The report also called for 'a Distance Education School to be established and a principal and teachers be employed to assume responsibility for the development and administration of distance education courses' to be delivered 'by correspondence, computers, videotapes' and the Memorial University's Tele-Medicine model (p. 28).

In 1988, the province implemented a programme of distance education for rural high school students. The main purpose was to provide access for the students in small schools to secondary level the courses that were important for postsecondary admission but difficult to offer in the rural schools because of the low levels of student enrolment.

In its first year of operation, the programme consisted of just one course. This course had an enrolment of 36 students in 13 rural schools. Over the 15 years that the Telemedicine and Educational Technology Resources Agency (Tele-medicine/TETRA) distance education system was in operation, the students completed courses in mathematics, chemistry, physics and French as a Second Language.

In addition to the opportunity to expand the curriculum offerings, the Tele-medicine/TETRA system brought technology into the schools. The audiographics system operated using bridging technology to provide conference calling facilities that were accompanied by the use of a telegraphic device for reproducing handwriting. It converts the manually controlled movements of a pen into signals that control the movements of a similar pen. The experiment proved successful, and the programme grew. Eleven courses were offered in 1999–2000 with 898 course enrolments. A total of 703 students in 77 different rural schools were taking one and sometimes two courses (Brown, Sheppard & Stevens, 2000).

Individual web-based distance education initiatives

In 1990, the Government appointed the Royal Commission of Inquiry into the Delivery of Programs and Services in Primary, Elementary, Secondary Education. While the main focus of its report was the denominational education system that existed in the province at the time, the Commission also recommended:

that a School of Distance Education and Technology be established to assume responsibility for the delivery of distance education courses and services and the integration of new technology in the school system [and] that the School of Distance Education and Technology seek to deliver full credit senior high school courses that meet provincial learning objectives (Williams, 1993).

The Commission felt that the Tele-medicine/TETRA model, along with the use of CD-ROMs, electronic bulletin boards and computer databases would be able to serve as the delivery model.

In 1996, the governments of British Columbia, Newfoundland and Labrador, New Brunswick and Alberta entered into a joint project to produce a course based on information technology curriculum: the East–West Project. The bilingual course offered five modules: web publishing, graphic design, telecommunication networks, telecommunications and computer applications. Each of the four provinces produced a module dealing with predefined topics and a well-defined framework. Shortly thereafter, the individual school districts began to experiment web-based methods of delivery for distance education.

In 1999, the Centre for TeleLearning and Rural Education (CTLRE) at the Memorial University was in the process of initiating the Vista School District Digital Intranet. The CTLRE was interested in pursuing additional research concerning its involvement with the National Centres of Excellence (NCE), specifically TeleLearning NCE theme 4, which was focused on the development of 'effective technology-based approaches to the major

educational challenges facing Canadian schools' (Network of Centres of Excellence [TeleLearning], 2000). In order to conduct further research on a specific subtheme, the Centre proposed an extension of an existing partnership with the Vista School District. This new project would develop a district-wide Intranet to offer university-level mathematics and science courses to all schools within the district. Funded by a federal grant, the CTLRE and the Vista School District created The Vista School District Digital Intranet: The Delivery of Advanced Placement Courses to Young Adult Learners in Rural Communities (VDI) in 1998. The VDI saw the development of four Advanced Placement courses for online delivery. These projects, and the others like them, produced authoring standards and templates that have been used as the basis for further province-wide web-based distance education initiatives.

Province-wide web-based distance education programme

In 1999, the Government appointed a ministerial panel to, amongst other things, 'examine the current educational delivery model and consider alternative approaches' (Sparkes & Williams, 2000). In its report, the ministerial panel recommended the creation of the Centre for Distance Learning and Innovation (CDLI) to be based upon the web-based model that had been evolving throughout the province. This model was not to be 'totally dependent on high bandwidth technologies [and have a] minima; reliance on synchronous communications, fixed schedules or other constraining elements' (Sparkes & Williams, 2000). The vision of the CDLI is to provide access to educational opportunities for students, teachers and other adult learners in both rural and urban communities in a manner that renders the distance transparent; eliminate geographical and demographic barriers as obstacles to broad, quality educational programmes and services; and develop in our schools a culture of e-learning, which is considered to be an integral part of school life for all teachers and students.

The CDLI began in 2001–02 with 10 courses field-tested in 10 districts (ie, one course per district), having a total of 200 student enrolments from 76 different rural schools. After the field test, the CDLI expanded its course offerings so that the students from all over the province could access any course. Over the past four years, the CDLI has increased its offerings to the point where there are 1500 student enrolments from 95 different schools in 35 courses in 2004–05 (Government of Newfoundland and Labrador, 2004).

Conclusions

Through the use of distance education, the rural secondary schools have been able to provide their students from the provincial curriculum with an equal opportunity to access advanced and speciality courses. Without distance education, schools in these rural areas would not have the required number of interested student to make these courses feasible or would not be able to attract and retain teachers qualified to teach these specialised subjects.

While the method of delivery for this distance education programme has changed over the past decade and a half from an audiographics system to a web-based model, it has

maintained both a synchronous and asynchronous scheduling for students. This has meant that the rural students have been able to get the personal contact with these distance education teachers through the synchronous sessions while gaining many of the autonomous learning skills that will be useful to them as they enter postsecondary studies. Regardless of the delivery method or technology that has been utilised, distance education has provided opportunity to thousands of rural secondary students since 1988–89.

References

- Brown, J., Sheppard, B. & Stevens, K. (2000). *Effective schooling in a tele-learning environment*. St. John's, Newfoundland and Labrador: Centre for TeleLearning and Rural Education, Faculty of Education.
- Government of Newfoundland and Labrador. (2004). *CDLI's reputation continues to grow*. St. John's, NL: Queen's Printing for Newfoundland and Labrador. Retrieved December 9, 2004, from <http://www.gov.nl.ca/releases/2004/edu/0909n04.htm>.
- Network of Centres of Excellence (TeleLearning). (2000). *TeleLearning NCE research themes*. Retrieved July 08, 2000, from http://www.telelearn.ca/g_access/research_projects/noframe_introduction.html.
- Riggs, F. T. (1987). *Report of the small schools study project*. St. John's, Newfoundland and Labrador: Queen's Printer.
- Sparkes, R. & Williams, L. (2000). *Supporting learning: ministerial panel on educational delivery in the classroom*. St. John's, Newfoundland and Labrador: Queen's Printer.
- Williams, L. (1993). *Our children, our future: report of the royal commission of inquiry into the delivery of program and services in primary, elementary, secondary education*. St. John's, Newfoundland and Labrador: Queen's Printer.