SUPPORTING LEARNING

REPORT OF THE MINISTERIAL PANEL ON EDUCATIONAL DELIVERY IN THE CLASSROOM

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
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Ministerial Panel On
Educational Delivery
In The Classroom

March 31, 2000

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Honourable Judy Foote
Minister of Education

Dear Minister:

We are pleased to present the Report of the Ministerial Panel on Educational Delivery in the Classroom.

The Panel's work was undertaken in a context of profound change within the school system. Significant reform initiatives from the Royal Commission have influenced every facet of schooling. At the same time, declining enrolments and school consolidations have raised significantly the public profile of schooling at the local level.

The Panel viewed its work as an opportunity to examine possibilities for school program improvements and found this to be a daunting challenge in view of the myriad of issues brought to its attention. We heard repeatedly of the need to resource the school system in a manner which would enable schools to offer quality programs and at the same time bring stability to a school system that is experiencing considerable change.

In this report we have addressed many of these issues and commend the report to you for immediate attention.

Sincerely,

Ron Sparkes
Co-Chairperson

Len Williams
Co-Chairperson

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR

Ministerial Panel on Educational Delivery in the Classroom

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The Panel acknowledges with appreciation the many people who contributed to its work through written submissions, hearings, research efforts and thoughtful discussions. Particular appreciation is extended to:

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- Ms. Carmel Wyse, Mr. Kerry Pope, Ms. Pamela Fulford and Ms. Rosalyn O'Leary, who assisted with the work of the Panel.

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- Members of the Consultation Group: Ms. June Alteen, Mr. Fred Andrews, Ms. Joan Combdon, Mr. Peter Doyle, Mr. Terry Johnstone, Dr. Valerie Long, Dr. Bruce Sheppard, Dr. Ken Stevens, Ms. Thelma Whalen, Mr. Rene Wicks and Dr. Vince Withers.

- Members of the Education Forum Planning Committee: Mr. Wilbert Boone, Mr. Leon Cooper and Mr. Alex Hickey.

- Regional Consultation Coordinators: Mr. Charlie McCormick, Mr. Roland Parrill, Mr. Richard Parsons, Ms. Mary Tucker, Mr. Henry Windeler and Mr. Graham Wood.

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1.0 Introduction

1.1 Current Context of Education

The past decade brought changes in the education system in Newfoundland and Labrador unprecedented since the expansion of the 1960s. The catalyst for much of this change was the 1992 report of the Royal Commission on Education. The reforms of the 1990s were driven by four major forces: (1) demographic trends, specifically a long term decline in enrolment; (2) the elimination of duplication of educational services; (3) financial constraints, as government attempted to reverse a lengthy period of deficit financing; and (4) educational performance, more specifically the perception that the education system was not producing graduates with the knowledge and skills required to succeed in a rapidly changing society. The first two are uniquely local, as this province faced enrolment declines unparalleled elsewhere in Canada. The remaining issues, however, are also concerns for most other jurisdictions. In particular, the questions of educational attainment and cost-effectiveness have been the subject of national and international attention since at least the mid-1980s.

There is the sense that this period of reform should have been sufficient to address most of the issues confronting the education system. The reality is that the system is at yet another crossroads. Enrolment continues to decline and the financial situation of the province, while better than in the early part of the decade, remains constrained.

It is against this backdrop that the Ministerial Panel was established. The need for program reform has not been diminished by the structural reform of the last several years. Further, there is evidence that structural reform has created high expectations for improvement in teaching and learning, the use of technology and the overall ability of the system to develop graduates prepared to cope with new and rapidly changing social and economic realities. Finally, there is widespread expectation of a substantial reinvestment to address the complex range of needs reflected in school classrooms.

1.2 Mandate of the Panel

The problem of demographic change continues to complicate the efforts of government and school boards to consolidate and restructure education. Enrolment is declining as rapidly as the system can be consolidated. However, there are limitations to school consolidation. These limitations mean the province will have increased numbers of small schools with the attendant challenges of maintaining the school programs that people have come to expect for this province's learners.

The general mandate of the Panel was to examine the education system and advise on ways to advance the reform process and address the outstanding issues of improvement and effective

program delivery. The challenge of maintaining adequate programming when this can no longer be accomplished through consolidation thus comes to the forefront.

The Terms of Reference of the Panel were to:

1. examine the current educational delivery model and consider alternate approaches;

2. conduct consultations to ascertain views on appropriate methods for allocating teacher resources and supporting the delivery of education in the classroom;

3. examine current research, allocation procedures used in other jurisdictions and methods of delivery; and

4. recommend changes to program offerings, the current method of allocating teachers, and program delivery methods and to examine issues associated with teacher training and professional development.

The most obvious feature of education is the existence of conventional schools which house from ten or fewer to several hundred students. Students are most often taught in classrooms, each staffed by one teacher. With variations to allow for specialist teaching and for a variety of special services, almost all students today are educated in this traditional setting. The first term of reference was interpreted to mean that the Panel should look beyond the conventional structure. Most alternatives involve a form of distance learning, ranging from correspondence courses to programs delivered by various forms of electronic media to what has come to be known as the "virtual classroom." Other alternatives, such as home schooling or private tutoring, are also part of the overall picture. Even within the conventional school, there are alternate ways of staffing, organizing students and providing access to resources. These include more extensive use of multi-level grouping, itinerant teachers, non-teaching staff and community resources. The Panel considered its mandate to include an examination of many of these alternatives and how they might be practically applied to education in the province.

At the outset, the Panel determined that its task was specific to program resourcing issues and that debate over governance and structure would be secondary. It became clear, however, that many of the issues relating to the design and delivery of educational programs are closely linked to the structural organization of the system. While the Panel did not want to revisit structural issues, the sheer magnitude of the enrolment decline and the projections for the next ten years forced the Panel to address the matter, albeit in a directional rather than specific manner.

1.3 The Consultation and Review Process

The consultation process involved focused discussions with a variety of stakeholders, including teachers, parents and students, presentations from special interest and advocacy groups and meetings with various "expert" groups.

The Panel conducted extensive consultations throughout the province within a rather compressed schedule. In total, the Panel held six half-day community forums, each of which was attended by approximately 15-20 stakeholders. Participants in the consultation process included parents; educators; business, community and social agency representatives; economic development leaders and Aboriginal peoples' representatives. In addition, the Panel held 79 separate meetings with individuals and groups and held two meetings with a "consultation committee" composed of educators and community and business leaders. The Panel also organized a one-day education forum where the significant issues emanating from the Panel's mandate were discussed and debated by the more than 60 invited participants. A complete listing of consultation sessions and meetings held is contained in Appendix A. The Panel also received a number of written briefs and proposals. These are recorded in Appendix B.

The research aspect of the Terms of Reference was interpreted as including an examination of educational outcomes, the breadth and depth of curriculum locally and elsewhere and the availability and use of resources. Specific topics investigated included (a) small school issues, (b) class size, (c) teacher allocation and workload, (d) the use of specialists and alternative staffing arrangements, (e) distance learning, (f) programming for special needs students, (g) teacher training, and (h) professional development. The research agenda also involved compiling and reviewing current information on the system, including enrolments, teacher supply, financing and performance indicators. The Panel did not commission a large amount of original research but relied on the published literature and comparisons with other jurisdictions and utilized the comprehensive databases maintained within the Department of Education.

The Panel also noted that the system has not been at a standstill in recent years. A substantial amount of work on curriculum, instruction, accountability and other matters has been completed by a Royal Commission Implementation Group, by various divisions of the Department of Education and through the province's participation in the Atlantic Provinces Education Foundation. These initiatives have brought very positive changes to the education system. It was judged appropriate to review this work to ensure that the Panel did not devote time and resources to covering the same ground.

1.4 Guiding Principles

The Panel considered the basic issues of defining the fundamental mission of schools in our society and determining how schools should interact with other agencies whose mandates involve the well-being of youth. The Strategic Social Plan envisages a close relationship among various departments and agencies in the social policy area and mandates that these agencies collaborate in focusing on strategies to address the most compelling social issues. At the same time, the vision does not extend to designating a single agency, such as the school, as being responsible for all aspects of children's

well-being. Schools ought to serve in a collaborative capacity with other agencies in society to help address issues which hinder their basic mission. Poverty and hunger, juvenile delinquency, tobacco, alcohol and drug abuse, and other problems which affect our youth, must be addressed in a comprehensive way through a variety of agencies.

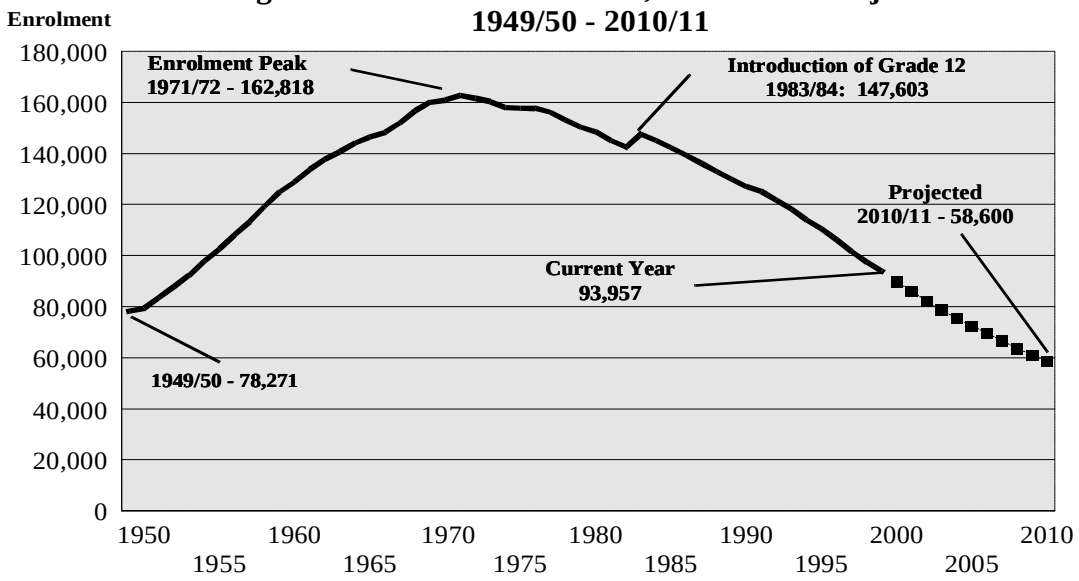
While there is a view that the school is the core social agency responsible for meeting the variety of needs of children and youth, the Panel took the position that schools are fundamentally **learning organizations**. The basic mission of the school is to ensure young people become literate and numerate and that they acquire a love of learning. Further, the purpose of schools is to ensure learners acquire knowledge, skills and values in the areas outlined in the province's Essential Graduation Learnings – Aesthetic Expression, Citizenship, Communication, Personal Development, Problem Solving, Technological Competence and Spiritual and Moral Development (Appendix C). Schools also have responsibility to ensure students attain a secondary education sufficient to allow them to pursue further studies at the post-secondary level and acquire the skills to function as caring, productive and informed members of society. The Panel, therefore, as much as possible, confined its work to identifying an essential school program and defining the means to ensure its delivery in an effective, equitable and efficient manner.

