

***Perceptions of Distance Education in
Newfoundland and Labrador: 1999 – 2009***

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Perceptions of Distance Education in Newfoundland and Labrador: 1999 - 2009

Distance education courses provide you with as much interaction as possible and get you as close to the classroom setting as they can. I think distance is an excellent program especially for small schools where otherwise some courses would not be available.

- Senior high school student, NL, 2009

Introduction

Since the turn of the twenty-first century, Canadian schools have witnessed an increased interest in virtual schooling, the delivery of high school curriculum through the use of computer technology. There are several reasons for this development, including an increase in access to the internet, a decrease in the cost of hardware, a growing variety of learners with differing educational needs, and the appeal of cost-effectiveness of distance education in light of shrinking educational budgets.ⁱ Several provinces, including Newfoundland and Labrador, continue to see significant changes in their demographics that affect community services and schools. In this province, declining student population in rural and isolated communities has led to provincial government cutbacks in the number of teachers in small K – 12 schools. Technology has made it possible to offer high school courses to students who would otherwise not have the opportunity to take certain courses. Currently, in Newfoundland and Labrador, the Centre for Distance Learning and Innovation (CDLI) is mandated to provide such services to senior high students.

Research indicates that distance delivery of high school courses has the potential of revolutionizing basic ideas of what a school is, what a classroom is, when and where teaching and learning occur, and how instruction is delivered.ⁱⁱ An important question that remains, however, is whether quality teacher-student and student-student interaction necessary for effective teaching and learning can be maintained in such a different instructional environment.

The instructional design of traditional courses for distance education has resulted in a variety of teaching strategies to enhance communications between teachers and students. Some teachers see this as an opportunity to be more flexible than they would be in the traditional face-to-face classroom and better able to address individual learner's needs.ⁱⁱⁱ In her study of high school students in Alberta, for example, Smith found that students who are enrolled in distance education courses receive more personal attention and report positive changes in their emotional and social growth. Students were found to be more motivated than those working in conventional settings.^{iv} Furthermore, Russell has argued that changing notions of responsibility, accountability and student discipline are likely to be apparent in an environment of distance education. Researchers have concluded that students are more likely to be

independent learners.^v Would participants in distance education in Newfoundland and Labrador draw the same conclusions?

An opportunity to investigate that question came in March 2006 when the Faculty of Education at Memorial University was awarded a research grant from the Social Sciences and Humanities Council of Canada (SSHRC), through the Community-University Research Alliance (CURA) Program. The project entitled, *Building Communities in the New Learning Environment*, included an alliance of 15 co-investigators, 10 community collaborators, and 12 community partner organizations representing all facets of the Newfoundland and Labrador education system. Their aim was to foster innovative research, training, and generation of new knowledge in the area of e-learning in the field of education, particularly as it relates to rural, isolated areas. The CURA proposal hoped to complete a critical assessment through several research projects. This Report outlines the findings of one of those research projects.

For generations, small, rural and remote communities of the province have tried to keep pace with the quality of teaching and learning provided in urban areas. As a further challenge, these areas have had to respond to declining enrolment, outmigration, and a decline in resource-based industries. One means of addressing this need has been through improved and accessible information and communication technologies. How effective has technology been in answering the demands of the school system in rural Newfoundland and Labrador communities?

Very few studies had been completed in this area of research prior to 2006. The findings of one earlier study are included in this Report. During the school year 1999 - 2000, the Centre for TeleLearning and Rural Education, Faculty of Education, Memorial University, conducted a province-wide survey of school administrators, teachers, parents and students regarding their attitudes towards the use of distance education to deliver high school courses. At that time, distance courses were delivered primarily by teleconferencing and telewriter equipment. The technology relied heavily on synchronous scheduling across schools and could not accommodate the increasing need for distance services. The goal of the investigation was to examine the use of the technology to deliver senior high school courses by distance to “small, necessarily existent” schools throughout Newfoundland and Labrador. The findings are recorded in a comprehensive report entitled, *Effective Schooling in a TeleLearning Environment*.^{vi}

In the fall of 2009, with the assistance of the Centre for Distance Learning and Innovation (CDLI) and school board partners, another survey was conducted to determine whether attitudes towards distance education had changed since the shift to web-based technology and increased experience with it. This was a qualitative study, focusing on finding the ‘voice’ of all participants. The investigator had several goals in mind: to determine whether students, teachers, parents, and administrators were comfortable with the current technology, to assess whether they felt that they had sufficient interaction to promote effective teaching and learning, and to identify what they saw as the place and future of online courses in the delivery of school curriculum.

Drawing on historical methodology, this research study examines the nature of change and continuity over time and attempts to explain why and how change occurs. While the study hypothesizes that the implementation of new online computer

technology has likely changed the integration of distance education program in schools, the extent of the change remained unknown. The investigation utilized grounded theory. It began with the collection of data that was then coded by the researcher. The research plan was to look for themes, commonalities, and generalizations throughout the responses and to reach valid conclusions about the participants' perceptions of distance education. Overall, the goal of the second study was to determine whether the perceptions of respondents towards distance education had changed in ten years and if possible, to determine the factors that accounted for those changes.

This Report brings together the results of the 1999 and 2009 research studies and attempts to draw conclusions about the impact of changing technologies in distance education on the teaching and learning process. The Report summarizes the findings of the initial study, details the results of the more recent investigation ten years later, and identifies commonalities and differences between the two studies.

I. The study conducted in 1999 - 2000

Background

In the early 1980s, in response to declining enrolments in small rural Newfoundland and Labrador schools, the provincial Department of Education appointed Frank Riggs from the Faculty of Education, Memorial University, to conduct a study of small schools in the province. The *Final Report of the Small Schools Study Project* was submitted to the Minister of Education in 1987.^{vii} The Report defined a "small school" as:

- i. a primary and elementary school in which the enrolment divided by the number of grades is not greater than twelve;
- ii. an all-grade, central, or regional high school in which the enrolment divided by twenty-five is not greater than the number of grades in the school

The Final Report of the Small Schools Study Project included several recommendations pertaining to the delivery of senior high school courses to small schools by distance education (DE). Recommendations included:

That by direct classroom teaching 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. (recommendation 3.4)

That measures be taken to ensure that a course in high school chemistry level 2 [Grade 12] and a course in high school physics level 2 [Grade 12] are available to small high schools by September 1987. Consideration should be given to delivery by computer, audio-video tapes or by other means of distance education. (recommendation 3.5)

That greater use of technology be made in program delivery in small schools, especially in small high schools. (recommendation 3.6)

That a distance education school be established and a principal and teachers be employed to assume responsibility for the development and administration of distance education courses. (recommendation 3.7)^{viii}

In response to these recommendations and others, the Telemedicine Centre located in the Faculty of Medicine, Memorial University, was selected to deliver high school courses by distance using technology available at TETRA, the Telemedicine and Educational Technology Resources Agency. TETRA used an analog network combining audio and computer text and audio-graphic technology. The technology enabled interaction between teachers and students and among students residing in small communities throughout the province.

The Small Rural Schools Distance Learning Project, established in September 1987, delivered courses in Advanced Mathematics to senior high school students in preparation for their post-secondary studies. The following year, Loyola Hearn, the Minister of Education, announced a Distance Education Pilot Project. The project would see the expansion of the TETRA network to thirteen rural and remote communities. The initial project was the delivery of Advanced Mathematics 1201 to thirty-six students in thirteen schools by distance learning technologies.^{ix}

In 1989, the Department of Education established a distance education working group to investigate all matters related to distance learning in the province. The group's recommendations were placed in a report, *Distance Education: Towards Equality of Educational Opportunity*, submitted in 1990. The report served as the foundation of distance education policy through the decade of the 1990s.

The challenge of providing equal educational opportunity for all Newfoundland and Labrador students was addressed by a government task force created in 1988. The Report, *Towards an Achieving Society*, focused particularly on improving student achievement in senior high school mathematics. Recommendation 7.4 stated:

That beginning in September, 1989, schools encourage all Level I students who plan to continue to post-secondary education to take advanced mathematics.^x

By the school year 1992 – 1993, 168 schools offered Advanced Mathematics 3201, including 64 small rural schools that offered the course via distance learning technologies. Physics 2204 was offered to students by distance beginning in September 1992 and Physics 3204 in 1993. Chemistry 2202 was offered to small rural schools via distance for the first time in September 1995 and Chemistry 3202 in September 1996. Meanwhile, the Department of Education also gave priority to the delivery of courses in French to senior high school students in rural areas. The French program was delivered to small rural schools by distance for the first time in September 1992.

The decade of the 1990s marked substantial growth in distance learning in small rural schools in Newfoundland and Labrador. The Schools Act of 1997 referred to small rural schools as “small necessarily existent schools”. These schools, the legislation stated, needed to be maintained because students in those communities could not be accommodated elsewhere. Accordingly, the schools were entitled to additional resources.^{xi}

Eighty-five small rural schools were connected to the TETRA network after 1988. The number of schools decreased as a result of school consolidation. In 1996 students enrolled in 74 small rural schools studied 11 courses in Advanced Mathematics, Physics, Chemistry, and French via distance learning technologies. In September 1996, there were 1,020 course registrations. Students were being taught by 15.5 DE instructors from 10 sites throughout the province in addition to the Distance Learning Centre at Memorial University.

In the 1997 – 98 school year, there were 12 senior high school courses offered to students in small rural schools via distance technology. In that year there were 1,186 course registrations in 82 schools including 69 small rural schools. Twenty-nine DE instructors taught from 24 locations throughout the province. The Department of Education requested TETRA to regionalize its network to be consistent with the new school district boundaries.^{xii} The establishment of school district networks made the organization and operation of distance delivery between the Department of Education and school boards more efficient.

Description

In the 1999-2000 school year, there were 30 full time and part time teachers assigned to distance education in Newfoundland and Labrador. Twenty-six instructors were assigned to teach courses in Advanced Mathematics, Physics, Chemistry, and French. Four teachers were assigned part time to teach the web-based versions of Advanced Placement (AP) courses in math and science. These DE instructors were located in various schools and school district offices throughout the province. One instructor was located in the Centre for Telelearning and Rural Education, Faculty of Education, Memorial University. Of the 35 small schools that participated in the study only seven were involved in any way with accessing courses via the internet in 1999. These included four schools that offered Advanced Placement course via the web, two schools that offered Art Technologies 1201, one school that offered Advanced Writing 3101 and one student who was enrolled in a Biology course from the College of the North Atlantic.^{xiii}

The study, *Effective Schooling in a TeleLearning Environment*^{xiv}, involved schools that offered courses in Advanced Mathematics, Physics, Chemistry and French via distance. The research questions of the study were:

1. How has experience with information and communication technologies influenced students’ post-secondary education and career choices?

2. Do the current telelearning courses prepare senior high school students in small rural schools for the new economy?
3. Do current models of leadership facilitate the development of learning environments suited to the new economy?
4. Do current approaches to teaching and learning (pedagogies) employed in telelearning courses prepare students for the new economy?
5. How is support for telelearning fostered in the school and community?

The investigator surveyed graduates who had completed one or more of these courses during the previous five years (June 1995 to June 1999). The project involved the collection of both quantitative and qualitative data. The quantitative data was collected through a telephone survey of a stratified random sampling of students who graduated from schools located in rural and remote communities throughout Newfoundland and Labrador. The sample required by the quantitative phase of the study was comprised of 150 graduates from Mathematics, Physics, Chemistry and French via distance learning technologies in the 35 "small, necessarily existent" schools. A comparative sample of 150 graduates was selected from a database of approximately 470 graduates who had studied one or more of the same courses in a face-to-face teaching and learning environment in 23 rural schools across the province. The telephone surveys were 15-20 minutes in duration and were conducted during the spring of 2000 by two research assistants.

The Department of Education in collaboration with school district offices had appointed four distance education instructors as department heads [1/4 time] for each of the four subject areas. The online, "live" delivery of senior high school courses was mainly via the analog audio-graphic facilities provided by the Telemedicine Centre located in the Faculty of Medicine. The equipment consisted of a computer, a modem, a speaker, a microphone, and a telewriter pad that was, in effect, an electronic blackboard. The students could see what the DE instructor was writing and hear what he or she was saying. The students could also write and talk to the distance education instructor, and to each other.

Typically, in a two-credit senior high school course a DE student had access to an online DE instructor for 5 out of 10 classes on a 14-day cycle. That is, the DE student had half as much real time contact with a DE instructor as did a non-DE student. Generally, DE students doing one-credit senior high school courses had slightly more than half-time contact, as did all DE French students due to the high level of oral communication required.

During their offline periods the activities of DE students depended on their level of maturity and school policies. The on-site teachers who provided tutorial help were referred to as DE advisors. In a small number of schools the DE advisor dealt with administrative chores and tutorial help. In the majority of schools, one or two teachers volunteered out-of-class time to tutor the DE students. In the remaining small, but growing number of schools, the administration assigned part of a teacher unit to support the DE program.

The Report argues that the “degree and nature of the support for telelearning in small schools and rural communities had changed over the past years.” The Report suggests there were three reasons for this:

1. In many cases it had just been within the last one or two years that small rural schools had been able to access the Internet in a meaningful way, and some still experienced a great deal of frustration as far as connectivity is concerned.
2. Since 1988 the number of courses offered via the “regular” audio-graphic DE delivery had grown from one math course to a total of 11 courses in math, sciences, and French.
3. It was in the 1998 – 1999 school year that, for the first time in the province, students were able to avail of the college level Advanced Placement (AP) courses in a Web-based mode using School District Digital Intranets.^{xv}

In addition to the concern about technology, the Report identified the following logistical issues:

- keeping students on task
- providing adequate learning resources
- supervising student activities such as examinations and laboratory activities
- providing tutorial assistance

The Report drew the following conclusion on the issue of tutoring:

On this matter it is interesting to recall that at the inception of the senior high school distance education program in the late 1980s and early 1990s, it was never the intention that the schools provide tutorial help in the various subjects – the rationale being that the teachers in the field would not have the time to tutor the students. On the other hand, it was fully hoped that schools (and especially the administration) would take ownership of the distance education program and provide support as outlined earlier.^{xvi}

Findings

a. Expectations of Students and Courses

The 1999 - 2000 study indicated that teachers and administrators selected students who were most likely to be successful in distance education. Parents, students and educators agreed that only a few selected students were capable of successfully completing distance education courses. Principals stated that students were chosen primarily on the basis of academic average and teacher recommendations. In some

schools, students requested DE courses because they had already chosen a career and needed the course to meet the requirements for post-secondary admission.^{xvii}

Teachers and principals felt that students needed certain abilities to be successful in distance learning. They had to be independent learners, highly motivated, responsible, and hard-working because there was, in their opinion, a lot of work to do in DE courses. Teachers argued that students have to set their priorities, and have good time management skills. One teacher said:

The students who are the most successful with this program obviously have the right attitude. They are positive, self-motivated, independent workers; independent thinkers and they are ambitious.^{xviii}

A few teachers were concerned about stereotyping the successful student. One commented:

Sometimes students might be overlooked who may not be the top academic achievers for that school but they have the necessary skills to cope with online courses. They might be able to think on their own and might be very good workers and that sometimes is more important than academic ability.^{xix}

DE courses were seen as more challenging by all respondents. Teachers and school administrators appeared to accept the fact that grades in DE courses would be lower, thereby resulting in a drop in student averages. Parents expressed a concern about lower averages and the consequences for being accepted into post-secondary institutions. Some school administrators agreed and even questioned the value of encouraging students to choose the more advanced courses that were available through DE.