2.0 Demographic Change

2.1 Enrolment Decline

One of the most significant features of the education system in this province since Confederation in 1949 has been early rapid growth, followed by a long-term decline in enrolment (Figure 2.1.1). Demographic factors, notably changing fertility rates, an aging population and substantial net out-migration, have had an earlier and a more profound impact on the school-aged and younger population than on other population groups. For example, the total population has only recently begun to decline in absolute terms, despite more than 30 years of declining birth rates and net out-

Figure 2.1.1: K-12 Enrolment, Actual and Projected 1949/50 - 2010/11



Enrolments are headcounts.

Source: Department of Education

migration.

The details of these enrolment patterns have been well documented, most notably in the annual Education Statistics documents published by the Department of Education, and reveal a number of sub-trends which are particularly relevant to the work of this Panel.

1. Enrolment decline is not evenly distributed throughout the province but is more pronounced in rural than in urban areas. In particular, the Eastern Avalon area is declining less rapidly than other areas, while the school population on the North Coast of Labrador is growing.

2. Until recently, there has been relatively little decline in the high school population. This is because the effect of a decline in the number of births first appears in the early grades, taking at least a decade to reach the high school level. In addition, increased participation rates have offset more recent declines in the high school age group. Many more students are staying in school through the high school years. However, participation rates are now approaching 100% so that, in the future, the high school population is expected to decline in direct proportion to overall population.

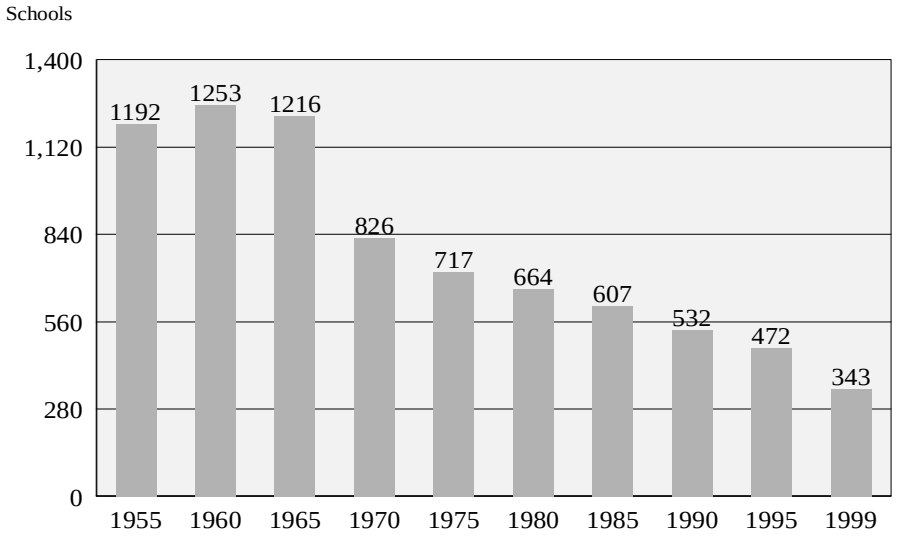
3. The number of students in the fourth year of high school has declined significantly since 1996. This coincides with higher pass rates that have accompanied the discontinuance of public examinations in 1996. Although most of these students are part-time, they are counted as full-time in the enrolment figures and for teacher allocation purposes.

4. The trend in the number of students receiving special education services has been in the opposite direction from that for enrolment in general. This area has experienced significant long term growth to the point whereby almost 14% of all students now receive some form of special education support.

2.2 School Consolidation

As Figure 2.2.1 indicates, the number of schools has declined even more rapidly than enrolment. Indeed, the greatest period of school consolidation occurred in the late 1960s, well before enrolment

Figure 2.2.1: Number of Schools, 1955-1999



Source: Department of Education

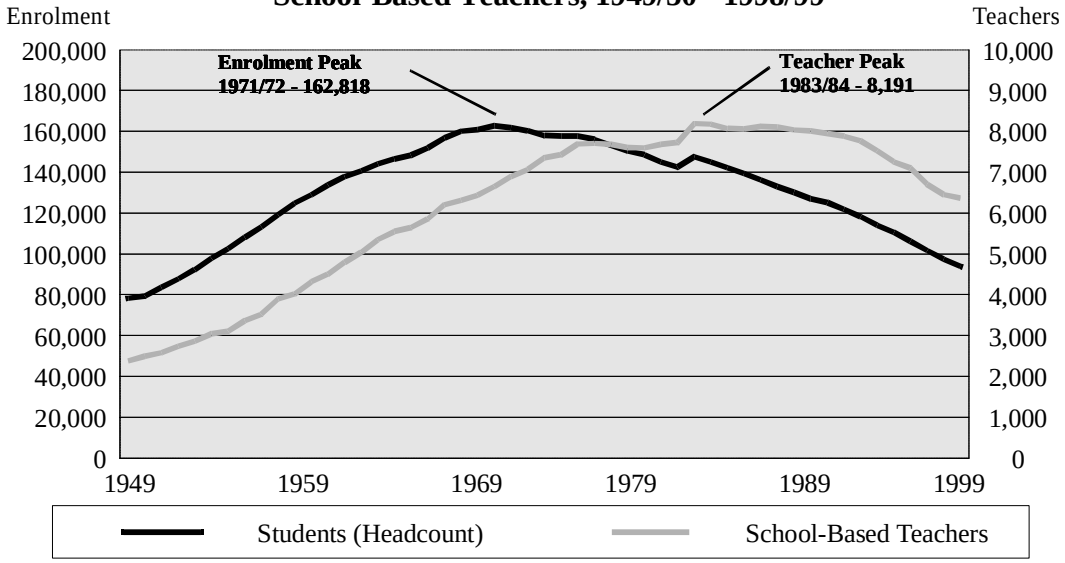
decline became a significant driving force. Even in more recent times, however, schools have been consolidated at a faster pace than enrolment has declined, with consolidation increasing in the past few years as former denominational schools were combined.

The consequence is that, in the short term, schools are becoming larger rather than smaller. During the 1990s, the period of most rapid enrolment decline, median school size has increased slightly from 202 to 213 students. As well, the proportion of very small schools, with enrolments less than 100, has decreased slightly in recent years. Nevertheless, the number designated as "small necessarily existent (SNE)" stands at 93 out of a total of 343 schools. Such schools have become the focal point of concerns over their ability to maintain adequate programs. The questions for the future are whether small schools will become increasingly smaller and whether other schools will soon join the small necessarily existent category. The province may have reached the point at which further consolidation in rural areas will be difficult because of the distances and the continuing relative isolation of some communities. Although the number and size of schools cannot be projected directly from enrolment trends, as this depends on geography, transportation routes and local community interests more than on demography, it is likely that most further school consolidation will take place in urban areas where schools continue to exist in close proximity to one another.

2.3 Teacher Resources and Class Size

During the period of enrolment increase, the number of teachers in the system roughly tracked enrolment growth. However, as Figure 2.3.1 shows, this situation changed as enrolment began to decline. For some 15 years, the total number of teachers increased even as enrolment declined. It was not until the late 1980s that the number of teachers leveled off. Since 1995 the number of students has declined by approximately 15% while the number of teachers has declined by approximately 12 percent.

Figure 2.3.1: Student Enrolment and School-Based Teachers, 1949/50 - 1998/99

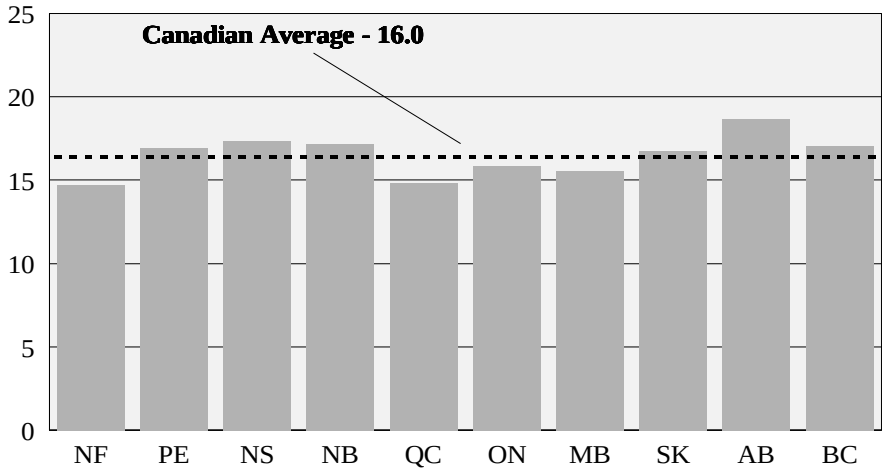


Teachers include: classroom teachers, principals, assistant-principals, guidance counsellors, special services educators, itinerant teachers and other school-based teachers. **Teachers exclude:** directors, assistant directors, program specialists and other district-based administrative staff.

Source: Department of Education

However, the number of students relative to the number of teachers in this province remains the lowest in the country, slightly lower than in Ontario, Quebec and Manitoba and substantially lower than in the other Atlantic and western provinces (Figure 2.3.2). While the student/teacher ratio has come under criticism as a measure of programming capacity, especially in small schools, and does raise the question of who is counted as a teacher, the data cited in this report have been derived in the same way in all provinces and are thus a useful comparative index of relative "effort" to provide resources to the system.

Figure 2.3.2: Pupil-Teacher Ratio by Province, 1997/98



Source: Inter-Provincial Education Statistics Project, Winter/Spring 1999

Knowing the total number of teachers tells little about how teachers are deployed and whether there is sufficient overall teaching capacity to maintain desired programs in all schools. Although the allocation formula contains a number of specific components used to determine the total number of teachers to which a board is entitled, there is no requirement that boards use the teachers in accordance with the formula. Furthermore, even if this were done, this does not determine the range of capabilities of teachers in a district or a school, nor the impact of losing a teaching unit on the programming capability of the school. All of this requires a more detailed examination of the teaching force.

Panel research examined the question of teacher deployment and use. A number of relevant points can be made from this and other related data.

1. Average class size in the province has declined substantially over the years; however, the decline has not been proportionate to the change in student/teacher ratio. Relatively more teachers are now being used for specialist purposes or are deployed in various support roles.

2. The most notable feature of class size in the province is its variation (see Tables 2.3.1 and 2.3.2). While the average class size is just above 21, more than 15% of all K-9 classes and more than 23% of high school classes have 15 or fewer students. Class sizes of more than 30 are uncommon and are usually found in urban schools or in a few schools with unusual age group distributions. At the K-9 level, 6.5% of classes have more than 30 students and less than 1% have more than 35. Corresponding percentages at the high school level are similar.

3. Student/teacher ratio and class size are strongly related to school size. In general, boards have tended to assign more teachers to their small schools than would be determined by the provincial formula.

4. Class size patterns among schools are more variable than student/teacher ratios. This suggests that small schools concentrate on keeping classes small and that larger schools use more teachers for other purposes, particularly specialist responsibilities, resulting in larger classes.

5. About 12 percent of classes in Grades K-9 are multi-level. In high schools the counterpart of multi-level teaching is multi-course teaching in the same classroom. However, only about 4% of high school classes have multi-course teaching.

6. Class sizes tend to be smallest in Kindergarten and largest at the intermediate level. Class sizes at the high school level vary substantially among subject areas, with social studies, science and English literature classes being generally larger than other subject areas.

Table 2.3.1: Provincial Class Size Statistics, K-9, 1998-99 School Year

Class Size Category	Number of Classes	Percent of Classes
<10	167	5.3%
11-15	326	10.3%
16-20	735	23.2%
21-25	947	29.9%
26-30	787	24.8%
31-35	190	6.0%
36-40	16	0.5%
>41	0	0.0%

Source: Department of Education as reported by school principals and verified by district directors, October 1998
Excludes: distance education, music, physical education, co-operative education, local and modified courses.

Table 2.3.2: Provincial Class Size Statistics, Grades 10-12, 1998-99 School Year

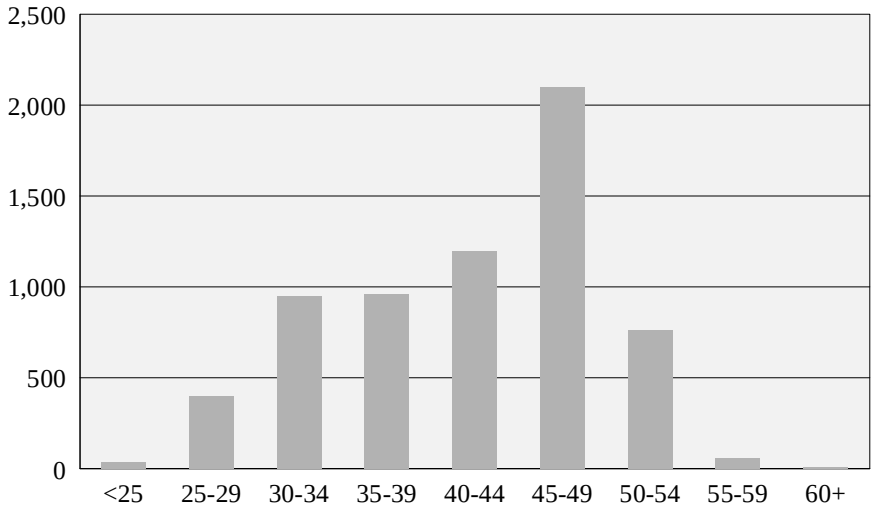
Class Size Category	Number of Classes	Percent of Classes
<10	1214	12.1%
11-15	1123	11.2%
16-20	1897	18.9%
21-25	2669	26.6%
26-30	2191	21.9%
31-35	790	7.9%
36-40	108	1.1%
41-45	21	0.2%
>45	12	0.1%

Source: Department of Education as reported by school principals and verified by district directors, October 1998
Excludes: distance education, music, physical education, co-operative education, local and modified courses.

Usually, one might expect the number of teachers required by the system to be closely related to enrolment; however, in an environment of enrolment decline, this is not necessarily the case. Projecting the number of teachers required is not simply a matter of direct comparisons with enrolment trends. Teacher allocations, although fundamentally enrolment driven, have historically been influenced by policy initiatives, usually designed to ensure that the decline in teacher numbers is less than that determined by enrolment decline alone. For a decade or more these policies allowed the student/teacher ratio to improve and permitted improved allocations to specific areas, such as special education, without increasing the absolute cost. The crucial question is whether the current approach to teacher allocation should continue in the face of even more rapid enrolment decline and further school consolidation.

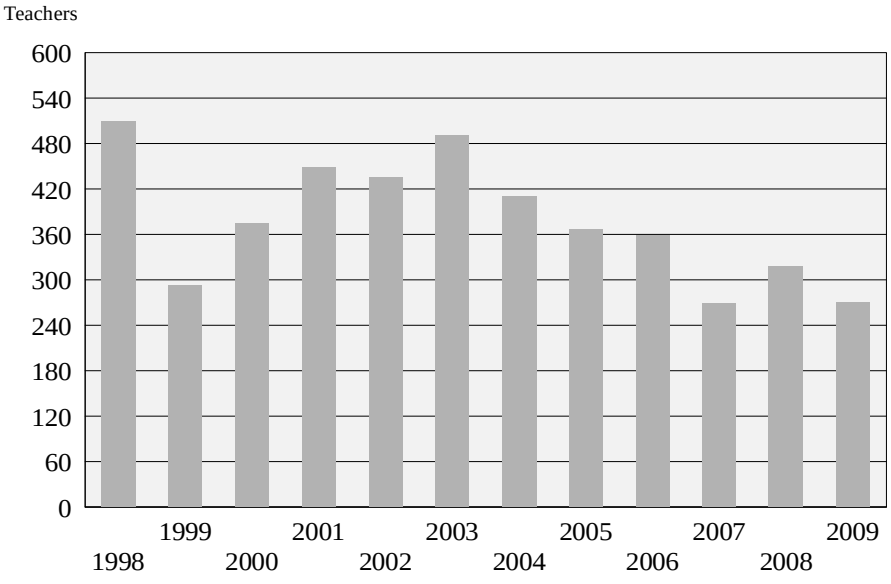
One final point is that the teaching force has been subjected to the same aging trend as is evident in the population as a whole. In fact, the trend is greatly exaggerated by the large influx of teachers in the 1960s and early 1970s when enrolment was increasing and teaching was being transformed from a transient occupation for many to a career for most. The age distribution of the provincial teaching force for 1998-99 is shown in Figure 2.3.3. The sharp peak at the 45-49 age range points to the potential for a large exodus of teachers over the next few years. Because there has been a distinct trend in recent years for individuals to retire as soon as eligible, the rate of retirement is expected to mirror fairly closely the pattern of eligibility shown in Figure 2.3.4. It is possible that with the recent contribution to the teachers' pension plan, more teachers will remain beyond the minimum time; however, this will simply shift the trend slightly towards the later years. It is important to recognize that more than half of the existing teaching force can be expected to retire over the next decade.

Figure 2.3.3: Number of Full-time Equivalent Teachers by Age Group, 1998/99



Source: Department of Education

Figure 2.3.4: Teachers Eligible to Retire, 1998/99 - 2009/10



Source: Department of Education

There is the opportunity and potential now to reshape the teaching force in ways that will help meet the challenges presented by changing school configurations and program demands. Reshaping of the teaching force means that a proportional number of retiring teachers are replaced and that the new generation of teachers has the appropriate capabilities. This points to an urgent need to examine teacher education programs since attrition is a slow process, and a decade may be too long to wait to make significant changes. It also implies that professional development for current teachers must have high priority. These issues are discussed further with recommendations elsewhere in this report.

3.0 Curriculum and Program Issues

3.1 Background

The task of curriculum development is to make decisions about the knowledge, skills and attitudes to be learned in school and to develop resources that will enable learning to take place. With the possible exception of the pan-Canadian science initiative, such decisions for the Newfoundland and Labrador school system are made at three levels – local, provincial and regional. Primarily, the school curriculum is designed to serve the specific needs and interests of learners. Newfoundland and Labrador, like other provinces, also places considerable reliance on its education system to deliver the knowledge and skill bases needed for its development as a society.

A central challenge for curriculum developers and educators is that knowledge and information are growing rapidly and becoming increasingly accessible and international in scope. Communication technology has made it possible for young people to access knowledge on a very wide scale. Because of this, it is necessary for schools to focus on the acquisition of skills associated with the processing of information. A curriculum that is current and well-developed is essential in such an environment.

3.2 Curriculum Development

In 1995 Newfoundland and Labrador became a partner of the Atlantic Provinces Education Foundation (APEF). Under the APEF, a regional initiative was established to cooperatively develop, implement and assess a common curriculum for the K-12 school system in the Atlantic provinces. The provinces, through the APEF, have developed Essential Graduation Learnings, which serve as a foundation to guide and support the development of all school curricula. Curriculum and assessment tools have been developed in several key areas and work is continuing.

Given the increasing interconnection and globalization of societies, the Panel views participation in regional and national initiatives, such as the APEF, as a generally positive educational development. The decision to develop curriculum regionally is consistent with similar initiatives elsewhere in Canada, such as the Western Consortium, and with other initiatives internationally. Involvement in the APEF has enabled the province to participate in a process that has resulted in the development of a strong curriculum for Newfoundland and Labrador. In addition, this approach places Atlantic Canada in a more favourable position for the acquisition of learning resources than if provinces were purchasing textbooks and other materials for four separate curricula. It is important to note also that the APEF curriculum initiative has been especially important for French first language instruction in this province.

This regional endeavour has meant an increase in the pace and some adjustments to the pattern of curriculum development; however, all curriculum developed to date would have been necessary in

the near future. Still, at the provincial level there are important concerns to be addressed about the extent and pace of provincial participation in the APEF initiative. The schedules of regional initiatives are not always synchronous with provincial priorities. For example, in the area of assessment, it would be advantageous to the province to participate in the APEF examinations structure but the regional assessment schedule does not meet the more immediate provincial need for some form of public examinations.

Additionally, there is the overriding concern about the resources required for provincial participation in the initiative. The implementation and assessment of the APEF curriculum requires the substantial engagement of both human and financial resources. To address commitments to the APEF, the Department of Education will need a significant infusion of funds over the next several years for curriculum development and learning resources. The total provincial budget for curriculum development and learning resources is presently $4.5 million and the Department of Education spends approximately $3.0 million of this amount for replacement learning resources and pilots. Consequently, there are inadequate resources to meet commitments to other curriculum initiatives. The Panel notes that there are areas of the curriculum requiring immediate adjustments. In K-12 physical education and Grades 1-6 mathematics, curriculum guides are over 12 years old and resources are nearly 15 years old. In some cases the curriculum initiatives have been completed but the resources are not available to implement them, as in the case of Grades 1-6 mathematics and high school language arts. It should be noted, however, that in the 2000-01 budget, government has invested an additional $1.5 million to proceed with these initiatives.