Ninety-five percent of distance students agreed or strongly agreed that their teachers had high expectations of them. When asked about behavior problems in their schools, 61% of the students agreed or strongly agreed that there were few behavioral problems. Teachers and administrators explained that behavioral issues were not typical of the kind of students who enrolled in distance education.

b. Preparation for Post-secondary education

Despite the potential for lower overall academic averages when leaving high school, many respondents spoke quite positively of one aspect of distance education. They praised information and communication technology as contributing to their readiness for post-secondary environments. Teachers, parents, students, and administrators agreed that distance education built skills needed for post-secondary studies in addition to providing the necessary academic background. These skills included being able to manage one's time effectively and work independently.

With only one or two exceptions, there appears to have been a general consensus among respondents that distance education is intended for only the most

capable students who have already developed independence. Even then, there was a firmly held belief that enrolment numbers should be controlled to six students or fewer, in order to maximize the likelihood of the students staying on task as they listen to the online teacher.

c. Distance Education instructors

The DE teaching and learning environment described by teachers was, on the whole, a positive one. DE instructors felt that they were providing a valuable service in meeting the needs of rural students that would not otherwise be met. As far as their impressions of the students were concerned, the teachers often commented on the need for students to be willing to work without having immediate and continuous contact with the teacher. However, there was a difference in opinion between new and experienced DE instructors. Newer DE instructors were more likely to express positive comments than those who had been involved for a longer period of time.^{xx} A teacher who was teaching distance education for the first time stated:

The students who do DE, I believe, are more independent learners than the students in the classroom setting. I can cover the material just as quickly or more quickly. In DE I can take half the time and have as good or better understanding than I will get in the regular classroom. Because in the classroom, kids often defer to you rather than take the initiative. They (DE students) probably work harder and as a consequence, I think, through survival they are smarter...One thing about distance education is that the students that you are dealing with are the upper level kids and you don't have to push them the same as you did in the classroom.^{xxi}

In contrast, an experienced online teacher argued:

This year I teach five classes online and one here at the school...I went looking for the in-school class last year. I sensed a little difference in some things and I wanted to see if it was something that was unique to DE or if it was a bigger pattern. I am referring specifically to what I have seen in the last few years as a decline in work ethic, commitment and focus, etc. I was wondering if that was a function of the model we are using in DE or a bigger pattern...I think the suspicion I have in the work ethic is clear there has been a big change. But not just in DE. In fact I think in DE we may be maintaining the work ethic better than what is happening at the school level. I think the school level work ethic is in a little bit of trouble. And also in DE. I think overall there is a decline.^{xxii}

Supervision of online classes was investigated in the initial study. Since teachers in small schools had very few unassigned periods, supervision of DE classes was often sporadic and took the form of a teacher or principal who was "free" to look into the DE room from time to time. For larger groups, supervision was more structured, at least in

the early weeks of school, and on the rare occasion, a teacher or parent was sometimes assigned to the DE room while the class was in progress. In two or three schools, a glass panel was installed to allow teachers in adjacent rooms to supervise DE students.^{xxiii}

The 1999 – 2000 study interviewed teachers who were not involved with distance education. According to the surveys and interviews, there was a wide range of onsite assistance available to DE students. In some schools, however, on-site teachers were reluctant to help DE students for two reasons. First, they were concerned about their own lack of discipline expertise. Secondly, they argued that providing extensive in-school help might reduce the independence in students that DE can foster. In other schools, principals allotted a portion of a teaching unit to directly assist the delivery of the DE courses.^{xxiv} Despite the reluctance to tutor in a small number of schools, teachers in all schools voluntarily tutored in varying degrees during recess time, lunchtime and after school.

The interviewer concluded that even though the number of students in classes was less, the presence of distance education did not reduce the workload of non-DE teachers and in some cases made their jobs even more challenging. The Report goes on to explain that non-DE teachers actually spent a considerable amount of time helping DE students, even though they were not expected to or supposed to. But as teachers, they provided help when asked by any students. The Report states:

It is apparent that these teachers are frustrated. Their workloads make no allowance for such assistance to students, and even though they are in small schools, their working days are already full.^{xxv}

One teacher explained:

Generally the co-ordinator handles it, if he wants some input he will ask for it. Other than that we keep our distance. I have been told not to help the kids. I asked why and was told because if I help them the teacher over there will think everything is fine and will not realize that there are problems. The person that they should be contacting is their DE teacher and I say, “that is fine but the teacher is miles away and this kid is standing in front of me with problems, he got a work sample due and he is struggling and you want me to say, no I can’t help you.” First of all that makes me look like a bad guy.^{xxvi}

The Report indicates that when DE was introduced, it was the consensus of the DE instructors that minimal help would be required from the teachers on site. However, in their responses to the investigator’s questions, both DE teachers and school administrators argued that on-site support was crucial for effective delivery of DE courses. The Report concluded that the promotion of independent learning went only so far. Teachers were needed on-site to monitor the transmissions and keep students on a schedule.^{xxvii}

Many teachers of distance courses commented that their preparation for teaching by distance was more extensive than it was for the regular classroom. One stated:

I have mentioned that teaching at a distance is a very pleasant way to teach because you typically find the students on task and that is what teachers like. The second way is that the distance education teaching has been a benefit to me in the area of forced professional growth. Teaching at a distance is harder to do in that you have less time to undo any damage that you might make, therefore, you have to walk into a distance class more prepared than you would to a regular class. For example, in distance the possibility exists that technical trouble will occur or half the students may be missing for one reason or another, so you have to have a second lesson plan in place. I found, therefore, that I spent more time preparing for the distance, especially in the early years, than I would have spent preparing for the classroom. This means that I have learned a lot more about teaching my subject. So the act of making me teach was an act of forced professional development which has been a lot of fun and a lot of benefit to me. That is the big area that distance changed me.^{xxviii}

The issue of interaction featured prominently in the comments of the distance education instructors and students both of whom expressed a need for more engagement on an interpersonal level. One teacher responded:

By DE, all we see is what is written on the screen and I have no idea if they are actually understanding it or what student is writing. I do force the student to actually write and not just answer the question. However, I do not know if that student or someone else is writing the answer and that is a drawback. But the overall experience has been positive. I like to see face-to-face interaction and I have made a trip to see my students early in the year so that I can actually see them face to face and when they had their midterms I went to each of the sites for a face to face tutorial session.^{xxix}

The Report indicates that teachers of DE believed that teaching DE was quite different from teaching in a regular face-to-face classroom. That perception definitely affected their attitudes towards DE:

You want the person speaking clearly and not too fast. You want someone with a little bit of compassion because in teaching distance education, problems will come up that the students will have no control over and you cannot teach it the same as you can in school. You have to be a little lenient in the ways things happen, I can't be as strict and demanding that assignments be sent to me on a certain date. I know there are always little things that can go wrong with getting a lab in on a particular date. In school I can make sure that everything is ready for them to get it in to me at a certain date. I know a person who taught DE a

few years ago who found it really difficult to be flexible because that was not the way he/she taught in school so they found DE really hard.^{xxx}

d. Effects on School Culture

One question raised in the initial study was whether distance education courses in a small school had a negative effect on those who did not enroll in them. The Report concluded that in some small schools, the withdrawal of the highest achieving and most motivated students from non-distance education courses had a very negative effect on other classes. A teacher commented:

We have a weak bunch in high school to a certain degree because of DE. What I mean by that is that the cream of the crop is not in my class. The kids who could lead the class and get into good discussions, could set standards where you could assign work that would go beyond what we do now, these kids are not there. So the weaker kids who have less interest and apply themselves less, these are the class leaders and that is affecting the quality of the class.^{xxxii}

A principal confirmed that this created a problem.

I didn't give much thought to it at first but I certainly have in the past two or three years. I am beginning to see that by taking out those students who are gifted students, out of certain courses, they are the ones who would lead the debate, give the leading thoughts and promote others with their encouragement. They are also role models with their behavior.^{xxxiii}

The Report concluded that offering DE courses only to a certain group in the school creates a situation where students are streamed, either into DE courses or not. For students who are not streamed into distance education, the effect can lead to lower self-confidence and lower self-esteem. One teacher was concerned about the negative effects distance courses were having on some DE students:

I see some of the negative effects on students...The fact of working independently and not being able to ask a question every five seconds has a negative effect on the kids and that in turn it could make them think they are not as smart as they thought they were and maybe university is out for them. I am thinking there is some beating on their egos because they have been waltzing through all their life and school was easy for them.^{xxxiiii}

Some teachers saw non-DE students as "a pedagogical challenge" because the learning dynamics of classes are drastically affected when the more capable students were removed to complete distance education courses. For example, one principal commented:

The negative thing is that when you take the cream of the crop out of the class, then it diminishes the quality of education within that class. Regardless of what the teacher might do, if you are in such a class and you want to generate a debate and there is only two in a class then it is pretty hard to debate. If you take your top one or two students out of a class of six and leave the three or four there that are not quite as capable, the quality of interaction between teacher and student or student and student diminishes.^{xxxiv}

The Report concluded that the division between distance teachers and non-distance teachers had negatively affected school culture.

e. Technology

Eighty-three percent of students in the initial survey agreed or strongly agreed that they learned to use technology appropriately to find and organize information as a result of doing a course by distance. A higher number, 92% felt that technology helped them become more independent learners. Eighty-one percent agreed or strongly agreed that they were placed in learning situations where they could use the internet to facilitate their learning and 88% felt that they were involved in active learning with their teachers acting as facilitators. The Final Report concluded that DE students generally saw their schools as providing greater opportunities to learn how to use new technology as a result of the availability of distance courses.^{xxxv}

Nevertheless, the Report also concluded that while students had access to their distance education teacher through technology, most students appeared to be reluctant to initiate contact with their teachers, or seek solutions to the problems they had. Many of them noted that it was much easier to define a problem in a face-to-face environment.^{xxxvi}

f. Benefits of Distance Education courses

The initial study investigated how the distance education program measured up to promoting employability skills. The study was particularly interested in determining whether the current telelearning courses prepared senior high school students in small rural areas for the “new economy”. The investigator used criteria from the Employability Skills Profile of the Conference Board of Canada, the Science Literacy for the World of Work document and the Employability 2000+ document. One of the employability skills highlighted was the ability to “be adaptable”. The Profile stated that individuals should be able to: work independently or part of a team; carry out multiple tasks or projects; be innovative and resourceful; and determine alternative ways to achieve goals. They also need to be open and responsive to change, learn from their mistakes and cope with uncertainty.

All participants who were interviewed in 1999 – 2000 referred to the independence and self-reliance that are fostered by distance education. Not having a

teacher in the classroom, they argued, requires students to rely on their own tenacity as they proceed through the DE program. Not surprisingly, since DE instructors were remote, many DE students relied on each other as they worked through assignments and lab exercises and prepared for tests. The Report concluded that “since Distance Education requires and fosters self-reliance, the students are better prepared to deal with problem solving situations than they would have been if not exposed to the DE courses.” The Report does point out, however, that students do not necessarily develop better communication skills although technology had improved their research skills.^{xxxvii}

Many participants identified independent learning as an inherent benefit of distance learning. The issue of dependent (or teacher directed) versus independent learners inevitably featured prominently in responses. The following comments from two DE students are typical of the views expressed by many others:

It makes me work harder and it makes me do more things for myself than actually having a teacher there telling us.

It makes me more independent and it makes me more responsible.^{xxxviii}

The issue of student independence and the role of the teacher are important in any consideration of teaching and learning at a distance. Students who were learning at a distance had strong opinions on this subject as the following statements indicate:

One of the benefits of DE is there is a lot of independent study and work and it will help you when you get to university because you will be used to working alone and not always having someone there to help you.^{xxxix}

When asked about the benefits of learning French through telelearning, one teacher commented:

It is positive for students who are on the top of the skills and have the abilities to work independently. We have had students who went away who were pretty much bilingual with French. That would not have been possible without DE.^{xl}

The Report concluded that it was impossible in this investigation to determine whether the students had employability skills before they did the distance education courses, or developed them as a result.^{xli} The investigator also concluded that it was not possible to determine why some students are motivated to complete distance courses and some are not.^{xlii}

g. Distance Education in the future

While some teachers welcomed distance education opportunities as a means of broadening the choices available for students, others were concerned that the

provincial Department of Education would use it to weaken the local school and reduce support for local teachers.^{xliii} The Report concluded that:

DE can't be seen as something separate, meant only for the small minority. Instead it needs to be part of the program, offered to all, but with a different delivery mode. With good teaching, the motivation for students to study chemistry, physics, and mathematics can be triggered through the study of the local industry, such as aquaculture. Good teachers can make the connections between the need for advanced studies and the local economy....^{xliv}

When asked what they believed was the future of distance education, most teachers believed that while it was inferior to face-to-face instruction, it would likely grow out of necessity. Nevertheless, they had a limited vision of what it would look like.