Another resource consideration is the piloting of new curricula. In recent years the number of pilots has been reduced, resulting in only a few school boards participating in pilot projects in any one subject area. The Panel heard considerable concern from schools and school boards relating to this issue. School districts regard participation in pilots as an important strategy for effective curriculum implementation. For the piloting process to be effective, curriculum developers must be able to ensure course materials get a thorough review in different classroom settings. In this regard, the Panel is concerned that the newly developed curriculum initiatives of the APEF be sensitive to the increasing number of multi-level groupings in this province's classrooms.

The need for implementation of necessary curriculum exceeds resources allocated to the Department of Education. Further, many authorized text resources are now out of print and, because new ones are not approved, the province has to pay high prices for re-prints of outdated material. Resources, both fiscal and human, are needed to develop, and particularly to implement, high quality programs. Appendix D presents a list of curriculum projects and the required budget to enable the department to proceed with its own curriculum agenda and to meet its APEF commitments.

The Panel therefore recommends:

Recommendation 1

that the Department of Education continue to cooperate in the Atlantic Provinces Education Foundation (APEF) curriculum initiatives and that a three-year curriculum development and assessment plan be developed.

Recommendation 2
that the Department of Education, in collaboration with school boards, develop a shared vision for the implementation and assessment of curriculum; that this vision be formalized in a multi-year plan and that the Department of Education manage the pace of curriculum change to ensure a steady, incremental approach to revision.

Recommendation 3
that the Department of Education's budget for learning resources and curriculum implementation be increased by a total of $9.2 million and that government make a five-year budgetary commitment to provide these resources.

Recommendation 4
that the practice of piloting programs, course textbooks and other learning resources be extended to include one or more schools in each district.

Recommendation 5
that the Department of Education provide supplementary teacher reference materials in areas where there are significant gaps between specific curriculum outcomes and the prescribed learning resources.

Recommendation 6
that all curriculum documents and necessary textual and visual teacher supports be made available in a Web-based format to ensure availability to all teachers.

Recommendation 7
that, when new curricula are initiated, appropriate materials be piloted, teachers in-serviced and materials made available to teachers for preview prior to introduction into the classroom.

3.3 The High School Program

There are a number of concerns within the school system about student programming at the senior high school level. In 1983 the high school program was expanded to include Grade 12. The intent was to extend the scope of the high school program and provide a balanced curriculum which would promote the full development of graduates. The senior high school program must enable students to undertake studies consistent with the established Essential Graduation Learnings. To achieve this, students are expected to complete a minimum of 36 credits as outlined in the Department of Education's Senior High School Certification Handbook.

There is a belief, and some evidence, that many students choose courses that are less rigorous and challenging during the third year of their program. Many students are able to complete the required 36 credits in less than the three-year period. However, virtually all schools provide students with the option of doing 42 credits and expect students to undertake a course load that will provide them with

14 credits a year. Nevertheless, an analysis of transcripts of 1998-99 graduates shows that only 54% completed 42 or more credits.

Suggestions for addressing this concern include increasing the number of credits required for graduation, changing courses to incorporate new topics and increased depth and restructuring the school year to provide students with the option of early graduation. The early graduation option would involve the completion of the required credits in two and one-half years rather than the usual three years. Students choosing this route to graduation would have to be highly motivated, given the requirement to take on a greater course load than normal. One school board has outlined a program whereby students can obtain the required 36 credits by December of their third year of high school. This makes them eligible to enter post-secondary institutions in January of that third year.
The Panel has some concerns about this option for the majority of students. The intent of the three-year senior high school program, to provide a balanced and rigorous curriculum that fosters the full development of the student, might not be realized within two and one-half years. There are also issues related to the integrity of the provincial curriculum. The logical development on which the curriculum is founded is difficult to respect in a compressed time, and the early exit places pressures to move high school courses into Grades 7-9, to the detriment of the curriculum in these grades. Furthermore, the selection of courses in high school must enable students to access post-secondary institutions. While a minimum 36 credits in appropriate areas will achieve this, it is the opinion of this Panel that a student who completes 42 credits is in a better position to enter a post-secondary institution than one who has completed fewer credits, particularly in a compressed time frame.

High school students generally select courses they believe are necessary for post-secondary admission and success. In this regard the Panel notes high enrolments in mathematics, science and technology courses. Many students are completing far more credits in these areas than are required for graduation because of their perceived value. Coincident with this trend, the Panel has heard of the growth potential within the cultural industries – art, music and theatre. The Panel feels the two areas are not mutually exclusive and that teachers and students would do well to reflect on balance in program selection. The ultimate choice in selecting courses lies with the student, but there is a need for students to adopt a broader, long-range view of the consequence of their choices. Again, students should be encouraged to appreciate the benefits of using high school to their full advantage by availing of the opportunity to access a variety of courses.

The Panel heard concerns about the personal development category of the graduation requirements. Students, in particular, consider the eligible courses in this category to be restrictive and feel that the inability to use courses from other subject areas to fulfill the personal development requirement sometimes interfered with their personal goals for self-development. For some students, the narrow definition of what courses qualify was a barrier to personal development.

The Panel believes there is a need to allow more flexibility within the personal development category of the graduation requirements. Expansion of the eligible selection list to include other courses, particularly French and theatre arts, would enable students to select those courses they feel would

be of most benefit to them and, at the same time, enhance the broader student developmental orientation of the overall high school program.

The Panel therefore recommends:

Recommendation 8
that a concerted effort be made by schools to have students complete 42 credits in their high school program.

Recommendation 9
that schools establish clear expectations with respect to the nature of student programs and that they monitor and adjust, where necessary, the schedules of students to ensure a full course load appropriate to a student's interests and abilities.

Recommendation 10
that schools ensure their timetables are constructed so that all courses receive the recommended allocation of instructional time.

Recommendation 11
that the personal development component be amended to include additional courses, including French and theatre arts.

3.4 Local Courses

Local course development is a significant resource issue. During the 1999-2000 school year there were a total of 90 separate local courses offered in schools in this province (Appendix E). These are local program initiatives developed at the school or school district level that have particular relevance to the economy or culture of a geographical setting and comply with the overall goals of the Essential Graduation Learnings. Such initiatives are usually of special interest and attract relatively few students to the classes.

Local courses range in breadth and scope and while meeting a perceived need at the school level, raise the broader question of how far a school should go to offer such courses with its resource allocation. During the past ten years, the area of cooperative education, a program that seeks to forge meaningful business-education partnerships, has grown significantly. This initiative was initially funded by Human Resources Development Canada, but school boards are now faced with maintaining this program without federal funding.

The Panel recognizes increasing pressure from external interest groups and agencies to have their particular agenda promoted as part of the provincial curriculum. This often emerges in the form of a local course or curriculum project which is encouraged and financially supported, often only initially, by such agencies. When financial support is discontinued, however, maintaining curriculum

projects of this nature is particularly challenging. The Panel perceives an important role for locally-developed courses, but because they compete in a priority pool for all the resources made available to sustain the system, there is a need to closely monitor their development.

The Panel notes the *Special Matters* report references the need for curriculum modules or courses designed to address the needs of learners. Further, the Department of Education's *Intermediate Curriculum Handbook* builds a block of time into the intermediate curriculum for such modules.

The Panel therefore recommends:

Recommendation 12
that the Department of Education review local courses to consolidate and reduce the number approved annually, designating some as provincial courses, and that the Department of Education and school boards cooperate to develop a multi-year approval process.

Recommendation 13
that as a result of the review process, where local courses are not designated as provincial courses, the Department of Education explore opportunities to infuse local course content from such courses into existing provincial courses or programs.

3.5 Newfoundland and Labrador History

There exists a concern about the level of historical knowledge in society as a whole and especially among youth. In Newfoundland and Labrador, students investigate aspects of history at all grade levels. Older students examine the history of Atlantic Canada in Grade 9 and Canadian and world studies in senior high school. These courses provide students with the opportunity to examine aspects of provincial history and culture within a larger context. There remain, however, calls for a course dedicated solely to the history of this province.

The Panel notes the perception that the current curriculum does not adequately address Newfoundland and Labrador history. Appendix F shows a number of substantial areas where the present social studies curriculum specifically covers the history and culture of the province. In addition, the intermediate and senior high language arts curriculum contains significant (approximately 20 percent) Newfoundland and Labrador content (see Appendix G). All grades in elementary through to high school are exposed to works by provincial authors who reference a variety of historical periods. The new language arts learning resources, scheduled to be implemented at the senior high level, include works by provincial authors, themes unique to this province and anthologies of prose, poetry and visuals by Newfoundlanders and Labradorians from every region of the province.

The Panel heard of the importance of young people knowing and understanding their history, which would enable them to bring informed thought and historical perspective to bear on contemporary

problems. There is a need for students to develop an awareness of the connection of Aboriginal and Francophone peoples to the overall fabric of the province. Recently, there has been renewed interest in the history of the fisheries, and there are important works on the province's economic, social and ethnological histories available.

The Panel considered whether the placement of such a course in the curriculum should be at the junior or senior high school level. It noted that curriculum development of social studies in recent years has focused on Grade 9 to senior high. Additionally, during 2000 to 2002, new language arts learning resources – which include historical and cultural content – are scheduled for implementation at the senior high level. The Department is also, through the APEF, revising the K-3 social studies curriculum. In the meantime, Grades 4-8 are in need of significant attention for new curriculum development.

Placing the Newfoundland and Labrador history course in the Grade 8 program would accomplish a number of objectives. First, it would meet the need for an infusion of new social studies curriculum into the junior high level. Second, the course would feed into the progression of history courses presently in the curriculum for subsequent school years (i.e., an Atlantic focus in Grade 9 and a Canadian and world focus in high school). Finally, all students would be enroled in the course, meeting the objective of compulsory participation.

The Panel is also aware of calls for an advanced course in Newfoundland and Labrador history at the senior high school level. There is a widely held opinion that senior high school students could benefit from a challenging and complex course designed to develop a thorough understanding of the political, economic and cultural history of the province. Following the development and implementation of the proposed Grade 8 Newfoundland and Labrador history program, consideration should be given to expanding the coverage of the province's history through the development of an advanced Newfoundland and Labrador history course at the senior high school level.

Recommendation 14
that the Department of Education undertake the development of a program in Newfoundland and Labrador history at the Grade 8 level.