I fear we're going to have to take on more of it. Ultimately, it means a reduction in manpower here because at some point when our numbers get low, we'll no longer be able to argue that we need specialists for the various subject areas. We fear it's going to be more and more distance education. We fear it because we don't think it's to the benefit of the kids.^{xlv}

Another teacher speculated that,

Within five or six years I can't see it changing very much providing our staff allocation is adequate. If we get down to low numbers in our levels we will have to resort to even more distance education courses. I am not sure that the internet would work. I really think you have to look at the students themselves and a lot of them would not function in that setting.^{xlvi}

Some teachers and administrators feared that they would be replaced by the technology. For example, one principal commented:

I would like to see a system where we would not need distance education because there would be enough students to engage teachers and make distance education redundant. I fear it is going to go the other way and teachers will become redundant and the only way to offer education is through the distance education program. With the internet and access through online, obviously the options are limitless. If you take it one step farther and the student could take the workstation home and log on at a designated time and have it connected to receive the audio and video there in the home...^{xlvii}

The views on the future of distance education varied greatly from community to community. In some schools, the respondents were quite positive. They shared the view with this teacher who said:

I would like to see DE becoming more. I'd like to see it filtered down through where enrichment could be provided for students at an elementary level that will be conducive to this higher level of thinking for which right now in our schools we just don't have the resources.^{xlviii}

When asked about his attitude towards Distance Education, one principal replied:

It is positive. Good things can come out of it but we have to be careful. I am afraid that it is going to be used for the wrong reasons. I think it is going to be looked upon as a way to deliver education services in this province without having to supply the necessary number of teachers in a high school. In other words the whole of education is going to change. I look upon distance education as a way of broadening the curriculum and giving the student more choice of a selection, particularly for the better academic students. I get a sense right now that there had been a change and there is a force under foot saying that we can deliver educational services to small schools, you don't need as many teachers to do this through DE. But delivering DE to this school has not lessened the workload of any teacher or myself in this school.^{xlix}

Some parents did not envision distance education as a positive development. They saw it as a "make-do" approach to education that would be provided out of necessity because enrolments were dropping and the Department of Education was not prepared to allocate more teachers to support rural schools. One parent noted:

I think it will play a big part because our enrolment is going to be dropping every year and they will not put teachers here to deliver the courses that our children need, so more will have to be offered on DE.ⁱ

Some parents feared that they would lose their school to distance education. One wrote:

I would like the assurance that we're not going to lose our school to the DE room down the road because in a rural area there's always that fear. Also, with the declining enrolment we wouldn't want to depend entirely on DE and that's a little fear that is lurking at the back of everybody's mind.ⁱⁱ

Another parent clearly indicated that she feared losing their community school to DE. She said:

We've lost so much in outport Newfoundland that you're always afraid that you're going to lose something else and the thing that we don't want to lose is our school.ⁱⁱⁱ

The investigator concluded that it was impossible to generalize about individual attitudes towards distance education because there was such a variation. Nevertheless, he was prepared to assert that overall there was a high number of negative comments, particularly from students. Respondents identified negative features of distance education as:

- scheduling/timetabling/ supervision issues
- uncomfortable DE rooms
- a scarcity of science supplies
- a staff perception that valuable resources should not be spent on a small number of DE students
- the need of some students for in-school tutoring
- problems associated with faxing and telephoning
- perceived inadequacies in the pedagogical behavior of the DE instructor
- the impact of lower grades than those normally achieved in less demanding courses^{liii}

The following quotes represent this position:

I think that it is seen as...you guys are going to bite the bullet and do it. I don't think that it is seen as "ok, you guys get to do DE next year". It is not an exciting thing to do, it is almost dreaded by some students. I know that it is a shame but...parents got serious reservation...we find them hard to control, then how is a computer screen going to keep them. (teacher)

I think it is a necessary evil. (parent)

Distance education is a necessary evil unless they put qualified instructors in the classrooms and it is not easy to attract qualified instructors to small rural schools. (principal)

Parents don't want their children doing three courses by DE. They are looking at this as a negative...Yes, it is a necessary evil. They don't even want it to be necessary. They want a live teacher with the students. It is hard to get parents to look at it any differently. (teacher)^{liv}

Nevertheless, the Report concluded that, generally-speaking, there was a positive attitude towards, and acceptance of, distance education. The majority of participants felt that the positive effects of DE outweighed the negative. Whether DE delivery was accepted as positive depended on a number of factors including:

- the quality of the physical facilities
- the equipment and supplies

- administrative issues such as online supervision and scheduling
- motivating students to make use of the resources, to contact their DE instructors by telephone or facsimile machine, and to make use of on-site tutorial assistance^{lv}

The following quotes represent a more positive outlook:

The strength of DE overtops the weaknesses because they would not be able to take a lot of courses otherwise. (parent)

I think for the most part students' attitude towards DE is positive although I think there is a certain type of student more suited to DE than others. They have to be students capable of working independently and not everybody fits into that category. They have to be very self-motivated and very self-disciplined. The students in Level III here last year that did DE went to Grenfell College and they have said that going through the DE process helped them to develop these qualities which is now helping them in university. (principal)^{lvi}

The Report concluded:

While certain respondents in some schools were not entirely positive regarding distance learning, there was not one school in the sample where the responses were entirely negative from everyone interviewed. Even those who did not favor DE felt that it was better to deliver the courses in that manner than not having the courses taught at all. The most common element of concern in virtually all schools revolved around the supervision of both online and offline students and especially the supervision of offline classes when the students were writing test or doing lab exercises. Where students were unhappy with DE, they spoke about shortcomings in the location and/or the physical layout of the DE room, problems created by the very fact that the DE instructor was not present with them, inadequacies in the teaching style of some of their DE instructors and problems caused by scheduling.^{lvii}

It is fair to say that the respondents in the 1999-2000 study recognized the fact that distance education would be a part of teaching and learning in their future. Some, in fact, looked forward to it being expanded to include other academic disciplines. Nevertheless, there was apprehension about emerging internet technology. The investigator identified two specific areas of concerns related to internet technology. First, many remote communities did not have adequate connectivity to facilitate internet delivery. Secondly, there was a fear that synchronous teaching would be replaced by asynchronous teaching. In almost every interview of student focus groups, at least one student complained about not feeling connected to their teacher or to the

students from other schools in the class. Expression of this view took many forms and ranged from simply wanting to talk to the other students in the class to wanting to be able to see the teacher and wishing the teacher could see them. The greatest concern was student-teacher interaction.

The apprehension about the shift to web-based courses is represented in the following comment:

I am not looking forward to that. I think the DE students need to hear a voice. I know they can't see me and that still works because they can hear my voice and they know that when I offer my assistance that I am very sincere. I can't see that (asynchronous teaching) working and I am not looking forward to that kind of a situation and I don't think the students will benefit from that. I have my students call now before a test just to say to me "wish us luck." They need to hear that, especially the students that you really developed a rapport with. They want to hear the reassurance from you that they will do fine – but to read that in an email I don't think it will work. I like to teach and I like my online periods more than the offline periods. From what I gather that for me to be on this end just answering emails and correcting, I am not sure that is where I want to be...But in the meantime if it is going that way, I do want to be a part of the process so that I can have as much input as I possibly can.^{lviii}

These concerns notwithstanding, the investigator concluded, there was a certain anticipation and even excitement about DE in general, and especially with regards to the possibility of accessing web-based courses if the delivery is smooth and if synchronous teaching is available to the extent it is presently offered in the analog mode. One teacher observed:

I think there is a future in DE. The contact that I have had with the board and principals seem to be positive, seems to encourage it in their schools. I see it going more as Internet-based, there is talk of video cameras so that students can see the instructor and vice versa.^{lix}

In conclusion, the survey indicated that few students would choose distance education as their preferred method of delivery if the course were also available from a "face-to-face" teacher in the traditional way. When students were given a choice between a course offered by distance or no course at all, they clearly appreciated the first option. Distance education, in whatever form it would take, was there to stay.

II. The study conducted in 2009

Background

Since 2000, improved technological literacy and better internet access have enabled the provincial government of Newfoundland and Labrador to deliver online courses as a means of addressing the issues of curriculum equity, changing demographics, shortages in specific teaching disciplines and the need to be cost effective. In 2000, *the Final Report of the Ministerial Panel on Educational Delivery in the Classroom* recommended the creation of the Centre for Distance Learning and Innovation (CDLI). Its mandate is to provide for equal educational opportunities throughout the province to teachers and learners in rural and urban areas.^{lx} CDLI was designed to promote a positive culture of e-learning as an integral part of school life. In 2002 – 2003, CDLI offered 18 courses to 74 rural schools.^{lxi}

By the time of the 2009 study, the CDLI operation had expanded considerably. Its main sources of support came from synchronous and asynchronous instruction using *Illuminate Live* software. The software provided two-way voice over the Internet, a shared, interactive whiteboard, instant messaging, application sharing, breakout rooms and interactive assessment management. Asynchronous instruction was conducted using a learning management system (originally *WebCT*, currently *Desire2Learn*) that provided a discussion forum, internal email system, and a venue for course web pages and readings. The physical space for distance education courses varied from school to school.

Had the perceptions of students, teachers, administrators, and parents changed as a result of a shift from an audiographic system to a web-based system? In the fall of 2009, with the assistance of the Centre for Distance Learning and Innovation and school board partners, a province-wide survey was conducted to determine current attitudes toward the use of distance education to deliver high school courses. This qualitative study focused on finding the ‘voice’ of all participants and asked questions to four groups involved in online learning: students who are currently taking courses online, their parents, CDLI teachers, and school principals. The goals were to compare their views on distance education and to determine whether they are content with the level of interaction available to teachers and students using the current technology. The research questions of the study were:

1. How have participants’ perceptions of distance education courses in high schools changed since 1999?
2. What are the overall attitudes towards distance education as a means of providing courses to senior high school students?
3. What are the perceptions of distance education as it relates to preparation for post-secondary studies and skill development?
4. How does distance education affect school culture?
5. To what extent is distance education an integral part of the school program?

6. What are the attitudes towards the future of distance education in Newfoundland and Labrador?

The survey questions focused on five broad themes: participants' attitude towards distance education; the type of student suited to distance education; benefits of distance education for students; technology, facilities, and resources, including the role of the teacher; and the place of distance delivery in the provincial school system.

Description

The 2009 survey was offered to as many participants in the distance education program as possible to ensure a maximum rate of return. The target groups were: teachers, administrators, parents, and students who are involved in distance education courses. In the 2009 - 2010 school year, there were 33 teachers of 35 online courses to 106 schools throughout the province. There were 1476 registrants (884 students) in online courses in high school. Distance education students in participating schools received a survey to complete along with a survey for their parents. Self-addressed, stamped envelopes were provided for each participant. Surveys were sent to school administrators in each of the school districts where online courses are offered. Surveys to teachers were mailed directly to them. Findings were collected and analyzed during the winter 2009 – 2010. Using the 1999 – 2000 study as a foundational document, the investigation ten years later focused on the perceptions of four target groups and the findings were categorized as follows:

Teachers:

1. attitude towards distance education and its future
2. type of students who are best suited for distance education courses
3. benefits of distance education
4. place of distance education in the current system
5. technology, facilities, and the role of the teacher

Students:

1. preference for course delivery
2. type of students who are best suited for distance education courses
3. benefits of distance education
4. students' relationship with their teachers
5. technology, facilities, and resources

Principals:

1. attitude toward distance education
2. type of students who are best suited for distance education courses
3. benefits of distance education
4. impact of distance education on school and community
5. technology, facilities, and the role of the teacher

Parents:

1. attitude toward distance education
2. type of students who are best suited for distance education courses
3. benefits of distance education
4. place of distance education in the current system
5. technology, facilities and resources

Findings

a. Teachers' Perceptions

Theme 1: Attitude towards distance education courses and its future

Seventeen of 33 teachers responded to the survey. Nine teachers who responded to the survey did not have a preference for teaching DE or face-to-face courses, although all respondents indicated that they have a positive attitude towards distance delivery and the majority wanted to see the number of online courses increased. Comments from the teachers indicated that both modes of delivery have their advantages and disadvantages. They recognized that “making a connection with the student” is a challenge in online courses but one that must be met in order for successful teaching and learning to occur. Several teachers saw distance education as an opportunity to help rural schools. For example, one teacher indicated that he or she had a sense of “doing something good here, making a real positive difference to rural education.”

Do you prefer to teach Distance Education courses or face-to-face courses?

DE courses	7
Face-to-face courses	1
No Preference	9

Is your attitude towards Distance Education generally positive or negative?

Positive	17
Negative	0

Complete the following: I would like to see Distance Education courses...

Continue as they are	6
Increased	10
Decreased	0
Eliminated	0
Did not answer	1

Theme 2: The type of students who are best suited for distance education courses

Teachers strongly believed that distance courses were best suited to students with a particular skill set, one who was more motivated and able to work well with others. They cited group work and teamwork as valuable skills in distance learning. The amount of collaborative learning, however, seemed to depend on the course. Some teachers felt that while students can work independently or with one another, most preferred online courses because they had the opportunity to work on their own. One teacher remarked: “Students need great self-discipline and be intrinsically motivated” and another argued that distance education are “better suited to students who can work independently.”

While some did not feel that students have to work harder in distance education courses than they do in other courses, other teachers argued that it is an absolute necessity. One teacher summarized it this way:

Distance education courses are best suited to students who are prepared to assume a significant level of responsibility for their work habits and who are dedicated to getting the most out of the resources that are available to them. Distance students need to be somewhat self-directed and interested in learning.

Teachers also observed that distance education courses are not designed for academic achievers only; rather that the difference was between those who are and are not willing to work hard. Indeed, they suggested that CDLI was a means of achieving an education regardless where the student was on the academic spectrum. One respondent suggested that students simply need to keep on track with the work since the pace of instruction is quicker. The need to work harder, they explained, comes from not having the instant communication and feedback that occur in a face-to-face environment. Motivation is key to the success of distance learners, the teachers argued, but went on to say that this is true in any setting. Students who are motivated will learn in any setting but students must be more motivated in a learning environment where there is less supervision.

Do you think that Distance Education courses are best suited to a particular type of student?

Yes	14
No	2
Did not answer	1

Do you think that students who enroll in Distance Education courses have to be more motivated than students who do not?

Yes	10
No	4

Did not answer 3

Do you think that students have to work harder in Distance Education courses than they do in other courses?

Yes 6
No 10
Did not answer 1

Do you think that students being able to work well with others is an important quality for Distance Education students?

Yes 10
No 5
Did not answer 2

Do higher achieving students typically enroll in your Distance Education courses?

Yes 6
No 10
Did not answer 1

Theme 3: Benefits of distance education

Teachers argued that students gain skills by doing courses online. For example, 13 teachers cited teamwork skills as a by-product of doing an online course.

Students are often placed in groups with people they do not know and who are in different locales. They learn to work with others.

Nevertheless, several teachers argued that teamwork skills should also be learned in the face-to-face classroom. The majority suggested that students develop better communication skills, particularly communication through computer technology. One teacher argued that students in a distance environment have the freedom to communicate freely without feeling intimidated. While some teachers suggested that students do not pick up the interpersonal skills that they would in the “regular classroom”, online learning teaches them different communication skills that they would not get elsewhere. Again, teachers emphasized the theme of self-reliance and independence. Some argued that students become more self-reliant as a result of the process of completing an online course. One teacher commented strongly:

ABSOLUTELY! They have to rely on themselves and each other in ways that face-to-face students cannot.

The teachers explained that content is the same regardless of delivery method but the process of learning encourages self-reliance. They also supported the argument that doing online courses better prepares the students for post-secondary studies. They singled out several skills in particular. Students learn time management and effective communication skills in distance education courses, two skills that they believe are required in a post-secondary environment. Another teacher argued that students become more organized and self-disciplined by doing distance courses.

Do you think that students develop teamwork skills as a result of doing Distance Education courses?

Yes	13
No	4
Did not answer	0

Do you think that students develop better communication skills as a result of doing Distance Education courses?

Yes	14
No	2
Did not answer	1

Do you think that students who have completed Distance Education courses are better prepared for post-secondary studies because of that experience?

Yes	15
No	1
Did not answer	1

Do you think that students become more self-reliant as a result of having done Distance Education courses?

Yes	14
No	1
Did not answer	2

If you answered “yes” to the previous question, do you think the increased self-reliance is a result of the process of doing courses by Distance, or the content of the courses being taught?

Process	10
Content	0
Did not answer	3
Both	4

Theme 4: The place of distance education in the current system

Teachers felt that the presence of distance education positively affects government's support for local schools. Some teachers argued that distance education represents enhanced government support because rural students would not have the opportunity to complete certain courses if it were not for distance delivery. One teacher, for example, argued that distance delivery was an obvious effort to provide equal access to high school courses and to post-secondary institutions. Another teacher suggested that the effect is very positive because "CDLI pays for the school's internet. Hardware is provided that the schools cannot afford on their own." Teachers also argued that technology has not diminished the role of teachers; to the contrary, it supplements what is currently there and enhances the role of the teachers. Most teachers who commented on this question felt that the role of the teacher has had to change to fit the technology; nevertheless, nothing can surpass the "qualified, dedicated, face-to-face teacher".

All respondents agreed that the increased use of distance education has not challenged the existence of schools nor the number of teachers available to a community. "A school's allotment of teachers has nothing to do with CDLI. We accentuate the program." Some argued that distance education is the solution to declining enrollment. They also agreed that community support for distance education has changed in recent years. They felt that the role that distance education plays is more recognized, accepted and requested now than before. One teacher attributes this acceptance to the "transparency" of online delivery of courses. Not all teachers commented with certainty about its acceptance, however. One teacher said that he or she spends considerable time defending the program to parents. Another argued that the support depends on the community: some communities are supportive, others are not.

Do you think that the presence of Distance Education courses has an effect on the government's support for local schools and teachers?

Yes	10
No	4
Did not answer	3

Do you think that Distance Education technology will diminish the role of teachers?

Yes	0
No	16
Did not answer	1

Are you concerned that the increased use of Distance Education course delivery challenges the existence of schools or the number of teachers available to a community?

Yes	0
No	17
Did not answer	0

Do you think that community support for Distance Education has changed in recent years?

Yes	11
No	3
Did not answer	3

Theme 5: Technology, facilities, and the role of the teacher

The teachers who responded were unanimously pleased with the on-site teaching and technical support available to students. Most respondents credited the work of “m-teams”. Regarding their own work as teachers, the majority of respondents agreed that preparing for DE courses is different from preparation for face-to-face teaching. One teacher stated:

The challenge is not having body language to tell you when they don’t understand. We need to develop strategies to ensure students are engaged.

One teacher argued that in contrast to face-to-face teaching, the preparation for teacher is much higher in distance education. The very nature of relying on technology, one teacher suggested, makes preparation different and challenging. It must be well thought out and interactive.

Several questions were asked about their relationship with their students. The teachers who responded said that they did not question whether the work submitted to them by their students had been completed by someone else, to any extent more than they would in a face-to-face classroom. They were concerned about keeping their students on-task during instruction but they did not expect more of their students online than they would of face-to-face students. “It is always a challenge to keep things going,” one teacher responded. “There are far too many distractions available to students and limited number of ways to effectively monitor their time on task,” indicated another teacher. Some teachers indicated that they expected their students to be more independent learners, but for the most part, their expectations of their students were the same as they would be in a face-to-face classroom. Sixteen teachers indicated that they met with their students during the school year. The comments, however, indicated that meetings are “rare” and only in situations where there is a problem, or if the school is close to where the teacher is located. Otherwise, the

teachers relied on technology, such as videoconferencing to communicate with their students. Geography and climate make visits a challenge if not impossible, which, as some teachers pointed out, is one of the reasons for providing online courses in the first place. They also stated that in their view, the students have access to sufficient learning resources and adequate facilities in their schools, including computer technology. Most resources are provided by CDLI and this, one teacher argued, puts these students in a better position than those in face-to-face classrooms. In distance education, the students have access to the content all the time. However, some teachers said that while there was support for the resources available to students, there were still a few problems that needed to be addressed. These included internet speed, connectivity, and rooms that are too noisy, poor ventilated and poorly lit.

Is there on-site teaching and technical support for those students to whom you teach Distance Education courses?

Yes	17
No	0

Do you think teacher preparation for teaching Distance Education courses is different from preparation for face-to-face teaching?

Yes	14
No	3

Do you ever question or doubt that the students' work in a Distance Education course has been completed by someone else?

Yes	15
No	0
Did not answer	2

As a Distance Education teacher, do you meet with your students during the school year?

Yes	16
No	0
Did not answer	1

As a Distance Education instructor, are you concerned about keeping students on-task?

Yes	15
No	1
Did not answer	0
Both yes and no	1

Do your Distance Education students have access to sufficient learning resources?

Yes	15
No	1
Did not answer	1

Do your Distance Education students have adequate facilities (including computer technology) in their school to engage in their courses effectively?

Yes	14
No	1
Did not answer	2

Do you think that Distance Education teachers tend to expect more of their students than they do of students in non-distance courses?

Yes	4
No	12
Did not answer	1

Selected comments from teachers regarding Distance Education:

The following comments indicate the variety of teachers' reflections on the distance education program.

1. Distance Education is not an elitist opportunity. Like the face-to-face setting, the success and failure of the learning environment depends on all stakeholders in the environment.
2. Administration – schools involved with DE must do so under the same framework, ie. start time, periods, recess/lunch time. Very frustrating for all with dealing with mixed schools.
3. DE schools must be given teacher units to help facilitate DE instruction in their schools, i.e. supervision, testing, lab work. Students have embraced the technological tools of learning. They live and breathe it everyday. It's commonplace. What we need is support to ensure that students make the best use of this golden opportunity. DE over the years has grown and evolved in this province. For me it has been a very positive, worthwhile experience. At the end of the day you know you have made a difference. Growing up in rural NL myself I can see the need for such a program. Many of my former DE students have moved on to great post secondary opportunities because of CDLI.

4. Distance education delivery in NL is continually evolving as the technology changes. It is becoming increasingly similar to face-to-face classroom with similar pedagogy. It is a fantastic asset for students in isolated/small schools who would be unable to avail of specialized/advanced courses without DE.
5. I have a positive outlook on distance learning delivery. The challenge at this time are the limitations in connection speeds, timetabling, and development of online learning resources. Schools that see distance learning as a positive component or programming and who support it tend to have greater overall success than those who see DE as an imposition or a challenge to their world view. There are challenges in all things, what separates those who succeed from those who do not is the amount of time complaining versus time spent finding and implementing fixes.
6. Strengths – equality of access for greater numbers of students; opportunities for rural students
Weaknesses – technical, supervisory, guidance support for distance learning at the school level.
Administrators, teachers etc take on added responsibilities at the school to make this work. I think they could use some help.
7. CDLI provides opportunity for students to engage in authentic, communicative language learning experiences. Approaches are real-time and interactive. Our French department has also offered travel programs as well. CDLI breaks down geographical barriers, ensuring that programs are readily accessible to students in every community where there is a need.
8. Distance learning is somewhat different but very familiar to regular classroom teaching too. Certain challenges exist for both students and e-teachers in DE that do not exist for face-to-face personnel. That being said, the reverse is also true. DE is both welcomed and needed in this province. It does not supplant any regular teaching staff and its only purpose is to supply the needs of NF/LAB students.
9. We do not provide students the opportunity to take courses asynchronously over the web. We have those that should and can. Our online content is dated, text-based and in desperate need of revision and work, across the curriculum. Bandwidth/connectivity is not consistent enough to use video conferencing and smart board bridging in teaching. Synchronous tool like *Illuminate* work fine when outside of MUN, when placed inside, it becomes problematic. What is our vision? As a teacher I cannot pinpoint where DE will be into the future – no vision or guidance...how do you improve delivery?"

10. The teaching of technology has been a very positive experience for me both in the face-to-face environment and through distance. I find that technology allows students to excel who may not in your “typical” school courses. By offering these courses through distance we provide the opportunity for these students who would otherwise do without.
11. Being involved in DE I think it is essential for our rural students. It allows them access to campus that they otherwise wouldn’t have. I have learned time and time again from past DE students that DE has better prepared them for post secondary. It helps them develop skills/qualities that help in all aspects of life. That being said, there is always room for improvement.
12. I see DE as an opportunity for students to have access which they probably wouldn’t have without DE. They have access to a wider range of courses and access to instructors who are experts in what they teach. DE is also growing outside of the high school setting. Our DE students have access to courses and technology which better prepare them to do online courses outside of the school setting and they develop skills and a work ethic which is conducive to lifelong learning. Unfortunately, not all students embrace this type of learning, although I think the majority do.
13. Distance Education allows for expanded curriculum in schools. As a former school administrator in a school that has to rely on CDLI for a number of programmes I can safely say that it allows for student access to courses that could never be offered live. If the school community recognizes that all students can succeed and is supportive of the students, there is no reason that CDLI students cannot fare as well as their counterparts in the traditional setting.
14. I think distance education should become more transparent. That is, I think the distinction between distance and face-to-face should be de-emphasized, and distance learning/FTF learning should become one and the same. A lot of the questions on this questionnaire gave only “yes” or “no” options and selecting one doesn’t tell the whole story. For example, the question of motivation: Do distance education students have to be motivated? Sure. But so do FTF students. I think we have kept the lower academic students out of distance education and it is a place where they might flourish, given the ability to ask private questions and respond to moderator only, and not be embarrassed if they don’t know the answer.
15. Strengths – a variety of courses; advances in technology; outstanding support of all students;

Weaknesses – unable to “control” students; websurfing during class; schools do not always include us as members of their staffs and leave us out of the loop on many issues

b. Students’ Perceptions

Ninety-nine students responded out a total of 884 registered for distance courses throughout the province.

Theme 1: Preference for course delivery

Students were almost equally divided on this preference. Forty-nine students indicated that they preferred to do their courses by distance and 67% percent wanted to see more courses offered by distance. Those who preferred online courses argued that the courses are more relaxing, slower paced and more organized. One student stated that students are treated more fairly and another student indicated that distance courses makes him or her feel less stressed not judged by other students in class. “When I do distance courses I feel more independent and it makes me study more”, said one respondent. Several students who preferred distance education argued that the big advantage is being able to listen to previously recorded classes and get help with them. Two students felt that it is nice to get out of the regular classroom environment for a change. They believed that online courses promote independence and responsibility. As to whether the program should continue, one student argued that online courses are still in its early years and in the future will open new opportunities for students. One potential area, they suggested, was in language courses in addition to French.

Forty-five students said that they preferred the classroom environment and 32% did not want to see more courses offered by distance delivery. These students found face-to-face courses more comfortable, less distracting and a better way to participate in class discussions. Several students argued that they like the interaction with a teacher in the face-to-face classroom and they feel more involved in learning. The traditional classroom enabled a student to get extra help when needed. For some students, having a teacher standing in front of them meant they could understand the content better.

Do you prefer to do high school courses by distance or face-to-face in school?

By distance:	49
Face-to-face in school:	45
No preference:	5
Did not answer:	0

Would you like to see more courses offered by distance?

Yes:	67
------	----

No: 32
Did not answer: 0

Theme 2: Type of students who are best suited for distance education courses

Students agreed that distance courses are best suited to a particular type of student. Some of the adjectives they used were: “dedicated, committed, independent, computer literate, self-disciplined, patient, determined and responsible”. The following quotes reflect their feelings about the type of students who are successful in distance education:

Students with low attention spans and poor organization skills will have trouble with CDLI.

Students who are easily distracted and need to interact with their teacher may find distance learning more difficult.

Students who require individual help should not do distance courses. Being able to work independently seems to be a key to completing a distance course successfully.

One student advised:

With distance education the teacher isn't there to remind you about an assignment, so you have to want to do the work and want to do it well to succeed.

Seventy percent of students indicated that those enrolled in distance courses had to be more motivated because they had more responsibility and 65% said that they needed to work harder. Other students thought that the work was more challenging and required their full attention because it was easy to go off track. They felt that DE students have to be independent learners. For some, this presented a challenge because as one student suggested, “it's difficult to understand a course when there is no one pushing you.” Another commented: “The teacher isn't just a classroom away to ask a question to. You have to try harder on your own.” Similarly, a student argued: “You have to be able to do all your work on your own and you need to be able to understand what you are doing.” In contrast, several students cited the expertise and quality of online teachers as the reason why they were successful in distance education courses.

Almost 80% of the students who were interviewed felt that distance courses required *more* work, possibly because teachers cannot witness their progress first-hand. The additional assignments, quizzes and tests increased the degree of difficulty of the courses. Only one student felt that it is the computer technology that makes the courses more difficult. One respondent, however, had no problem with a heavier workload because he or she believed that it simply improved their work ethic. Those who felt that

they did not have to work harder, stated that it was just a matter of asking the teacher for help. “When doing a distance course, you are given a lot of class time so you can ask any questions and get to know everything better.” Others were less convinced of that approach. “Getting help through the computer isn’t easy; in class the teacher can see if you are struggling.” Interestingly, a few students observed that they actually tended to work harder on the courses than they really needed to. They felt that motivation and hard work are important for success in all learning environments not just in distance courses.

Several students pointed out that it was not necessary to work well in groups because typically distance courses require working on your own. The exception appeared to be in science courses such as chemistry and physics. Some also noted that it is more difficult to work in groups when you are not face-to-face.

It is interesting to note that 59 students responded that anyone can do distance education courses. All that is needed is focus. Forty suggested that distance education is only for the stronger academic students while 59 students answered it is not. The comments given by both groups are interesting. Those who felt that students need to be strong academically argued that these are typically highly motivated students anyway. “Many people who are not strong academically don’t do well because they aren’t motivated and information tends to get lost without interaction with the teacher.” Those who suggested that you do not need to be a strong academic student to succeed in online courses argued that you simply have to be willing to work hard and work by yourself. “They’re not only for stronger academic students. I’m not a strong academic student but if you put the work into it you will do fine.” Both easy and difficult courses are offered by distance, just like in the face-to-face classroom. But they do caution that even the motivated students need to be able to work independently because the teacher is not always there to help.

Do you think that high school courses taught by distance are best suited to a particular type of student?

Yes:	82
No:	17
Did not answer:	0

Do you think that students who enroll in distance education courses have to be more motivated to succeed in school than other students?

Yes:	69
No:	28
Did not answer:	2

Do you think that students who do courses by distance have to work harder than they do in other courses?

Yes:	65
No:	32
Did not answer:	2

Do you think that students who do courses by distance have to work well in groups with other students?

Yes:	29
No:	69
Did not answer:	1

Do you think that distance courses are only for stronger academic students?

Yes:	40
No:	59
Did not answer:	0

Do you find that you have to do more work on your own when you do a distance course?

Yes:	79
No:	20
Did not answer:	0

Do you think that courses done by distance are more difficult than courses offered face-to-face in school?

Yes:	52
No:	45
Did not answer:	2

Theme 3: Benefits of distance education

Most students who responded felt that they did not learn to work collaboratively through distance education. Those who answered 'yes' to this question stated that they worked with others on group assignments but the majority said that they worked primarily alone.

Sixty-five students felt that they improved their communication skills and developed new ways to communicate when they did courses by distance. One student commented: "Being singled out to talk on a microphone could transform a timid personality into a person willing to speak." Several students felt that communication

skills were essential to their success. They said that students have to be able to communicate well with the teacher to get assistance, since the teacher cannot see them or read their body language. There were several similar comments. One student tied communication skills to better grades because marks were given for participation in some courses. However, not all agreed that distance education makes them better communicators. "Most often," one student pointed out, "students type while the teacher talks. This does not provide the friendly atmosphere for effective communication," and another student suggested that they "hardly ever need to talk to the teacher". "Even when a question is asked," another student stated, "you have to be extremely fast, there is not much opportunity for communication."

They believed that doing distance course built their self-confidence. Seventy-nine students indicated that they had become more self-confident from having worked on their own without depending on someone to explain. In the students' views, this self-confidence developed for a number of reasons including: the need to work on their own, the praise and the direction given by their e-teachers, the use of computer technology which they know they will need for future careers, and the necessity of learning to talk in front of people they have never met. In addition, one student felt that since these online courses are more challenging, it was very satisfying and rewarding to complete one successfully.