3.6 Fine Arts

Many of the submissions to the Panel noted the inclusion of fine arts in the provincial curriculum is essential to the realization of a well-rounded education. As well as its inherent value, it is argued that education in music and the arts has been shown to be a positive influence on academic and personal development. Increasingly, employers seek out individuals whose skills and interests reflect the initiative and diversity promoted by a balanced education. The Panel agrees with these assertions and is supportive of a curriculum which makes music and art accessible to all students.

The Panel also recognizes the importance of music and art to the development and sustenance of the culture of Newfoundland and Labrador. Moreover, the cultural industry in Newfoundland and Labrador is growing and currently estimated to employ more than 2,800 people and contribute $200 million annually to the provincial economy. In this regard, the presence of fine arts curriculum in schools contributes to the broader social and economic goals of the province.

In recent years Newfoundland and Labrador has been seen as one of the country's richest environments for music and the performing arts. Both youth and adult performers have achieved national and international recognition. Events such as the International Festival of Choirs have focused international attention on the province as a place of musical excellence. The sense of accomplishment and pride extends well beyond the individuals who have directly participated in these events. The Panel recognizes that the years of musical training and education within many of the province's schools have contributed in large part to our present success.

The province, through its membership in the APEF, is currently participating in the development of the *Atlantic Canada Arts Education Curriculum*, a framework for dance, drama, music and visual arts education programs in the Atlantic provinces. The Panel strongly supports the idea that a broad fine arts curriculum should be available to all students in the province. The Department has one program development specialist in fine arts and, given the Panel's inclusion of art and music in the essential program, a program development specialist in the area of music would improve the capability of the department to implement the fine arts curriculum.

The Panel therefore recommends:

Recommendation 15
that the Department of Education establish the position of a program development specialist in music.

Recommendation 16
that in accordance with the Panel's recommended teacher allocation framework, the Department of Education allocate teachers to be used to support several program areas, including music and art, at a level of 1 per 250 students in Grades 7-12.

Recommendation 17
that in accordance with the recommendations of the Panel related to the establishment of a Centre for Distance Learning and Innovation, the Department of Education and school districts employ distance learning technologies to the fullest extent to ensure courses in music and art are available to all students.

3.7 Programming for Students of Differing Interests and Abilities

There was considerable concern expressed in consultations with teachers and administrators about programming for students having difficulty with the rigour of a highly academic program. There is a belief that there are not enough suitable programs and courses for less academically able students. The Panel recognizes that over the past ten years an effort has been made to increase the level of challenge in the overall school program. It should be acknowledged, however, that some students struggle with a curriculum geared towards increased rigour and higher standards of achievement. The Panel heard repeatedly of the need to establish practical, hands-on courses that would capture the interests and motivate such students.

The Panel wrestled with this challenge of maintaining a strong academic focus in the high school curriculum while responding to the curriculum needs of students of different interests and abilities and is proposing an essential program to be offered in all schools which will help to address the need.

The Panel therefore recommends:

Recommendation 18
that to address the program needs of less academically able students, the essential program offered in all schools include:

- *a general English course at Grades 10, 11 and 12 in each year of a three-year program*
- *Reading 1200 every year*
- *practical mathematics courses to enable access to a different course in each year of a three-year program*
- *an introductory science and a technology course in each year of a three-year program.*

3.8 Multi-Level Grouping

Multi-level or multi-age instructional groupings, most commonly referred to as multi-graded classes, are those in which two or more grades or courses are combined for instructional purposes. The philosophical basis of multi-level grouping is the belief that knowledge is not acquired in discrete divisions of subject and time, but rather that learning takes place on a continuum, that there are variations in the pace of acquisition of reading, writing, mathematics and other skills and that abilities apply across subject areas. In fact, multi-level grouping is most frequently employed in response to low student enrolments and geographic isolation which prevents access to larger, regional schools. Given extreme enrolment declines, it is not feasible to organize separate classrooms and teachers for each grade or course in small schools and multi-level instruction is increasingly utilized in such settings.

Teachers in multi-level settings provide instruction to students across a range of curriculum areas and age levels. To effectively manage this task they need an array of strategies, skills, training and supports. Teachers in multi-level situations must adapt resources, devise group strategies and continue to provide individualized instruction. Planning and organizing requires considerable time. Multi-level teachers would benefit greatly from opportunities to share effective teaching strategies

with other colleagues and from special workshops and conference forums where advice on best practice instruction and management techniques is available.

In light of the emerging use of multi-level grouping, in 1992 the Royal Commission recommended measures which addressed the need for policy and curriculum adjustments as well as special resources for students and teachers. The issues raised by the Commission and the recommendations made are even more relevant today given enrolment decline and school reorganization.

The Panel therefore recommends:

Recommendation 19
that the Department of Education and school districts ensure that policies and procedures are in place to guide the planning and delivery of multi-level classes.

Recommendation 20
that in all future curriculum development projects, specific suggestions and concrete illustrations be provided which clearly indicate how the program objectives and requirements can be accommodated in those classrooms with two or more grades.

Recommendation 21
that the Department of Education and school boards make special provision to ensure a variety of resources are readily available to teachers and students in multi-level settings.

Recommendation 22
that a teacher resource handbook be developed, as outlined by the provincial Working Group on Multi-Grading, and that this handbook be developed by individuals who have had experience teaching in multi-level classrooms.

Recommendation 23
that the Department of Education co-operate with the NLTA and Memorial University to make available appropriate pre-service and in-service education for teachers, including institutes on multi-level teaching.

Recommendation 24
that the Faculty of Education at Memorial University recognize, in all its courses, the unique challenges of planning and teaching in a multi-level classroom and that all curriculum and methods courses examine strategies and approaches appropriate for multi-level teaching.

3.9 Special Education

A recurrent theme throughout the consultation process focused on educational delivery for students with special needs, most often referred to as special education. Special education dominated many

Panel meetings and discussions in that the delivery of special education services, under the emerging "Pathways"[1] model, involves not only the special education teacher but also the regular classroom teacher and a range of other professionals within and outside the education, health and justice systems. The Panel notes the very significant efforts made by the province to respond to the demand for special education services.

The number of students requiring special education services has increased significantly in the past decade. For the 1999-2000 school year this number is approaching 14% of the total student population as compared with approximately 11% five years ago and 9% ten years ago. Similarly, expenditures on student assistant services has increased by 150% since 1991-92 to an estimated $8.5 million in 1999-2000.

In recent years, the way students with special needs are educated has been the subject of intense debate, not only in this province, but across the country and internationally. The Panel notes the extensive review already done in the area of special education by the department based on the 1996 *Special Matters* report. Given the level of attention special education has received in recent years, the Panel was perplexed by the degree of confusion and turmoil that still surrounds this area centering around teacher deployment, student assistants, Pathways and integration.

Given the Panel's mandate and time frame, it would not have been possible to revisit special education issues in depth; however, in consideration of the many presentations and meetings in which these issues were raised, the Panel is compelled to offer the following observations:

- There is a pressing need for stability in the entire area of special education and particularly in the way student support services are deployed. The number and range of supports – student assistants, special education teachers, categorical teachers, speech language pathologists, guidance counsellors, educational psychologists and program specialists – are growing; however, there is little evidence of an efficient and coordinated use of these resources. Educational leaders at the Department of Education and school districts must outline a common direction for special education that is clear and decisive. Further, this direction must be communicated to educators and parents.

- As a consequence of the multiple specialist milieu, the Panel heard that classroom teachers are increasingly dependent on specialist services. Parents are also demanding additional supports. While there are many cases where children require sustained and intensive educational supports, there is a growing expectation of "one-to-one" service that, in some cases, is neither in the best interest of the child, nor fiscally sustainable. The responsibility of the school is to help students, where possible, move from a state of dependence to one of

[1] Pathways proposes a framework for Individual Support Services Planning (ISSP) options for (1) provincially prescribed programs - pathway 1, (2) provincially prescribed programs with additional support - pathway 2, (3) modified programs - pathway 3, (4) alternate programs - pathway 4, and (5) alternate curriculum - pathway 6.

independence, and the demand for one-to-one service, for some children, is detrimental to this goal.

- The Panel heard of the need for fundamental change in the student assistant model as it is presently applied. There is a strong view that in many cases learning would be better enabled if classroom teachers had the support of teaching assistants instead of student assistants. The following statement expressed to the Panel in a written brief captured that concern:

  "(My child) is only in Kindergarten and already I am tired. Tired of begging, pleading, crying and lying in order to make him fit into that little bureaucratic box. And now I am afraid...that, once in that box, he will be stuck forever, because that box was never made for him."

  This reflects a situation where parents, whose child required some minimal classroom supports, found it was necessary to portray the child as needing a student assistant.

  A system has been created in which student assistants have become the "property" of the student and not a support to the classroom. Student assistants were originally intended to provide support for the severely physically and mentally challenged. These supports are still required but there is a need to re-examine the support system and consider alternatives such as school-based teacher assistants with educational training and qualifications who can serve a range of educational and individual needs.

- There is a legitimate expectation for a stabilization of special education services. Annual calls for increased services in special education will not abate until schools and parents recognize a need to find creative and appropriate ways to effectively and efficiently use the resources presently allocated to address the needs of children.

- There is a significant dichotomy of opinion with respect to what constitutes special education. There is a view that students reading well below their age or grade level are developmentally delayed and warrant special needs services. Other opinions hold that, while such students require reading supports, they are not special education students.

- There is polarized opinion also on the extent to which students with special needs should be integrated into regular classrooms. While a stated Department of Education policy on the matter exists, there is no consistent approach. A broad range of models has been adopted by schools and school districts, in many cases under pressure from parents. While department officials, educators and parents wrestle with definitions and categorizations, the Panel feels that school districts should ensure all students are placed in the appropriate environment for the appropriate task.

- There is concern that special education teachers and other support personnel be fully-engaged in direct instruction with students who have special needs. Even where the classroom teachers have been fully inducted into the best practice of dealing with the integration model

and agree with the principles of that model, there is evidence of considerable frustration over the inability to teach because of the range and diversity of student needs in the classroom. The regular classroom teacher has a role to play in the education of such students, but the Panel notes that teachers must also be afforded the ability to concentrate more of their instructional efforts on students who do not have special needs to ensure that those students are not marginalized.

- There is a great deal of concern about real or perceived restrictions on the utilization of special education teachers in schools. Remedial help for students requiring such support was once provided by special education teachers. There will always be some students who will need extra support and it is incumbent upon schools and school districts to respond to that need through the creative use of their resources free from the restraints of paper definitions.

- Among teachers and educational leaders in the field, there is a strong element of support for Pathways, albeit with the provision that there be an enhanced level of resources and professional development placed at the school level. Officials at the Department of Education, however, maintain that sufficient resources are presently available to implement the Pathways framework. They contend the proper application of the Pathways philosophy and appropriate deployment of the human resources designated for special needs will enable implementation.