A high number of students (76 of the 99 responses) felt that doing courses by distance prepares them for university or college. Several reasons were given for this but the predominant one was the ability to work independently without having to rely heavily on an instructor for guidance. Other reasons offered are: better time management skills, the quality of teaching, the knowledge of technology, the demanding workload, the work ethic, and the study habits.

The greatest benefit of distance education according to this group appears to be that they were able to do courses that they would otherwise not been able to do. Several students stated that there were simply not enough teachers at their school to provide the courses that they wanted or needed to do. Students at small, rural schools appreciated the opportunity to do these courses online.

Advanced Mathematics is not offered at our school because of small class sizes so with distance education I am able to do this course. There are also many other courses at my school which other students do for this reason.

One student took the time to write the following comment:

We have good teachers at our school, who are very capable of instructing us in these courses. The problem is there are not enough students in each class to warrant a teacher. By school board rules there has to be at least seven students; therefore, we are at a disadvantage because our school has a small enrollment of academic students in all grades.

Do you think that when you do a course by distance you learn to work well with other students?

Yes:	40
No:	58
Did not answer:	1

Do you think that students learn to communicate better when they do courses by distance?

Yes:	65
No:	32
Did not answer:	2

Do you think that doing a course by distance helps to build your self-confidence?

Yes:	68
No:	30
Did not answer:	1

Do you think that doing courses by distance will make you better prepared for university or college?

Yes:	76
No:	22
Did not answer:	1

Do you think Distance Education enables you to do courses that you would not otherwise be able to do?

Yes:	84
No:	14
Did not answer:	1

Theme 4: Students' relationship with their teachers

Students who responded to the survey said that interaction with their teachers was limited to class time and emails, and was usually one-way communication, unlike their interaction with on-site teachers. While the interaction was different, they were pleased that their online teachers were, for the most part, "approachable" and helpful." Sixty-three students went on to argue that the technology enabled them to have sufficient interaction. They cited the benefits of *Elluminate Live*, text messaging, polycom and whiteboards as ways of improving interaction.

Slightly more than half indicated that their teachers expected more of them in distance courses. The remaining students saw expectations as about the same as the face-to-face classroom. One student commented: "CDLI teachers expect you to actively listen and complete assigned work as do teachers in your local school." Several students felt that online teachers should have higher expectations of them because they expect that the students will work independently. But as to whether they had a higher workload, one student pointed out that it depended on the course and the teacher. "But one thing for certain is that by doing a course by distance, the entire course will be completed."

Do you have as much interaction with your teacher when you do a course by distance as you do face-to-face in school?

Yes:	84
No:	14
Did not answer:	1

Do you think that the technology that enables you to do a course by distance helps you to interact enough with your teacher?

Yes:	63
No:	15
Did not answer:	1

Do you think that teachers expect more of you when you do a course by distance?

Yes:	54
No:	43
Did not answer:	2

Theme 5: Technology, facilities and resources

Sixty-five of the students who responded said that they had learned a lot about technology as a result of having done distance education courses. Those who selected a 'no' response argued that they were already used to the technology before they began the online courses. Those who felt that they had learned about technology were pleased that they had been exposed to different types of technology, such as scanners, and also different computer programs. Eighty students responded that they were quite happy with the facilities at their school dedicated to distance education delivery. Others pointed out some of the inadequacies of the facilities, mainly the type of room and computer problems. One student mentioned that the room is too small and poorly ventilated, and others wished they had a room for distance education only. A few students stated that they have to do their online courses at the back of a regular classroom.

We have to share the computer with other students and their materials are left around. The room is too small, and has an extreme temperature. Other students are too close and too disruptive.

The comments to the question about facilities varied greatly from “extremely comfortable and well-equipped” to “noisy and disruptive”. The majority of students enjoyed quiet, isolated rooms but a few others complained about a lack of supervision that caused classes to get out of hand. Some students had to share a classroom with younger students who were very disruptive. One alarming comment made was: “If there was a fire in the hall we would burn to death, no windows and only one door.”

Are you happy with the room set aside in your school for doing courses by distance?

Yes:	80
No:	16
Did not answer:	3

Do you think that you learned a lot about technology by doing a distance education course?

Yes:	65
No:	33
Did not answer:	1

In the space below, write any further comments that you have regarding distance education courses. Feel free to say what you think about doing courses by distance delivery.

1. I would rather do all online classes rather than in a classroom.
2. Distance education has allowed me to do my favorite course this year. Without it school would be more boring.
3. I think that distance education is a great way to learn new things.
4. I love online courses, with meeting new people and teachers, though some classes should stick with in the classroom.
5. I really enjoy doing distance education courses. This is my first year doing a course by distance and I think it's great.
6. I enjoy taking courses through distance.

7. I think they are great.
8. Fun classes; great teachers; awesome job.
9. Distance courses often are most successfully completed by those students with a certain personality; you do not necessarily have to be a strong academic student to complete them, though these students often have more success.
10. Distance education courses provide you with as much interaction as possible and gets you as close to the classroom setting as they can. I think distance is an excellent program especially for small schools where otherwise some courses would not be available.
11. I love my CDLI course.
12. I don't hate them, but I prefer face-to-face. Distance courses are just something small schools have to deal with.
13. Distance education is good, but face-to-face is much better in order to convey certain concepts and meanings. Also our internet service is terribly slow.
14. Teachers need to be more patient with students because you really do need more focus for these courses.
15. CDLI is a great asset to the school and has lots of potential. Different internet service providers need to be contracted though; the quality of our internet (Eastlink) is terrible.
16. I personally enjoy doing distance education, but I feel it takes a special type of student who is proactive to do well in distance courses.
17. I really enjoy online courses, in fact I'm doing better in my online classes than regular classes. I would take all courses online if I had that option.
18. Overall, I think that distance education works well. It is a break from the classroom.
19. I love online classes.
20. I like distance but often find it hard to learn. Not having a teacher physically there makes learning a bit difficult.

21. I love doing online courses. It has helped me a lot. I have a lot of new friends, I am braver and am becoming more independent. They should definitely keep up the distance courses. It's great!
22. I love distance education courses and I'm looking forward to some more in the future.
23. I would prefer to do courses face-to-face but I had no choice, so I had to do physics by distance education.
24. I really enjoyed doing by courses online.
25. I love doing online courses. It takes more time and effort, but it's a change in environment and it's more enjoyable than being in the classroom.
26. Distance education courses help to provide courses that are not offered in school. And then you have a way to receive the education you and your parents wish you had.
27. I enjoy the course sometimes but I don't plan on doing any more courses online.
28. I think doing these course are a very poor way of letting students have a variety of courses. There is no comparison to face-to-face. Very disappointed about CDLI!
29. I find the quizzes are very hard on how they are worded and I also think each teacher should make up their own test.
30. I feel that being an independent student will help you to be better at distance education courses.
31. I feel that there should be a place to comment if your teacher's rude and saucy to their students.
32. I think that distance education puts technology to its best use, but I get more out of face-to-face classes.
33. Doing courses by courses is difficult, the teacher expects a lot of you and gives a lot of work when you have other courses to do also.
34. I love distance education because it gives me the chance to do a large variety of courses, gives me a sense of independence and confidence, and gives me skills which can better prepare me for university.

35. I find the recorded classes availability a great help to missed content as well as quick printing of notes off the online board. However, I sometimes find classes quick paced since the online teacher has typed notes prepared when I am writing the notes in an exercise book and the teacher is gone ahead to a new topic.

c. Principals' Perceptions

Twenty-seven school principals out of 106 returned a completed survey.

List of courses taught:

Art Technology 1201	Integrated Systems 1205
Art and Design 3200	Mathematics 1204
Biology 2201	Mathematics 2205
Biology 3201	Mathematics 3204
Canadian History 1201	Mathematics 3103
Career Development 2201	Mathematics 3105
Chemistry 2202	Mathematics 3205
Chemistry 3202	Mathematics 3207
Computer Technology 2104	Music 2200
Computer Technology 3104	Music 2206
Design and Fabrication 2202	Newfoundland Studies 2205
English 2201	Physics 2204
English 3201	Physics 3204
French 2200	Science 1206
French 3200	World Geography 3202
French 3201	World History 3201
	Writing 2203

Theme 1: Attitude towards distance education

School administrators who responded to the survey were very positive about distance education as a development in education in Newfoundland and Labrador. Twenty-six of the respondents indicated that it was a positive development in that it gives students the opportunity to do courses that they would not otherwise be able to do. Most of them also perceived that students have a positive attitude towards distance delivery of courses. Interestingly, however, when asked about the future of distance education, 22 of the respondents felt the program should continue as it currently is, three felt that the number of distance courses should be reduced and two took the position that the program should be eliminated. None of the school administrators who

responded were prepared to support an increase in the number of online courses being offered to their schools, although their written comments suggested the contrary.

Do you think that distance delivery of high school courses is a positive or negative development in education in Newfoundland and Labrador?

Positive	26
Negative	1
Did not answer	0

Complete the following: I would like to see Distance Education courses...

Continue	22
Increase	0
Decrease	3
Eliminate	2

Overall, you perceive students' attitudes towards distance education courses as...

Positive	21
Negative	5
They have no preference	0
Did not answer	1

Theme 2: Type of students who are best suited for distance education courses

Twenty-five administrators felt that distance education is designed for a particular type of student. That student was described as someone who has a strong work ethic, is intrinsically motivated, is mature and responsible and can work independently. Several principals also indicated that the more successful online learners are those who are academically strong to begin with. Fifty-five percent of the principals indicated that students who enroll in distance education courses are actually more motivated. In many cases, they pointed out, the students simply have to take the course whether they want to or have the interest. Seventeen principals suggested that students have to work harder in online courses. They identified several reasons including: an increased workload, the need to work independently, higher demands by the teachers, and more challenging course materials. In contrast to the students' perception, 70% of the school administrators felt that students who enroll in courses by distance have to work well with others. The principals identified the "need to collaborate" and "to help each other". Twenty of the 27 respondents felt that higher achieving students typically enroll in online courses and for some, the absence of the higher achieving students from the classroom has an effect on the dynamics on non-distance courses. One principal suggested that academic averages in non-distance courses are lower because the higher achieving students are in distance courses.

Another stated that the dynamics of non-distance courses is different, in that students are lower achieving and less willing to participate in discussions. One principal wrote:

The in-class (non-distance) courses are filled with lower motivated, lower achieving students and there is a lack of leadership. This is another negative result for the teacher.

Do you think that Distance Education courses are designed for a particular type of student?

Yes	25
No	2
Did not answer	0

Do you think that students who enroll in Distance Education courses are more motivated than students who do not? Check one and provide additional comments, if you wish.

Yes	15
No	11
Did not answer	1

Do you think that students have to work harder in Distance Education courses than they do in other courses? Check one and provide additional comments, if you wish.

Yes	17
No	9
Did not answer	1

Do you think that students being able to work well with others is an important quality for Distance Education students? Check one and provide additional comments, if you wish.

Yes	19
No	8
Did not answer	0

Do higher achieving students typically enroll in Distance Education courses? Check one and provide additional comments, if you wish.

Yes	20
No	4
Did not answer	3

3.9 If your answer to the previous question was “yes”, do you think that having high achieving students in Distance Education courses has an effect on the dynamics in

the classroom in non-distance courses? Check one and provide additional comments, if you wish.

Effect	11
No effect	9
Did not answer	7

Theme 3: Benefits of distance education

School administrators who completed the survey stated that distance education has a positive impact on students. Eighteen principals felt that some students develop teamwork skills, particularly in courses that require lab work. In contrast, others said that in schools where enrollment is low, students are isolated at their own computers and there is no opportunity to work with others. Only 14 felt that students develop better communication skills through online learning, and these administrators felt that the process of doing an online course naturally improves one's communication. Sixteen principals responded that students are better prepared for post-secondary learning as a result of completing courses by distance primarily because of the need to become an independent learner when doing a course by distance. One principal suggested that students are "not better prepared but have an edge on technology" while another argued that "in most cases, the academic students are better prepared whereas those who had to take the courses due to lack of staff, do not benefit." Several principals agreed that there was no significant difference in having done distance courses in terms of preparation for university or college. "The students in DE are no better prepared than students who have a Physics teacher on site for example. DE gives them the chance to do courses they would otherwise not be able to do in a small school." A recurring theme in all survey results is the notion of the "independent student". Eighty-two percent of the school administrators who responded felt that students become more self-reliant when they do courses by distance because the "process" of doing the courses online promotes such independent learning. However, most of them attributed to the development of self-reliance to the fact that students have to be more independent learners than those in a face-to-face classroom and since they are usually the "brightest and best" students it is likely that they would become self-reliant with or without distance courses.

Do you think that students develop teamwork skills as a result of doing Distance Education courses? Check one and provide additional comments, if you wish.

Yes	18
No	8
Did not answer	1

Do you think that students develop better communication skills as a result of doing Distance Education courses? Check one and provide additional comments, if you wish.

Yes	14
No	10
Did not answer	3

Do you think that students who have completed Distance Education courses are better prepared for post-secondary studies because of that experience? Check one and provide additional comments, if you wish.

Yes	16
No	9
Both	2

Do you think that students become more self-reliant as a result of having done Distance Education courses? Check one and provide additional comments, if you wish.

Yes	22
No	4
Did not answer	1

If you answered “yes” to the previous question, do you think the increased self-reliance is a result of the process of doing courses by distance, or the content of the courses being taught? Check one and provide additional comments, if you wish.

Process	18
Content	0
Did not answer	6
Both	3

Theme 4: Impact of distance education on school and community

School administrators are in a position to assess the impact of online delivery of high school courses on both the school and the community. This issue was a major concern in the original survey ten years ago. In the 2009 survey, participants were asked a number of specific questions regarding its impact. First, they were almost divided equally on whether distance education has an effect on government’s support for schools and teachers. Several comments were made on this point. For example, one principal stated: “Adding CDLI is a solution to declining enrollment but it erodes the human resources of a school quicker than the decline. It makes scheduling difficult.” Other administrators pointed out the advantages of having online courses taught to their schools. “If anything CDLI classes get the ultimate support. We get technology that we otherwise not have.” Others were more negative about the effect. “We are losing units (teachers) in our schools as a result and teachers in schools have higher workloads

due to assistance needed to make distance courses work. We do more work but we have no time available for it.” Another respondent added: “The government often seems to see technology as a money saver. It should not be the main reason for using technology.” At the same time, most of them felt that the increased use of distance education courses does not challenge the existence of schools or the number of teachers available to the community. As one teacher put it, “someone has to unlock the school door.” Others pointed out that CDLI provides teaching that otherwise would not exist in small, isolated schools. Fifty-six percent of the school administrators also felt that community support for distance education has changed in recent years. Those who thought the support from the community has been positive suggested that parents now see the benefit of the technology and the advantage of having courses offered that otherwise could not be. One principal suggested that parents are supportive and accepting but “not necessarily a big fan” of distance education.

Do you think that the presence of Distance Education courses has an effect on the government’s support for local schools and teachers? Check one and provide additional comments, if you wish.

Yes	15
No	11
Did not answer	1

Are you concerned that the increased use of Distance Education course delivery challenges the existence of schools or the number of teachers available to a community? Check one and provide additional comments, if you wish.