- Much of the perceived anxiety and frustration with the Pathways approach results from confusion over the documentation process and the fact that there has been inadequate in-service of teachers in some school districts. Classroom teachers are immersed in a series of time-consuming assessments, meetings, modifications and ISSP paper trails involving parents, classroom teachers, special services professionals, school administrators, health care professionals, social workers and law enforcement personnel. The Panel heard that the present level of paperwork and meetings detracts from the central task of teaching, and a disproportionate amount of classroom teacher time is required by the ISSP process. Difficulties associated with the scheduling of meetings, the complexities of documentation and the increasing number of students with special needs point to the immediate need to review the documentation procedures with a view to simplifying the process.

- At the district level there is a growing contention that processes are much too centralized with the Division of Student Support Services and that there is too much rigidity in the application of the Pathways model. Others hold that giving all of this some time and injecting a liberal dose of common sense into the process would allow Pathways a chance to succeed. In any case, questions remain as to why there is such dissonance among the views of Department of Education staff, district offices and classroom teachers on matters of Pathways implementation.

- The Pathways approach was originally developed for application at the high school level. Because of the potential for students to be incorrectly assessed at an early age and placed on

an inappropriate program in their early school years, schools must ensure their personnel are current, diligent and objective in their referral and assessment practices.

- The functional connections among educational divisions of the Department of Education and district offices must be stronger during the implementation of the Pathways framework. Similarly, the connection between the curriculum developers and student support service staff at the Department of Education points to the need for better communication and a more integrated approach to the development and delivery of curriculum for all students.
  The Panel therefore recommends:

Recommendation 25
that Department of Education and school board officials reassess the province's approach to the delivery of special education services with particular attention to the responsibilities of parents, teachers, support staff and specialists in an effort to rationalize programming and support.

Recommendation 26
that through this process, directions be set for the overall delivery of special education services and that these directions recognize the need for a balance between district flexibility and resource limitations.

Recommendation 27
that the role of student assistants be reviewed with a view to redefining a number of these positions as school-based teacher assistants with educational training and qualifications who can serve a range of educational and individual needs.

Recommendation 28
that the Department of Education and school districts cooperate to ensure that all educational personnel be fully in-serviced in the application of the Pathways model and that this in-service take place before any school district further advances the Pathways framework.

Recommendation 29
that this in-service include clear definitions of roles of educators and support personnel in the Pathways approach.

Recommendation 30
that the Department of Education, school boards and the NLTA monitor the implementation of Pathways and respond appropriately to issues identified through this process.

Recommendation 31
that the Department of Education produce policy guidelines which simplify, <u>in a substantial way</u>, the documentation process involved in ISSP preparation and that these policy guidelines identify expectations for the involvement of those individuals other than the classroom teachers and the special education teacher in the ISSP process.

Recommendation 32
that the Department of Education develop a strategy for informing parents and the public about assessment procedures, resources and supports for students with special needs.

Recommendation 33
that the Department of Education ensure that the personnel who are responsible for program development, assessment and student support services are involved in all curriculum development initiatives.

4.0 Enabling Learning

4.1 Use of Instructional Time

Instructional time is a key factor influencing learning. There was considerable concern expressed in the Panel's meetings and consultations about the substantial loss of time for teaching and learning in schools. In 1992 the Royal Commission also noted that there is too much time lost to non-instructional activities and disruptions. Since 1992 some schools and school boards have taken steps to address the matter; however, the Panel heard concerns about situations where programs were not completed because of insufficient time.

The total assigned time for teaching is reduced for a variety of reasons. These include school closures due to weather and heating system failures and time lost for examination schedules, sports days and other activities. Departmental research conducted in 1994-95, using administrator and teacher logs, indicated that regular classes were canceled an average of 12 days per year for activities not explicitly linked to the curriculum, excluding examination times. There is little indication this situation has improved.

The Panel researched the number of days used for examinations by contacting a sample of schools with intermediate and high school students. The number of days allotted for examinations varied according to the configuration of the school, the size of the student population and whether the school administered midterm as well as final examinations. The time ranged from an average of 8.5 days in schools with both intermediate and high school students to an average of 15 days in schools with only high school students. During these periods, many schools are effectively shut down for teaching purposes.

When students are in class a significant amount of engaged time is lost from the instructional day; indeed, the department's research revealed that an average of 85 minutes of a 300-minute school day are affected by interruptions to instruction. A great variety of interruptions, including announcements, inappropriate student behaviour, students in class with insufficient materials and students entering and leaving class, were documented. The Panel notes this as a serious matter and is particularly concerned about reports of inappropriate student behaviour in a growing number of school settings. Compounding these losses is time lost to student absenteeism. Departmental records for 1998-99 show that students were absent, on average, more than 14 days, exclusive of days when schools were closed.

Considering a loss of up to 15 days for examinations, an average of 14 days for absenteeism and 12 days for school closures and/or non-curricular activities, some students could lose between 35 and 41 instructional days per year. Additionally, there is evidence that a significant amount of instructional time is lost due to a variety of daily classroom interruptions. The Panel considers the use of instructional time to be an important factor in student performance and central to the quest for

the best and most efficient use of school resources. There is tremendous opportunity for improvement of student outcomes by ensuring that the days currently allocated for student learning are optimized for that purpose.

The Panel strongly advises school boards, councils and staffs to be vigilant in excluding extraneous activities from the school day. Further, it suggests schools redouble their efforts to minimize interruptions in the school day. Simply ensuring that students receive the expected number of teaching days and that the prescribed course expectations are met will improve overall student performance.

The Panel therefore recommends:

Recommendation 34
that the Department of Education and school boards regularly monitor assigned instructional time, classroom interruptions and absenteeism (on a school-by-school basis) and report on time lost from instruction through the proposed school reporting system.

Recommendation 35
that the Department of Education and school boards monitor the number of examination days with the goal of reducing the length of examination schedules by one-third.

4.2 Early Intervention

The Panel heard repeatedly of the need for policy initiatives to address the educational needs of young children. Recent reviews such as *Special Matters*, *Primary Matters* and the *Strategic Literacy Plan* confirm the importance of intervening early with preschoolers and their parents to ensure all children, regardless of circumstance, have the best possible start in their school years. Early investments in health and in intellectual and social skills development for children have a substantial effect on later success in schooling and in life. Early intervention programs not only benefit children when they need it most, but have long-term benefits in reducing the need for expensive corrective programs.

Teachers experience vast differences in the level of preparedness of the children who enter Kindergarten. There are many reasons for the variation in children's readiness to begin their schooling. Children may have learning disabilities, physical disabilities or behavioural or emotional disorders, but often the varying levels of school readiness can be related to their pre-school experiences. What happens in children's lives before they begin Kindergarten may profoundly affect the success they will achieve in school. Those students who have had minimal exposure to books or limited experience with a range of vocabulary are at risk of falling behind even before they reach the end of their first year in school. The language experiences children receive in their pre-school years may mean they cannot meet the curriculum at the start of the Kindergarten program. These are children who need to become more familiar with oral language and print.

The wide range of school readiness in young children is a central issue to be addressed by early intervention strategies. Appropriate interventions during the pre-school years can ensure children who are disadvantaged in some way, or at risk of failure, will be directed on a more successful course. Successful early intervention programs incorporate a number of essential features. They are reflective of local needs, have the cooperation of agencies concerned with early childhood development, are part of a larger continuum of service and, most importantly, involve parents as well as children.

The Panel notes the Royal Commission put forth a number of recommendations related to school-preparedness and early intervention. While these deserve reiteration, the Panel observes that in the intervening years there have been numerous government initiatives which are directed toward providing appropriate interventions and support for children. Some examples are the Healthy Beginnings program, which screens and follows children from birth to school age, the implementation of a Model for the Coordination of Services to Children and Youth and the establishment of Family Resource Centres. The Panel also recognizes that the Department of Education has recently completed a Strategic Plan for Literacy and is supportive of the directions outlined to promote early literacy. In addition, a number of schools have recognized that attention must be paid to assessing the needs of their incoming Kindergarten and parent population and have undertaken initiatives which expand the time and purpose of Kindergarten orientation visits.

The Panel therefore recommends:

Recommendation 36
that a new position be created at the district level with overall responsibility for reading and early childhood literacy development.

Recommendation 37
that the Department of Education and school boards implement a plan to in-service primary teachers and special education teachers on language and reading.

Recommendation 38
that departments of government examine ways to more fully integrate early intervention and prevention programs into a comprehensive service structure.

Recommendation 39
that education officials strengthen links with agencies which focus on the early childhood years, such as the Family Resource Centres and the Healthy Beginnings program.

Recommendation 40
that the length of the primary school day be prescribed in the Schools Act as five hours.

Recommendation 41
that the Department of Education and school boards undertake an inventory of pre-Kindergarten orientation programs and a review of best practices in the area.

4.3 Teacher Availability and Training

The Panel heard that the school system may soon face a shortage of teachers in selected disciplines and particularly in rural and isolated regions of the province. Information gathered from school boards indicates several districts are presently experiencing problems recruiting teachers with the desired qualifications in French, mathematics, science and technology, special education, educational psychology, guidance, music and school administration.

The Panel also heard it is difficult to attract qualified teachers into less than full-time teaching positions and that the current practice of dividing teaching units into fractional parts affects student-teacher relationships and places increased expectations on the workload of these teachers.

There are gaps in our knowledge with respect to supply and demand of teachers. The Department of Education periodically conducts a survey of all teachers which gives a comprehensive picture of such factors as specific assignments and workloads, grades and subjects taught and subject specializations of teachers. However, these data have not been presented in a report which can be used to inform policy makers on issues such as supply and demand. There is also a need to link this survey with the department's graduate follow-up survey to determine how many new teachers are leaving the province and to produce a province-wide profile of the teaching force.

There is every indication the teaching profession is entering a period in which there will be a steady demand for teachers, in particular those with certain subject specialities. While this province is presently experiencing difficulty in some areas, there is, as well, a demand for teachers nationally and internationally. The teacher workforce is experiencing an aging trend which will result in a large number of teachers reaching retirement age over the next decade. Additionally, the school-aged populations of some provinces are projected to increase over the next decade, compounding the demand for teachers. Other provinces are recruiting education graduates and experienced teachers from Newfoundland and Labrador. Moreover, the recent *Report of the Pan-Canadian Education Indicators Program 1999* shows that, while most provinces reported an increase in the number of education graduates in 1997 compared to 1987, Newfoundland and Labrador reported the greatest decrease. More recent data from 1999 indicates an improvement; however, there were still fewer than 500 education graduates in that year compared to 1165 in 1987.

During the next five years, over 2000 of the province's teachers will be eligible to retire. Given that recruitment efforts by other jurisdictions are likely to increase in the next several years, it is questionable as to whether the number of Memorial University's education graduates will be sufficient to fill the positions that will become vacant due to retiring teachers. The Panel, therefore, notes a significant concern about the availability and suitability of teachers to meet future needs.

The Panel heard calls for an advisory structure to review and advise on important issues in teacher education and believes there is an opportunity through such an advisory group to address a number of key areas.

The Panel therefore recommends:

Recommendation 42
that wherever possible, schools be staffed with full-time teachers.

Recommendation 43
that the Department of Education publish an analysis of the results from its recent survey of teachers.

Recommendation 44
that the Department of Education establish an advisory group comprised of representatives of Memorial University's Faculty of Education, the Newfoundland and Labrador School Boards Association and the NLTA to review teacher training initiatives and examine teacher supply and demand.

4.4 Professional Development

Sustained and focused professional development is essential to the maintenance of a highly motivated and qualified teaching force. The effective delivery of programs in a changing educational milieu means teachers, like their students, must be lifelong learners. Teachers recognize the need to gain different types of specialized learning at different periods of their careers. They also recognize that raising achievement standards for students requires ongoing professional growth.

The NLTA has a long-standing record of leadership in teacher professional development in this province. The association maintains an active professional development arm and a network of branches and special interest councils which have been the driving force in this area. NLTA publications provide a consistent forum for the dissemination of professional development literature for teachers, and its role in curriculum development has been vital to education in Newfoundland and Labrador. The Panel recognizes the outstanding contribution of the NLTA in this regard and encourages the association to maintain this commitment to learning.

The Department of Education and school boards should re-examine their approach to teacher professional development. The considerable gap between curriculum development and implementation has been described elsewhere in this report. The department has developed quality curricula but, for fiscal reasons, failed to address the professional development required to properly introduce that curricula into classrooms. Any curriculum initiative must include a specific plan that clearly delineates the professional development required for teachers and the resources to provide such training. There is little point in proceeding with costly development in the absence of resources for teacher in-service.

Further, the Panel believes there is a need to adjust the approach to professional development on several levels. The present curriculum implementation process involves a "trickle-down"or "train-

the-trainer" model whereby Department of Education program development specialists work with district office program personnel, who in turn arrange in-service sessions for teachers. Some reservations have been expressed about the application of this model. School boards presently have program personnel allocated on a "levels" basis. This approach seems to be working well at the primary-elementary level, but at the intermediate and high school level, districts need the support of specialists to provide in-service in certain subject areas. There is expertise at the classroom level, but accessing the services of classroom teachers as resource personnel involves costs for substitute teachers and travel and, more importantly, results in a disruption in teaching.

The pressing need for teacher training in new program delivery demands a rethinking of how professional development is delivered. Such initiatives, now arranged within the school year, require teachers to leave their classrooms with substitute teachers. A more effective model would incorporate blocks of time for teacher in-service allocated outside the student school year. The benefits would include a reduced number of substitute teacher days required, savings which could partially offset the cost of the additional days, and fewer classes where the instruction by the regular teacher was replaced by substitute teachers. The proposed model might involve time at the beginning of the year, within the year or a combination of the two.

Responding to the diversity of student needs presents a major challenge for teachers. Societal and familial change have created unique situations and teachers need opportunities to study classroom practices which enable them to promote student success. The Department of Education must work with the NLTA and school boards to ensure that best practices in curriculum implementation and program delivery are shared with all teachers. There is a need to explore the various media by which this can be accomplished, taking into account new technologies such as Web-based in-service as well as more traditional initiatives such as summer institutes. Further, there is a need for these partners, together with the Faculty of Education at Memorial University, to cooperate in conducting research that will support and enhance best teaching practices.

The Panel therefore recommends:

Recommendation 45
that the Department of Education ensure that program consultants spend up to 40% of their time in the field with teachers engaged in direct professional development activities and that financial resources be allocated to facilitate this work.

Recommendation 46
that three paid teacher days be added to the school year and be dedicated for teacher in-service.

Recommendation 47
that the Department of Education, school boards and the NLTA establish a Professional Development Alliance under a consortium model with the following goals:

- *to develop a shared annual professional development agenda*;

- *to develop a new model of professional development institutes for teachers;*
- *to establish a system of recognizing participation in professional development activities, giving consideration to incentives, awards and certification; and*
- *to develop alternate approaches to professional development delivery*.

4.5 Guidance

The Panel heard repeatedly about the need for increased guidance services in the school system. It was widely acknowledged that guidance counsellors provide important support for students, teachers, parents and community agencies.

Guidance counsellors are confronted with increasingly complex student needs. Submissions to the Panel expressed concern for students who have been affected by the social and economic upheaval of the past decade. The Panel heard that the mainstreaming of students with cognitive and/or physical challenges has resulted in increased demands, not only for classroom teachers, but also for guidance personnel who are often called upon in the day-to-day operations of the school. Compounding these overall concerns is the recognition that in many communities there are few such resources outside the education sector.

Other associated concerns were related to the assignment of single counsellors to serve the needs of multiple schools within a geographical area. Educators in smaller schools, in particular, reported limited access to guidance services.

In addition to personal counselling, there is the increasingly important component of career counselling. Professionals and interested community groups noted the need for better career guidance to promote an effective transition to post-secondary education. The Panel also heard that students in small schools are in particular need of guidance services given that these students do not have the same level of exposure to a variety of career paths as do students in urban regions.

In short, concern was expressed about the ability of school guidance counsellors to fulfill their responsibilities under the current allocation of 1:1000. Previous reports such as *Special Matters* and the report of the Royal Commission on Education have called for an allocation which reflects the comprehensive nature and the increasing demands of the profession.

The Panel therefore recommends:

Recommendation 48
that in order to respond to the needs identified for guidance services, the allocation of guidance counsellors be increased to 1 per 500 students.

4.6 Alternate Settings

The school system is faced with the challenge of educating students who, for one reason or another do not function well in the traditional school. The Panel heard of the stress placed upon instructional settings by an increase in the numbers of students who exhibit extremely disruptive behaviour. The disruptive student is a student who poses a threat to the safety and welfare of other students or to the school staff and whose behaviour disrupts the overall educational process.

Alternate education involves a variety of schooling and program options for "youth at risk" and for those who have difficulty in a traditional academic setting. Each program is unique according to its mission and, in many cases, provides a second chance for students whose behaviour problems are so severe that their presence in the regular setting is disruptive to the school or to the learning of others.

The goal of alternate settings is to redirect disruptive students from regular classrooms into more productive learning environments. Alternate settings are marked by a clear mission, staff committed to counsel, mentor and tutor students, class rules that are enforced fairly and consistently, an emphasis on individual accountability and responsibility, and high standards for behaviour.

The Panel therefore recommends:

Recommendation 49
that the Department of Education establish policies to enable the development of alternate education programs.

Recommendation 50
that each school board develop policies and programs which ensure that disruptive and violent students are accommodated in appropriate settings in order to provide them with a sound educational course of study designed to modify disruptive behaviour and meet their educational needs.

4.7 School Administrators

The Panel heard consistent accounts of the increasing demands and expectations placed on school administrators. Principals are frustrated that they are unable to devote enough time to their primary role as leaders in curriculum delivery. They also expressed concerns with inadequate provision of secretarial and technical support. Many administrators told the Panel they would not recommend the principalship as a vocation. This frustration is believed to be a contributing factor to a province-wide difficulty in recruiting school principals.

In recent years principals have been front line leaders in many new initiatives such as school councils, school improvement programs and special services programming, in addition to their other educational and managerial roles. Over the same period they feel there has been a reduction in resource levels, secretarial time and professional development opportunities. Throughout the

consultations, the Panel heard of the need for increased support for schools – support that might be provided by a modest increase in the number of school-based administrators and the provision of additional secretarial support and guidance units. These suggestions have been addressed elsewhere in this report.

In addition to voicing concerns about the time and resources required to meet the demands of the position, principals also asserted that current levels of remuneration, particularly when compared to the compensation of classroom teachers, do not reflect their workload and responsibility. It was noted that, while principals are paid on the basis of the instructional year, most work a longer year. The Panel acknowledges the contributions of principals in providing educational leadership in schools.

The Panel therefore recommends:

Recommendation 51
that there be a five-day extension of the work year for principals and that this extension be matched by a commensurate increase in salary.

4.8 Secretarial and Technical Support

There was considerable concern expressed to the Panel related to the necessity for expanded services in the area of secretarial and technical support for schools. The Panel heard of a need to tie secretarial support services to the functional requirements rather than to the number of students in schools.

Submissions to the Panel noted the concerns of administrators who find themselves losing valuable instructional and administrative time to clerical and organizational tasks which are essential but do not require the attention of the principal. Similarly, many technical functions related to the maintenance of computers and computer networks are now performed by educators, often on their own time.

Additional concerns were raised about the importance of a secretary being present during school hours to provide front line response to parents and others who contact or enter the school. Administrators who had teaching responsibilities were concerned about unanswered phones and unattended offices. The Panel heard that secretarial and technical personnel have a substantial impact on the quality of school life, not only for administrators, but for students, parents and teachers.

The Panel therefore recommends:

Recommendation 52
that a Grant Review Committee of the Department of Education and school boards:

- *review the formula for the allotment of secretarial hours to ensure an appropriate level of secretarial support, and*
- *establish a grant for technical support appropriate to the needs of schools.*

4.9 Organizing for Effective Schooling

School scheduling – the number, configuration and duration of student learning periods and teacher work assignments – is a significant determinant of school productivity. Effective scheduling is the key to properly allocating available resources. Arranging time efficiently can allow for a flexible and productive classroom environment and an increased number of course offerings. Some scheduling patterns, however, result in an inefficient school environment and reflect an imbalance among teacher preferences, preparation time, program requirements and the educational needs of students.

There is a need to allow some flexibility for the diversity of instructional approaches. It is neither necessary nor desirable to tie all schools to the same scheduling pattern; however, there is considerable merit in focusing attention on best practice in scheduling.

The development of school schedules requires careful planning. There is a need for school administrators to be trained in scheduling and to be exposed to various scheduling models and their application to different school settings. In that regard the Department of Education and its partners should cooperate in offering scheduling seminars to school administrators. The Panel notes some work has already been done in this area, albeit on an ad hoc basis. Through the Professional Development Alliance proposed in this report, these efforts could be expanded so that training sessions could be made accessible to administrators. The Panel also believes it would be beneficial to establish a process to comprehensively audit schools to ensure best practices are followed and to verify the appropriate use of resources.