Yes	10
No	17

Do you think that community support for Distance Education has changed in recent years? Check one and provide additional comments, if you wish.

Yes	15
No	9
Did not answer	3

Theme 5: Technology, facilities and the role of the teacher

School principals strongly believed that technology does not diminish the role of teachers. Those principals who argued that the teacher’s role *is* diminished stated that it is particularly true in small schools and in schools where it is being “overused to save units.” Another added: “DE diminishes the classroom teacher in our school. If government provided more teaching units there would be no need for CDLI at this school.” In contrast, those who argued that the teacher’s role is not diminished purport

that technology, no matter how great or refined, will only have limited use without adequate human resources. Another principal stated that in his or her school, distance education enhances teaching by increasing the academic focus. Courses may be taught online but there is still a need for supervision, local contact, labs, tutoring, assistance etc. Another administrator described a unique situation of a small, rural school:

You will always need teachers in a school, but in small schools there needs to be a better balance. We have four students in Level I, thus three distance education courses. One of these students is a basic student trying to do academic courses.

The majority of respondents were pleased with the technical and on-site support received by the students. However, some complained that they received “no additional resource/tech time to administer or supervise tests etc.” The lack of technical support, one principal argued, can be taxing of a teacher’s full-time teaching duties. Another respondent pointed out that he gave two teachers some technology time to provide some level of support to these students. The lack of technical support and technical problems were their major concerns.

Students enrolled in online courses were assigned to a separate area of the school. In response to a survey question, 81% of principals felt that distance education students had access to sufficient learning resources and adequate facilities. Administrators stated that they try to provide the learning resources needed by their students, as they would with face-to-face courses. In terms of facilities, one area that principals singled out as lacking is resources for labs, including materials as well as support staff.

Most schools did not have a policy regarding non-distance teachers assisting students who do courses online. Nevertheless, 24 school administrators noted that teachers in their schools tended to volunteer to help these students because, as one principal pointed out, “that’s what teachers do.” Teachers on site were involved in tutoring, technical assistance, scanning, supervision of tests, and labs. Some had to give up preparation time for supervision of CDLI courses.

When asked about the role of the teacher in the effectiveness of distance education, 23 of the respondents felt that the teachers’ role is “extremely important” because technology cannot replace an effective teacher.

Do you think that Distance Education technology will diminish the role of teachers?

Yes	6
No	21

Is there on-site teaching and technical support for those students who are enrolled in Distance Education courses?

Yes	16
No	7

Did not answer 4

Do your Distance Education students have adequate facilities in your school to engage in their courses effectively?

Yes 22
No 4
Did not answer 1

Does your school have a policy regarding non-distance teachers helping Distance Education students?

Yes 4
No 22
Did not answer 1

Do teachers in your school volunteer to help Distance Education students? Check one and provide additional comments, if you wish.

Yes 24
No 1
Did not answer 2

How important is the role of the teacher in the effectiveness of Distance Education? Check one and provide additional comments, if you wish.

Extremely important 23
Moderately 1
Important 2
Not important 0
Did not answer 1

Selected comments from school administrators:

1. Administrative concerns top the list. Coordinating for 17 students takes much time and effort on my behalf for which I receive little preparation time.
2. While I see the merits of CDLI in very small, extremely remote schools, I feel it has been overused by government to save units. However, someone still has to do on-site trouble shooting, download, copy, administer and scan exams and assignments. There is NO time allotted for this and it becomes an added burden.
3. They allow our students to complete courses that otherwise (because of limited teacher allocations to schools) would not be offered to them. The support provided is very good and students generally do very well in these courses. I certainly hope that they continue, and maybe even grow.

4. DE is a wonderful tool to advance the education of students. But it is only one tool and does not reach every child. I would love to see DE expand so that primary/elementary/junior high and high school teachers are hired to prepare modules to enhance the courses that are delivered in the classroom on a day to day basis for students.
5. A lot of extra work for administration. Especially around test time. Should be an allotment for the administration of CDLI tests, system maintenance etc. Could be an excellent system but the lack of site-based assistance is very time consuming and frustrating for all involved.
6. I wish that it did not have to occur, but I see the need. ALL students should be able to avail, not just academically inclined. Something should be in place so that more supervision can occur, but not to take away from school and class based teachers.
7. The services our school have received from CDLI staff and e-teachers has been phenomenal, and this should be noted. They also keep in close contact with myself, as principal, and my technology teacher. The direct link over the last couple of years, that e-teachers have with parents has been an excellent way to show the value of CDLI courses and to keep student motivated.
8. Distance education is great but someone has to recognize the amount of work that it creates for the teachers at the school. Without them it would not work but yet there is no support for those teachers. Workload is the issue. Address it and distance education can be better serviced.
9. Lack of a supervisor causes some concern. Teachers are told not to leave students unsupervised, yet those kids are. In the past, the types of students completing CDLI courses in our school were advanced and typically not a discipline issue – not so now. In really isolated areas CDLI is used for many courses. Who is responsible for supervising those?
10. Positive – students can do specialty courses not offered at school. Eg. French, Chemistry. – promotes independence and good work habits.
Negatives – lot of extra work for principal/or m-team. (technical, scanning, supervising)
11. I feel that distance education is a great opportunity for students. But it should be used to support students' academic needs for those that are work oriented, mature, and responsible. Not to be used for a course to fill a slot for a class due to teacher allocation in a school.

12. DE provides students with new experiences and advances their technical skills. It prepares them for demands of post secondary and work world.
13. Very positive!
14. It is great to have distance education in our school. The problems? We learn from them as well.
15. Greater support at the school level is needed. This needs to be in the area of technology support and curricular support.
16. Distance education provides for students in schools when staff resources may not be sufficient to deliver all courses. Also provides for students in areas where advanced needs are insufficient to warrant providing the courses in schools.
17. Weaknesses: Provide more resources for science labs and paper costs. Strengths: good teachers online, lots of technical support, guidance services are very good. Support for lab time slot is getting better.
18. In short, having Distance education is like having an extra teacher. It helps ensure that an equitable educational program is available in rural Newfoundland and Labrador. It also expands the school's curriculum so greater choices can be offered.
19. I believe the DE program in the province is a good program, especially in a school such as ours. Where we would not be able to offer a course or have to offer two courses in the same slot we can now have the 1 – 7 students complete the course online with a class of 20 or so. In this day and age with such an emphasis on e-learning I certainly believe it enables students to enhance their skill set. Would be good for more students to have some experience learning in such a manner as this.
20. I am quite pleased with CDLI courses as they are. Students get the support needed.

d. Parents' Perceptions

Ninety-nine parents responded to the survey.

Theme 1: Attitude towards distance education

Sixty-four of the 99 parents who responded to the survey preferred that their child did courses in the traditional face-to-face setting rather than online. They stated that it provides for more personal interaction between teachers and students and students tend to pay attention more in a classroom where the teacher is present. Nevertheless, when asked about their attitude towards distance education, 69 parents said that their attitude is positive and 27 said negative. A third question asked whether they would like to see more online courses. The majority of parents were content to see the program continue as it is while only seven suggested that it should be eliminated.

Would you prefer that your child did high school courses by distance or face-to-face?

Distance Education courses	8
Face-to-face courses	64
No Preference	27
Did not answer	0

Is your attitude towards Distance Education generally positive or negative?

Positive	69
Negative	27
Did not answer	3

Complete the following: I would like to see Distance Education courses...

Continue as they are	54
Increased	14
Decreased	23
Eliminated	7
Did not answer	1

Theme 2: Type of students who are best suited for distance education courses

Parents felt strongly that distance education courses are best suited to a particular type of student. These students must be more motivated and be willing to work harder than they do in other courses. They need to be eager to learn, mature, able to work without supervision, have good work habits, and willing to take the initiative to seek help when needed. Some parents also felt that distance education courses are suited to students with “special medical needs” or who are “shy and uncomfortable” in a group. According to parents, students who enroll in distance education courses should be able to work well with others. Parents were divided as to whether teachers who teach online courses expect more of their students. Those who chose ‘yes’ to this question suggested there is more homework and assignments and students have to work harder. Some parents believed this to be a positive development and appreciated the approach.

Do you think that Distance Education courses are best suited to a particular type of student?

Yes	77
No	22
Did not answer	0

Do you think that students who enroll in Distance Education courses have to be more motivated than students who do not?

Yes	81
No	18
Did not answer	0

Do you think that students have to work harder in Distance Education courses than they do in other courses?

Yes	71
No	25
Did not answer	3

Do you think that students being able to work well with others is an important quality for Distance Education students?

Yes	70
No	0
Did not answer	29

Do you think that Distance Education teachers tend to expect more of their students than they do of students in non-distance courses?

Yes	47
No	47
Did not answer	5

Theme 3: Benefits of distance education

Parents were divided as to whether doing distance courses promotes teamwork skills. Many who suggested that teamwork skills are enhanced, however, qualified their responses by stating that this occurs only when teachers require teamwork in learning activities. Only a few parents saw the development of teamwork skills as a direct result of completing a distance course. Many suggested that students develop better communication skills but some stated that listening is emphasized more than speaking. One parent argued that students might choose to take online courses because they are not forced into speaking as much as they would be expected to in a face-to-face classroom setting. Another felt that “responses are more to the point and there is less

discussion on the part of students.” Eighty-seven parents felt that students become more self-reliant as a result of doing courses online. They felt that students are better prepared for post-secondary education because of the process of doing courses online. Students have to “teach themselves how to learn” according to one parent. They become used to dealing with a heavy workload, learning independently, and having higher expectations.

Do you think that students develop teamwork skills as a result of doing Distance Education courses?

Yes	50
No	44
Did not answer	5

Do you think that students develop better communication skills as a result of doing distance education courses?

Yes	51
No	43
Did not answer	5

Do you think that students who have completed Distance Education courses are better prepared for post-secondary studies (college or university) because of that experience?

Yes	65
No	31
Did not answer	3

Do you think that students become more self-reliant as a result of having done Distance Education courses?

Yes	87
No	10
Did not answer	2

If you answered “Yes” to the previous question, do you think the increased self-reliance is a result of the process of doing courses by Distance, or the content of the courses being taught?

Process	70
Content	9
Did not answer	8

Theme 4: Place of distance education in the current system

Almost 70% of the parents who responded felt that the presence of distance education courses has an effect on government's support for local schools and teachers. Some parents were unsure about the relationship between funding and the number of teachers in a school but a few parents argued emphatically that more distance courses means fewer teachers. One stated: "If the government can eliminate teaching positions in rural communities, they will be very happy." Others saw the issue in terms of a solution for declining enrolments. "Government cannot pay for teachers to teach one or two students. I think DE shows the government is supporting local schools. Some schools need DE to survive." Parents were divided on whether technology will actually diminish the role of the teacher. While some saw it as a way to reduce the number of teachers, others felt that teachers would continue to be needed, although their roles might change. Sixty-five parents were convinced that distance delivery challenges the existence of schools in their community and the number of teachers allotted to those schools but they did recognize the need for online course delivery in small, rural areas. Fifty-five parents agreed with school administrators that community support for distance education had changed for the better in recent years. While opinions were strong on this question, most agreed that a change of attitude would take time and would likely come about as a result of students' positive attitudes.

Do you think that the presence of Distance Education courses in schools has an effect on the government's support for local schools and teachers?

Yes	69
No	25
Did not answer	5

Do you think that distance education technology will diminish the role of teachers?

Yes	52
No	47
Did not answer	0

Are you concerned that the increased use of Distance Education course delivery challenges the existence of schools or the number of teachers available to a community?

Yes	65
No	33
Did not answer	1

Do you think that community support for Distance Education support has changed in recent years?

Yes	55
No	33
Did not answer	11

Theme 5: Technology, facilities and resources

Almost 90% of the parents who responded to the survey were content with the facilities provided by the schools, including the computer technology available to the students, and the number of learning resources provided for distance courses. Some parents complained about technical problems and occasional shortage of lab materials but overall they were pleased with the delivery.

Does your child have adequate facilities (including computer technology) at the school when completing the course by distance?

Yes	89
No	6
Did not answer	4

Does your child have access to sufficient learning resources to do Distance Education courses?

Yes	87
No	9
Did not answer	3

Selected comments from parents:

1. Distance education enables students in remote communities access to a greater variety of courses than could possibly be offered at the local level.
2. I think the government is using Distance Education as a way of eliminating teaching positions in rural Newfoundland and Labrador. Our small communities are once again suffering because of dollar signs the government see they are spending inefficiently. Our children are our future and they should have teachers available to them to teach them not learn through a voice they hear on a computer screen. There is no student-teacher relationship with DE courses and some of the instructors just don't care about the students, to them they are just a number, and nothing else. Eliminate DE courses and bring in more teaching positions for our children.
3. Math should be a face-to-face course.
4. I think Distance Education courses are good in the way that they help the student to be more independent, but I also prefer the teacher in the

classroom with the student, more supervision, more students, and that gives the individual student a chance to work around a more crowded situation.

5. Although I feel face to face is very important in learning, I still think Distance Education does still help our children a great deal.
6. There has to be a better system in place. I don't think that students should have to study for 2 -3 exams for the one day. One teacher does not know what the other teacher is assigning.
7. I have nothing but good comments for our child's experience with the distance education program. He has excelled in all classes and in some cases, improved from the grades he was receiving in the classroom. My child is better prepared for post secondary studies as a result of distance education.
8. When looking at tests (midterms for example) students' expectations are extremely high. Why do any student have to face a 15 – 20 page test? As adults, wouldn't we dread the thought of doing this?
9. DE is a very good thing for my child. He cannot face a crowd so one on one is good for him. However, I'm hoping that it can be more than one on one. He is already more confident in himself and hopefully he can gradually feel more comfortable with a crowd and hopefully he can return to school. DE is very, very helpful for my child.
10. Our daughter has IBS (Irritable Bowel Syndrome) and was finding it exasperating trying to operate in a regular school setting. So even though DE courses were not originally set up for those with medical problems they have filled a real need, and we are so thankful to the government from the bottom of our hearts for these courses and we want you to know its so very much appreciated.
11. I have been an advocate of CDLI for several years in my efforts to keep our small K-12 school open during a time when the Board wanted to bus our high school kids to a larger school. This is the first year that my son has actually taken a distance course and so far the results have been very positive for the following reasons:
 - a. His science teacher wouldn't admit him to the CDLI course (physics) unless he brought up his marks in science and math last year. He really wanted to do physics and CDLI was the only way, so he did it.
 - b. My son is a bit attention-deficit (not diagnosed) and English is his recently-learned second language. So he finds it really hard to pay attention in class when other kids are talking and he also finds it

difficult to listen to the teacher and take notes. With the CDLI course he can replay the class as often as he needs to understand the content. He really likes this, and when he has a problem understanding the English, he can play it for me and I can explain what the teacher is getting at.

- c. Like many his age, he is really tech-savvy and loves computers. Doing courses online seems 'modern' and 'cool' to him. Because the physics class tends to be high achievers, he is now included in a group that he always regarded as elite and this has done a world of good for his self-esteem. He would do all or at least most of his classes this way if he could.

I do have some concerns about CDLI courses becoming more widespread:

- a. I would HATE to lose any in class teachers because of CDLI. They offer so much in terms of friendship, guidance, and life skills that online teachers do not have time for.
- b. If CDLI is increased, I think we need a new kind of teacher to give support and to help kids identify difficulties, frame questions and manage assignments. Also to maintain order in larger classes and keep kids on-task, although so far that hasn't been a problem in our school.
- c. I'm a bit concerned about the whole issue of elitism, for several reasons: It could discourage average students from attempting CDLI courses, and it may prevent small schools from embracing CDLI as an option. Also I think that more variety should be offered: art, music, culture, history, creative writing, not always focusing on the academic streamed students. ALL kids these days need to be able to use computers at this level of competency, so it's important to tempt them with course offerings that appeal to a wide range. THANKS FOR THE OPPORTUNITY TO 'SPEAK'!

- 12. I don't know a lot about it. I don't think it would be good for all types of students and also if students have to work at home and can only get dial up or no computer then that's not fair to them.
- 13. DE allows students in rural NL the same opportunities as students in major centres. It has helped my two children prepare for university, and take courses they were interested in. Small schools struggle to have enough teachers to teach the basics, DE can help increase the courses they can offer in the school. Gives schools more teachers and more subjects to pick from.
- 14. I would rather have a teacher face to face teach my child, rather than Distance Education.

15. I think distance education courses are great to have in the schools.
16. We would prefer more face-to-face courses than distance.
17. Since this is the first year my child has taken a distance education course, I haven't really assessed its strengths and weaknesses. However, I strongly feel that online courses are the answer for rural experiences declining enrollment.
18. I think Distance Education courses are good for the smarter student, but any student with a learning problem find these courses harder to pick up on.
19. I have a positive outlook on distance education. It provides my child with another way of learning other than just face to face. Finding different ways of learning keeps a child motivated.
20. strength – able to offer a variety of courses that might not otherwise be available in rural schools that do not have the student numbers or available teachers.
21. strength – able to offer courses that might not otherwise be available in certain schools due to low enrollment or shortage of qualified teachers.
22. I am not really sure how I feel about distance education. It's all new to me. My child seems to do fine, but isn't it a little too much? She is in high school not university.
23. I feel distance education courses let the students feel they have to do their part more than relying on teachers to tell them answers.
24. I think my attitude towards distance education delivery in Newfoundland and Labrador schools is that it's sometimes hard for them to understand where it's done online and not being done face-to-face.
25. I feel that having a teacher in the classroom is better but at the same time I feel that distance education prepares them more for after high school when they have to be independent and do things on their own.
26. It has only been a short while that our daughter has been participating in distance courses, however so far it has proven beneficial.
27. I would suggest that CDLI be courses that cannot be offered in a small school. I believe courses like academic math should be taught at the school level. My

experience, with the exception of one teacher, has been positive and our child has had a very good experience and has excelled in CDLI, she is very independent.

28. His mark is lower in distance education than face to face.
29. Distance education is wonderful since it offers academic students the opportunity to be prepared for post secondary. However, it sometimes appears as these students are penalized for choosing these courses. Staff feel it's unnecessary to help the students since they are not their responsibility. Like any other school subject, online teachers are sometimes more helpful and cooperative than others. If the online teacher is unhelpful as well as the subject teacher at the student's school, it leaves the student in a predicament.
30. My child prefers distance education to classroom teaching and would do all classes as DE if she had the choice.
31. More support in schools and materials need to be provided if this is what government intends to carry on with.
32. CDLI is great for some students but others would have much difficulty. It cannot replace the face-to-face experience that the majority need.
33. Because of our education system, as usual, the courses offered locally at a school focus around the 'basic' students and the more academic students are required to take online courses. Often the brighter student is left on their own while the student who is unable to advance is the priority.
34. A virtual teacher will never be as effective in educating children as a real teacher would especially in main courses like English. I think technology courses are okay by distance but if you have teachers in the school who can teach it, it shouldn't be online.
35. I feel that distance education courses gives the students the opportunity to do courses that would not be offered as part of the curriculum in their school due to the same numbers. It also gives students the opportunity to grow.
36. Distance education may be a good thing for smaller facilities because it gives students a chance to enroll in courses that are not being offered in the classroom due to the lack of teachers (ie. normal classes are small). It broadens their choices for university to get the courses they need.

37. This is only good if you have students who are capable to do it but for those who are unable they have to suffer in not passing their course. We should be moving forward and still having teachers teach in the classroom.
38. I think they are great so far but this is only his first year, some people give the online math courses not such a good name but I can't say for myself. My child never done that yet.
39. I think that distance education is fine for those that want to do it. But all students should have a choice to do what they want and not have to do it online because there are not enough students doing the course for a teacher to be put there to teach it.
40. With the steady decline of enrollment in rural NL, distance education is a great way for students to be on par with students from larger centres and to be prepared for university or college.
41. I feel that distance education is a positive experience for students. My only concern is that we as parents cannot speak face to face with a teacher to discuss progress, and how technical difficulties such as power outages etc affect the course.
42. Excellent program. I think all students should have exposure to learning by distance education and perhaps even mandatory to complete a course or two. It gives them a feel for what distance education courses are about, should they have a desire to learn especially when high school is complete. Many people complete a higher learning of education through "distance education".
43. DE can offer a better Education for our children especially if a course is not offered in school.
44. The technology/delivery has improved tremendously. Recording classes is an absolutely wonderful idea too.
45. For my child it has been a wonderful thing. Without distance education she could not have gotten the courses she wanted and needed. Distance education is a vital tool for children in rural areas in schools with declining enrollment.
46. Distance education is excellent for the average student. I would be very concerned for students with any level of learning difficulties.

47. When a child has poor concentration skills it's very disheartening to see how these online courses gradually drag them down. Teachers in classroom settings can watch over their students and encourage them on a daily basis.
48. For the most part I think delivery of instruction in our schools via DE is working well. However, I think that each school that offers DE should have a portion of its teaching units devoted solely to DE, ie. teacher support is needed for labs in science courses.
49. I homeschooled my oldest daughter until grade 9. She was an honours student and I made sure she had a lot of social activities with other children and adults so she would also be well developed socially. I took her education seriously and hoped to homeschool right through high school. I had been told when I started homeschooling that internet schooling would be available by the time she entered high school. To make a long story short, it wasn't. The alternative to allow her to graduate was an adult upgrade course so she could receive a diploma for high school. A definite insult to an honours student. So off to school she went where she had to take a number of CDLI courses because of the lack of teachers in the area. Now that she is almost finished high school she has expressed some concerns about these courses. She misses the student/teacher relationship of hands on courses. As well she dislikes the distraction of other students who are in the computer room and not taking the courses seriously. She feels that the demand of homework and assignments much heavier than regular classes. However, I feel that these are things that can be adjusted to make these courses more user friendly. I think that all courses should be available through CDLI in high school, so students can have a bigger variety of courses to choose from and so that students who are home schooled by necessity or by choice can have equal opportunities as students who live in cities. They may need to take their midterms and finals by traveling to a school where they can be monitored by teachers, but this would only be a small inconvenience compared to the advantages such courses can offer. I strongly support the distance education program and hope to see more courses available in the near future.

- e. A comparison of participants' responses

Theme 1: Attitude towards distance education and the type of students who enroll in distance education courses

Do you think that Distance Education courses are designed for a particular type of student? (Respondents who answered 'Yes')

Teachers:	14/17	(82.3%)
Parents:	77/99	(77.8%)
Principals :	25/27	(92.6%)
Students:	82/99	(82.8%)

Do you think that students who enroll in Distance Education courses are more motivated than students who do not? (Respondents who answered 'Yes')

Teachers:	10/17	(58.8%)
Parents:	81/99	(81.8%)
Principals:	15/27	(55.6%)
Students:	69/99	(69.7%)

Do you think that students have to work harder in Distance Education courses than they do in other courses? (Respondents who answered 'Yes')

Students:	65/99	(65.6%)
Teachers:	6/17	(35.3%)
Principals:	17/27	(62.9%)
Parents:	71/99	(71.7%)

Do you think that students being able to work well with others is an important quality for Distance Education students? (Respondents who answered 'Yes')

Students:	29/99	(29.3%)
Teachers:	10/17	(58.8%)
Principals:	19/27	(70.4%)
Parents:	70/99	(70.7%)

As a student, do you prefer to do high school courses by distance or in a face-to-face classroom?

Distance Education:	49/99	(49.5%)
Face-to-face:	45/99	(45.5%)
No preference:	5/99	(5.0%)

As a parent, do you prefer that your child did high school courses by distance or in a face-to-face classroom?

Distance Education:	8/99	(8.0%)
Face-to-face:	64/99	(64.6%)
No preference:	27/99	(27.4%)

Theme 2: Benefits of distance education

Do you think that students become more self-reliant as a result of having done distance education courses? (Respondents who answered 'Yes')

Students:	68/99	(68.7%)
Teachers:	14/17	(82.4%)
Principals:	22/27	(81.5%)
Parents:	87/99	(87.8%)

Do you think that students develop teamwork skills as a result of doing Distance Education courses? (Respondents who answered 'Yes')

Students:	40/99	(40.4%)
Teachers:	13/17	(76.5%)
Principals:	18/27	(66.7%)
Parents:	50/99	(50.5%)

Do you think that students develop better communication skills as a result of doing Distance Education courses? (Respondents who answered 'Yes')

Students:	65/99	(65.7%)
Teachers:	14/17	(82.4%)
Principals:	14/27	(51.8%)
Parents:	51/99	(51.5%)

Do you think that students who have completed Distance Education courses are better prepared for post-secondary studies because of their experience? (Respondents who answered 'Yes')

Students:	76/99	(76.7%)
Teachers:	15/17	(88.2%)
Principals:	16/27	(59.3%)
Parents:	65/99	(65.6%)

Theme 3: Student-Teacher relationship

Do you think that Distance Education teachers tend to expect more of their students than teachers do of students in non-distance courses? (Respondents who answered 'Yes')

Students:	54/99	(54.5%)
Teachers:	4/17	(23.5%)
Parents:	47/99	(47.5%)

Theme 4: Technology and facilities used in distance education

Do your Distance Education students have adequate facilities in your school to engage in their courses effectively? (Respondents who answered 'Yes')

Students:	80/99	(80.8%)
Teachers:	14/17	(82.4%)
Principals:	22/27	(81.5%)
Parents:	89/99	(89.9%)

Is there sufficient on-site teaching and technical support for students enrolled in distance education courses? (Respondents who answered 'Yes')

Teachers:	17/17	(100%)
Principals:	16/27	(59.3%)
Parents:	74/99	(74.7%)

Theme 5: Place of distance education in the current system

Is your attitude towards Distance Education generally positive or negative? (Respondents who answered 'Positive')

Teachers:	17/17	(100%)
Principals:	24/27	(88.9%)
Parents:	69/99	(69.7%)

Do you think that the presence of Distance Education courses has an effect on the government's support for local schools and teachers? (Respondents who answered 'Yes')

Teachers:	10/17	(58.8%)
Principals:	15/27	(55.6%)
Parents:	69/99	(69.7%)

Do you think that Distance Education technology will diminish the role of teachers? (Respondents who answered 'Yes')

Teachers:	0/17	(0%)
Principals:	6/27	(22.2%)
Parents:	52/99	(52.5%)

Are you concerned that the increased use of Distance Education course delivery challenges the existence of schools or the number of teachers available to the community? (Respondents who answered 'Yes')

Teachers:	0	(0%)
Principals:	10/27	(37.0%)
Parents:	65/99	(65.7%)

Do you think that community support for Distance Education has changed in recent years? (Respondents who answered 'Yes')

Teachers:	11/17	(64.7%)
Principals:	15/27	(55.6%)
Parents:	55/99	(55.6%)

Would you like to see the number of distance education courses increased? (Respondents who answered 'Increased')

Students:	67/99	(67.6%)
Teachers:	10/17	(39.8%)
Principals:	0/27	(0%)
Parents:	14/99	(14.4%)

The survey indicates that the majority of parents, teachers, and principals had a positive attitude towards online teaching and learning. The same groups were also asked whether they felt that the presence of distance education courses affects government's overall support for local schools and teachers. Of the three, parents had the strongest feelings on this issue. Seventy percent of them believed that distance education represents government's diminishing support for local schools and teachers.

Fifty-nine percent of the teachers and 56% of principals agreed. However, when asked whether the increased use of distance courses challenges the very existence of schools or the number of teachers available to the community, the three groups had opposing positions. Sixty-six percent of parents stated it did, only 37% of principals agreed with the parents, but DE teachers unanimously felt that the increased use of distance education has no such effect.

The three groups were also divided in their assessment of the effect of distance education programs on the role of teachers. Fifty-three percent of parents felt that distance education technology diminishes the role of teachers, but only 22% of principals felt that way, and again, teachers unanimously agree that it has no negative impact on their role. There was agreement that community support for distance education had changed in recent years. Sixty-five percent of teachers felt that this has been a positive development in that DE has become more mainstream and recognized by the community. Fifty-six percent of parents and 57% of principals who responded to the survey felt that community support had changed in a positive way as well. Despite their positive feelings about distance education, only 14% of parents and no principals wanted to see the number of online courses increased. They preferred to keep the number as it is currently, decreased, or eliminated, although their comments suggest otherwise. Fifty-nine percent of teachers wanted to see the number of courses increased while 67% of the students wanted more courses provided by distance delivery.

The survey asked students whether they preferred to do courses by distance or in a face-to-face environment. The students who responded were equally divided on that question. The majority of their parents preferred that they did their courses in a face-to-face environment. All four groups of respondents were asked whether distance education courses are better suited for a particular type of student and the majority of each target group answered in the affirmative. Teachers did not feel as strongly as the others about the importance of being motivated or having to work harder. Only 59% of the teachers felt that students have to be more motivated while 82% of parents believed that students must be more motivated to succeed in a distance course. Only 35% of teachers said that students have to work harder at distance education courses while 72% of parents said that they do. Interestingly, the students fell between the two groups on both questions.

The four groups of respondents agreed to a large extent on the benefits of distance delivery of high school courses. The benefits include: teamwork skills, communication skills, self-confidence, preparation for post-secondary education, and access to a greater number of courses. School principals suggested that students develop teamwork skills to some extent but they also recognize the isolation that exists in schools where enrollment is low. Two administrators highlighted teamwork as a very positive point particularly in courses that require lab work. Parents were divided on whether students develop teamwork skills as a result of completing distance courses but 77% of teachers stated that it is a benefit. Most students felt that they did not learn to

work collaboratively through distance education. A few of them suggested collaboration occurs on some assignments but the majority responded that they work primarily alone. Fifty-two percent of principals and 83% of teachers felt that students develop better communication skills through online learning through the process of delivery. Sixty-five percent of the students felt that they improved their communication skills and developed new ways to communicate when they did courses by distance but only half of their parents were confident that students develop better communication skills. A strong majority of teachers, principals, and parents felt that student become more self-reliant through online learning, but only 69% of the students agreed with them. All four groups indicated that distance education courses prepare students for post-secondary studies. There was more uncertainty among the principals and parents.

The final theme focused on the use of technology, the facilities and resources that are available in the province's schools, and the role of the teacher in a distance delivery environment. A traditional concern of distance education instruction has been the absence of face-to-face interaction with the classroom teacher. When asked about their relationship with their teachers, 64% of the students who responded felt that they did not have as much interaction with their teachers as they would have in the face-to-face classroom. Fifty-five percent of the students indicated that teachers expected more of them when they did a course by distance and 80% felt that they had more work to do on their own in a distance course.

Technology has changed distance delivery of courses in the past ten years. Respondents appeared pleased with the facilities and the computer technology available to the students. A strong majority of principals, teachers, students and parents felt that there were adequate facilities to engage in online courses effectively. They also agreed that there was sufficient on-site teaching and technical support for students enrolled in distance education courses.

Each group of participants was asked to make general comments about distance education, its current use, and its future. Their responses provide varied perspectives on this mode of delivery. Several principals singled out "administrative concerns" as a major issue with online delivery of courses. "It is a lot of extra work for administrators. It could be an excellent system but the lack of site based assistance is very time-consuming and frustrating for all involved." Some saw the benefits of offering courses in this manner, particularly in "very small, extremely remote schools" but felt it is being "overused by government to save units." In contrast, several principals had high praise for distance education. "The services our school has received from CDLI staff and e-teachers have been phenomenal," stated one principal. Another observed:

In short, having distance education is like having an extra teacher. It helps ensure that an equitable educational program is available in rural Newfoundland and Labrador. It also expands the school's curriculum so greater choices can be offered.

Parents' comments were also varied. Overall, their arguments focused on the opportunity it provides the individual child. These parents were very grateful for the service provided by CDLI.

I have nothing but good comments for our child's experience with the distance education program. He has excelled in all classes and in some cases, improved from the grades he was receiving in the classroom. My child is better prepared for post secondary studies as a result of distance education.

In contrast, other parents saw this approach to teaching and learning "as a way of eliminating teaching positions in rural Newfoundland and Labrador." Others felt that online courses do not adequately address the needs of young students. The third group, teachers, recognized the challenges to online learning but overall were very positive about its use and its future.

DE schools must be given teacher units to help facilitate DE instruction in their schools, ie. supervision, testing, lab work. Students have embraced the technological tools of learning. They live and breathe it everyday. It's commonplace. What we need is support to ensure that students make the best use of this golden opportunity. DE over the years has grown and evolved in this province. For me it has been a very positive, worthwhile experience. At the end of the day you know you have made a difference. Growing up in rural NL myself I can see the need for such a program. Many of my former DE students have moved on to great post secondary opportunities because of CDLI.

Many students took the time to write about their online experiences of learning and most were very positive. One student wrote:

I love distance education because it gives me the chance to do a large variety of courses, gives me a sense of independence and confidence, and gives me skills which can better prepare me for university.

Those who were not so positive about distance education tended to focus on the lack of face-to-face interaction with a teacher, which they missed.

I like distance but often find it hard to learn. Not having a teacher physically there makes learning a bit difficult.

Most students agreed that it takes a certain type of student to be successful in this approach to teaching and learning.

Distance courses often are most successfully completed by those students with a certain personality; you do not necessarily have to be a strong academic student to complete them, though these students often have more success.

One student, however, suggested that being enrolled in distance education courses has actually helped him or her become a better learner and a better person.

I love doing online courses. It has helped me a lot. I have a lot of new friends, I am braver and am becoming more independent. They should definitely keep up the distance courses. It's great!

III. The Two Studies – How much has changed?

The initial survey in 1999 reported on both distance and non-distance students. The investigator focused only on clearly defined “small, necessarily existent” schools. The targeted students were those who had completed one or more courses by distance in the previous five years. Thirty-five schools were involved throughout Newfoundland and Labrador. The principal investigator interviewed: principals, vice-principals, distance education advisors, technology teachers, classroom teachers, parents of students who were enrolled in distance courses in 1999 – 2000, and 30 part-time or full-time distance education instructors. The methods used included: interviewing at schools, meeting with focus groups of students, a telephone survey of a random sampling of students (1/2 had completed courses by distance and 1/2 had completed courses in a face-to-face environment). Surveys were 15 – 20 minutes in length and were conducted by two research assistants.

Only students who were enrolled currently or who had completed courses by distance participated in the 2009 – 2010 study. Surveys were sent to 33 teachers of online courses and 106 schools throughout the province. The results were based solely on a mailed-in survey distributed to participating schools where principals and school boards had given permission.

In both studies, respondents consistently identified the lack of effective teacher-student interaction as a drawback of distance education. They attributed this drawback to the mode of delivery even though technology had changed distance delivery of courses in the past ten years. There was a wide range of responses in both studies, making it difficult to go beyond generalized conclusions. They are as follows:

Type of students who enroll in DE courses

The perception that the DE program is best suited for a particular type of student held in the recent study. The majority of parents, teachers, administrators, and students believed this to be the case in 1999 and 2009. Most parents, principals and students agreed that successful DE students are more motivated and tend to work harder. Teachers in the recent study did not as a whole feel this was necessary. There was a consensus among teachers, parents and principals from both studies that being able to

work with others is an important part of being successful in DE courses. The majority of students in the recent study did not agree.

Ninety-five percent of distance students in the initial study agreed or strongly agreed that their teachers had high expectations of them. When asked about behavior problems in their school, 61% of the students agreed or strongly agreed that there were not many behavior problems in their school. The second study in 2009 concurred with this observation and added that the lack of behavioral problems reflected the fact that the distance students were “more highly motivated” and “career focused”.

Skill development of DE students

Ninety-two percent of DE students in the initial study felt that doing distance education courses helped them become more independent learners. They believed that distance courses required them to be more responsible for their learning, to do more work, and to have better study habits than in other courses. Teachers, parents, and students believed that teamwork is a critical skill in distance education. The report concluded that it is impossible to determine whether students developed teamwork skills before they did distance courses or as a result of participation in them. The report simply concluded that students who are most successful at distance education tend to be “positive, self-motivated, independent workers”. The four groups of respondents in the 2009 study agreed on the benefits of DE that included the development of teamwork skills, communication skills and the growth of self-confidence. Respondents from both studies agreed that students who enroll in DE courses are more self-reliant. There was no consensus on whether self-reliant students tend to gravitate to DE courses or whether participation in DE courses contributes to the development of self-reliance in students.

Impact on the remainder of the school

For those who responded to the initial survey, offering distance courses to a few top students in a small school had a negative impact on the remainder of the school. This was an important concern in the early years of distance education. In contrast, very little was said of this issue in the recent study. Principals who were asked about it were divided as to impact on the remainder of the school and there was a broad spectrum of opinion.

Impact on the school and the community

The effectiveness of distance courses depends to a large degree on the value the community places on education and the learning environment in the school. In the initial study, some parents feared that distance education would lead to a decrease in the number of local teachers and even closures of some schools. In the 2009 - 2010 study, many parents continued to feel strongly that DE courses affected government’s support for local schools and teachers and even challenged the existence of schools.

Teachers and principals, however, were divided on the issue. In the 2009 study, there was a general feeling that community support for distance education had improved.

Preparation for post-secondary studies

There was a consensus in both studies that participation in distance education courses prepared students for the post-secondary experience. Parents, teachers, and administrators felt strongly about this advantage.

Expectations for the students

In the 1999 study, 95% of DE students perceived that teachers had high expectations of them. This contrasts with 55% in the recent study. In 1999, teachers, administrators, parents, and students believed that a certain type of student is best suited to distance courses. Top academic students were selected for DE courses. In the recent study, respondents agreed that more is expected of students who do online courses, but many students chose distance courses because they had already decided on a particular career and the course was needed for admission.

Use of technology

For the most part, respondents from both studies were pleased with the facilities available for distance education in the schools as well as the on-site technical support. In the initial study, there was some apprehension about the changing mode of delivery, namely a web-based system. These concerns were not apparent in the recent study. By 2009, participants were used to the web-based system.

Future of Distance Education

The report of the initial study carried out in 1999 admits to a broad range of opinions on the future of distance education. The investigators concluded that most teachers felt it would grow out of necessity. Overall, teachers believed it was an inferior mode of delivery compared to face-to-face teaching. Some felt that the new internet technology would not work while others felt distance learning should be expanded to include elementary grades. Principals had cautious optimism about the future of the program. Parents varied in their views. Some saw it as a 'make-do approach' while others felt it was a threat to the very existence of their school. There were concerns about administrative issues but overall, the Report stated, in the majority of schools the positive perceptions outweighed the negative. The majority of respondents in the 2009 survey had a positive attitude towards the future of distance education. As with the earlier study, there was a broad range of opinions. However, there was a consensus that completing DE courses builds specific skills that will prove useful in post-secondary studies. Furthermore, all respondents recognized that without distance education, equality of educational opportunity would diminish. Parents, teachers, and

administrators agreed that technology has improved delivery of distance courses over the years. Nevertheless, the face-to-face interaction between teachers and students was the preferred choice.

IV. Conclusion

Change can be exciting for some, disconcerting for others. The introduction of distance delivery of high school courses in the last decade of the twentieth century marked significant change in the teaching and learning environment for many teachers and students. In the absence of face-to-face interaction, teachers continued to try to maintain a connection that promoted student risk-taking and engagement in a different learning context. Some students in 1999 and ten years later welcomed the opportunity to take courses that they otherwise would have missed had it not been for distance technology. Others were more reticent about the approach and missed the traditional classroom. There appears to be a consensus that the benefits of online learning outweigh any drawbacks of this mode of delivery, particularly in a different type of interaction between teacher and learner.

The responses to both surveys reflect a wide range of opinions on all aspects of distance education in the province. This might not be surprising to the reader. Students and parents who participated in the surveys had limited experience with distance education. Even today, students do not experience distance education until they enter the higher grades. It is inevitable that they and their parents would compare it to the traditional classroom and hold the latter as the standard of measure. The traditional classroom has been with us for generations.

Both studies revealed the widely held perception that strong interaction between teacher and student provides the basis for an effective learning environment. While both exist in online and face-to-face courses, the perception is that the interaction found in distance education courses is different, and perhaps lacking, when compared to that experienced in face-to-face courses. In 2009, as they did in 1999, students consistently cited the physical presence of the teacher as the one major advantage of learning in a face-to-face classroom. In the background of changing technology, and increasing comfort with distance delivery, the effectiveness of teaching and learning in the 'new' classroom continues to rest with the valued teacher- student relationship as it has in the past.

v. Endnotes

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- ⁱ K. Barker, T. Wendel & M. Raymond, (1999) *Linking the Literature: School effectiveness and virtual schools*. Report for Society for the Advancement of Excellence in Education. <http://www.canlearn.ca/planning/prosupport/pdf/ComparingVirtualConventional.pdf>.
- ⁱⁱ K. Fulton. & N. Kober, (2002) *Preserving principles of public education in an online world*. <http://www.cepd.org/democracypublicschools/preservingprinciplesonlineworldfull.pdf>
- ⁱⁱⁱ Doug Furey & Elizabeth Murphy, (nd) *K-12 Virtual Schools and Schooling*. <http://www.mun.ca/educ/faculty/mwatch/win05/MurphyFurey.htm>
- ^{iv} R. Smith, (2000) *Virtual schools in the K-12 context*. Unpublished doctoral dissertation, University of Calgary, Alberta.
- ^v G. Russell, (2004) "Virtual Schools: A critical view." in C. Cavanaugh (ed.) *Development and Management of virtual schools: Issues and trends*. Hershey, PA: Information Science Publishing, Idea Group, pp. 1 – 25.
- ^{vi} *Effective Schooling in a TeleLearning Environment* is a comprehensive analysis of information gleaned in a series of province-wide surveys, face-to-face and telephone surveys. Research assistants transcribed the interviews for the initial study. (Hereafter cited as *Telelearning Environment*.)
- ^{vii} F.T. Riggs, (1987) *Final Report of the Small Schools Study Project*, St. John's: Department of Education, Government of Newfoundland and Labrador, 38. (Hereafter cited as *Small Schools Study*.)
- ^{viii} *Small Schools Study*, 26 – 28.
- ^{ix} Wilbert Boone, (n.d.) *The Evolution of E-Learning in Small Rural Schools in Newfoundland and Labrador*. St. John's: Killick Centre for E-Learning Research, Memorial University, 23.
- ¹⁰ Department of Education, (1989) *Towards an Achieving Society: Final Report of the Task Force in Mathematics and Science Education*. St. John's: Government of Newfoundland and Labrador, recommendation 7.4
- ^{xi} Department of Education, The Schools Act, 1997. Section 77 (2) and Section 77 (3), St. John's: Government of Newfoundland and Labrador.
- ^{xii} Boone, 33.
- ^{xiii} *TeleLearning Environment*, 212.
- ^{xiv} *TeleLearning Environment*, 154.
- ^{xv} *TeleLearning Environment*, 175.
- ^{xvi} *TeleLearning Environment*, 175. The investigator in the initial study raises this issue several times throughout the project summary.
- ^{xvii} *TeleLearning Environment*, 86.
- ^{xviii} *TeleLearning Environment*, 163.
- ^{xix} *TeleLearning Environment*, 183.
- ^{xx} *TeleLearning Environment*, 157.
- ^{xxi} *TeleLearning Environment*, 157.
- ^{xxii} *TeleLearning Environment*, 158.

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- xxiii *TeleLearning Environment*, 196.
- xxiv *TeleLearning Environment*, 202.
- xxv *TeleLearning Environment*, 100.
- xxvi *TeleLearning Environment*, 102.
- xxvii *TeleLearning Environment*, 162.
- xxviii *TeleLearning Environment*, 163.
- xxix *TeleLearning Environment*, 165.
- xxx *TeleLearning Environment*, 166.
- xxxi *TeleLearning Environment*, 100.
- xxxii *TeleLearning Environment*, 100.
- xxxiii *TeleLearning Environment*, 85.
- xxxiv *TeleLearning Environment*, 126.
- xxxv *TeleLearning Environment*, 75.
- xxxvi *TeleLearning Environment*, 136.
- xxxvii *TeleLearning Environment*, 170.
- xxxviii *TeleLearning Environment*, 161.
- xxxix *TeleLearning Environment*, 163.
- xl *TeleLearning Environment*, 87.
- xli *TeleLearning Environment*, 90.
- xliv *TeleLearning Environment*, 93.
- xliv *TeleLearning Environment*, 105.
- xliv *TeleLearning Environment*, 107.
- xliv *TeleLearning Environment*, 114.
- xlvi *TeleLearning Environment*, 114.
- xlvi *TeleLearning Environment*, 114.
- xlvi *TeleLearning Environment*, 114.
- xlvi *TeleLearning Environment*, 114.
- xlvi *TeleLearning Environment*, 105.
- l *TeleLearning Environment*, 113.
- li *TeleLearning Environment*, 113.
- lii *TeleLearning Environment*, 113.
- liii *TeleLearning Environment*, 208.
- liv *TeleLearning Environment*, 210.
- lv *TeleLearning Environment*, 216.
- lvi Further comments may be found on pages 210 and 211 of the Report.
- lvii *TeleLearning Environment*, 219.
- lviii *TeleLearning Environment*, 224.
- lix *TeleLearning Environment*, 226.
- lx Department of Education, (2000) *Supporting Learning, Final Report of the Ministerial Panel on Educational Delivery in the Classroom*, St. John's: Government of Newfoundland and Labrador, 2.
- lxi Boone, 64.

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