The Panel therefore recommends:

Recommendation 53
that the Department of Education and school districts ensure that all principals, and in particular new principals, are trained in effective school scheduling.

Recommendation 54
that the Department of Education, school districts and the NLTA include institutes on school scheduling in professional development offerings.

Recommendation 55
that the Department of Education appoint an educational effectiveness audit team consisting of two field auditors to ensure best educational and administrative practices are followed at the district and school level in the use of resources. Specifically, the audit team would:

- *examine school schedules to ensure the appropriate number of instructional hours are provided;*
- *monitor and provide feedback on the use of school time;*
- *examine the use of school facilities;*

- *develop and implement a process for monitoring the coverage of curriculum content by teachers;*
- *assist districts and schools in implementing structures to become more effective; and*
- *assist administrators in organizing schools which have similar program and demographic characteristics.*

5.0 Resourcing the Education System

5.1 Background

Teachers constitute the largest single resource in education and exert a more significant influence on educational quality than does any other aspect of schooling. Decisions on the allocation and deployment of teachers are central to student success and are thus at the core of the mandate of this Panel. The Panel was formed, in part, in response to concerns over teacher allocations, and much of the substance of consultations and briefs centred around this issue. Specifically, there were many calls for a fundamental shift from a district-level enrolment base to a program and school-level base as the foundation for a teacher allocation method. Teacher allocations are also closely linked to other issues reviewed by the Panel, including the essential program, distance learning and special education.

Although enrolment in the province's schools has been in decline for almost 30 years, it is only in the past decade that there has been a loss of teachers. During most of the 1970s and 1980s, the combined effect of additional special education teachers, special allocations to small schools, the introduction of Grade 12 and the 2% savings clause resulted in a small increase in the total number of teachers and a substantial improvement in the pupil-teacher ratio. Over the past decade, increased budgetary pressures and rapid enrolment decline have led to a reduction in teacher numbers but not in proportion to enrolment decline. These reductions have, nevertheless, had an impact on local communities and have become a source of controversy.

Adding to the complexity of this picture are factors such as a rapidly aging teaching force, difficulties in attracting teachers in some geographic areas and for certain subject areas, low teacher mobility and limited opportunity for advancement. The Panel was told that classrooms are becoming more complex and difficult to manage, that the number of children requiring special services is increasing and that programs and learning are being affected by these changes.

5.1.1 What the Panel Heard

The Panel heard widespread concern that there are insufficient teachers in the system to meet the demand for delivery of adequate programs in an equitable manner. While the programming problems of small schools tended to dominate the discussions and submissions, the school districts with the largest schools made similar arguments. A common theme was that teachers should not be reduced in direct proportion to enrolment loss. In small schools there was support for a model which recognized the need for a minimum staff complement, no matter how small the school, in order to ensure there were sufficient teachers with a range of capabilities to offer an essential program. For larger schools, there was concern expressed around the need for specialists, smaller class sizes and the desire to offer optional courses beyond an essential program.

There was near universal agreement that the current allocation formula should be replaced and that any revised framework should be school-based and consider program requirements. Several submissions from school districts and provincial organizations presented proposals for the revision of the teacher allocation formula. The models presented were variations on an instructional group theme. For example, proposals were made to allocate teachers based on the number of instructional groups in a school, to differentiate instructional group size by grade level and to create specific allocations for various kinds of specialists. Most proposals called for further reduced instructional group sizes for multi-level classes, for restrictions on grade combinations and for a minimum teacher allocation regardless of school size. There was little support for a more open and flexible system of block funding. Concerns were expressed that a block budget allocation would not be sufficient to meet district needs.

A number of submissions called for increased allocations to guidance, learning resources, special education, administration and other components included in the current formula. In the case of administration, concerns were expressed that in small schools principals are called upon to teach most of the time, leaving little time to fulfill leadership responsibilities. Some submissions suggested increased support for administrators through additional secretarial time. More often, however, there were calls for increased allocations for principals. In addition, there were calls for specific art and music allocations and staff to maintain computer systems and provide technical support.

5.1.2 The Current Formula

The present method of teacher allocation provides a block of teachers to each school board. Boards have no fixed budget for teachers' salaries and they are free to hire teachers with whatever qualifications they desire and can attract. The Department of Education determines the total number of teachers and the numbers within each component of the allocation formula.

Recently, some schools have been categorized as "small necessarily existent" (SNE). This category is intended to designate schools that cannot be combined with other schools because of isolation or travel distance and are deemed too small for normal teacher allocation considerations to apply. Allocations for SNE schools are done on a negotiated basis between the Department of Education and the school districts.

The present teacher allocation formula applied to regular schools is described in Table 5.1.1. Allocations for one school year are based on enrolments reported as of September 30 of the previous year. Since enrolment is declining almost everywhere, this allows for more teachers than the current year's enrolment would yield. Part-time students (Kindergarten students and those returning to high school to make up courses) are counted as full-time. Also, in recent years, following the final determination of the teacher allocation, a number of teacher units have been "added back" to the system each year to mitigate the effects of declining enrolment.

Table 5.1.1: Teacher Allocation Components, 1999-2000 School Year

Component	Basis of Calculation	Teachers 1999-2000 (approximate)
Basic	43.5/1000 or student/teacher ratio of approximately 23:1 in non-SNE schools. Kindergarten and other part-time students counted as full time.	3778
Guidance	1/1000 students	87
Librarians	1/1000 students	87
Special Education	7.0 per 1000 students	609
Principals	School Size < 50 0 50 - 249 0.5 250-499 1 500-999 1.5 > 999 2	233
Aboriginal	40/1000 student in Aboriginal schools	59
French First Language	40/1000 student in FFL schools	11
Program Specialists	5 per district	50
Severe Disabilities	Documented cases	427
SNE	School by school negotiations (93 schools)	878
Directors/Assistants	1 director, 2 assistant directors for each board	30
Add-Back		224
Total		6473

Note: Excludes teachers allocated to the School for the Deaf**,** the Newfoundland and Labrador Youth Centre, English second language and miscellaneous cost-shared positions.

5.1.3 Resourcing the Multi-Level and Multi-Course Classroom

In schools so small that single-graded classrooms are not possible, multi-grading or multi-level grouping is used. The following general statements provide a basis for a practical approach to allocating teachers for multi-level groups.

1. Research on small schools and multi-level grouping indicates that there are no negative effects on achievement and that there are, in fact, social advantages to this sort of grouping. In some school systems, multi-age class groupings have been used as a way of breaking down

traditional grade structures in situations where there were sufficient numbers to create single-grade classes.

2. The research suggests ways to rearrange the typical graded curriculum into various forms which reduce the need to treat multi-level groups as if they were separate groups of students. This is especially true for subject areas which are not strongly hierarchical in organization. It also helps to resolve a teacher concern that multi-level grouping requires too many separate "preparations".

3. There is a general belief that where multi-level grouping is used, additional teachers should be allocated to allow for smaller classes. This is one of the main principles behind the allocation of additional teachers to small schools.

4. Very little research is available related to the high school counterpart of multi-grading, namely multi-course teaching. This is less commonly found in schools than multi-grading, despite the requirement for breadth in the high school programs and the existence of more than one level of course in the same subject.

The Panel concludes that it is reasonable that the program complexity of multi-level classrooms should be offset by smaller numbers of students, a reduced marking load and other advantages of small numbers.

5.1.4 Educational Programs

A fundamental issue in teacher allocations is the ability to offer appropriate programs to children of different levels, abilities and interests and in a wide variety of school settings. Data from the annual enrolment and course census of the Department of Education indicate that all subjects identified in the K-6 program of studies are available in schools with the exceptions of core French and music where approximately 10% of schools report no enrolment in these subjects.

The program of studies for the intermediate grades (7-9) is slightly broader than that of the K-6 program. Recommended time allotments exist, with an underlying expectation that all students will take all courses. However, subjects such as art, music, core French, health, industrial arts and home economics do not have universal enrolment.

The senior high school program is highly differentiated containing more than 100 provincially developed courses and about 140 local courses. There are dramatic differences in the range of courses available in schools of different sizes, with some schools offering 100 or more courses per year and others providing far fewer options. A differentiated programming model exists because of the wide variation in school sizes and because larger schools are able to expand their programs by offering a greater number of courses to different groups of students. When the number of students

is large enough to constitute a class and teachers have the requisite capabilities and interests, schools opt to expand programs.

5.1.5 Program Disparity

The Panel heard that if schools could retain their current staffing levels, existing programs could be maintained. However, there are already wide program differences among schools. For every school that loses a program due to teacher loss, there is another school that has never had this program but is content with its status quo and would be concerned if any element of its own program were lost.

Clearly, the most significant reason for seeking a new method of resourcing education is to address the problem of inequity in program delivery. A new allocation model, combined with the benefits of new alternate delivery approaches must, to the extent possible, lessen program disparity. Otherwise, some students will inevitably receive a less than adequate program.

The Panel considered the special needs of the schools in rural areas of the province. The issue of low achievement levels in rural areas has been well documented. An examination of the indicators published by the Department of Education shows that rural students, as a group, perform substantially lower than students in urban schools. Compared to other areas where improvement efforts could be directed, the Panel believes measures to increase student performance in rural schools are most urgently needed. As noted previously, enrolment decline has also been more pronounced in rural than in urban areas. The Panel heard that rural schools are having difficulty absorbing teacher losses resulting from enrolment decline. The unique socio-economic conditions of many rural communities underscore the importance of ensuring higher levels of academic achievement.

There is a need to strengthen the delivery of education in rural Newfoundland and Labrador. The education system must provide a level of service which removes barriers so that all students, regardless of the location of their community, are able to access an essential program. There can be no doubt that the greatest inequality in the provision of public services is the equal treatment of unequals. In this regard the Panel believes that the recognition of the special circumstances of rural schools should be reflected in the teacher allocation model. There is precedence in other Canadian jurisdictions where numerous examples of special provisions to address the needs of schools in rural communities can be found. A recent review of elementary-secondary educational financing across Canada found that many jurisdictions use special adjustments to provide additional resources for rural or remote areas, areas of decreasing student population and areas with poor socio-economic conditions. Through these special adjustments, provinces recognize the importance of safeguarding educational equity. The Panel agrees with this principle.

5.1.6 Practices in Other Jurisdictions

Teacher allocation across Canada is strongly dependent on the basic model under which local school boards are funded. Many provinces simply allocate a block of funds to the local authority. This block

is sometimes supplemented by funds raised through local taxation and varies depending on whether school boards are free to set taxation rates or are restricted in doing so by the province. In some cases, teacher allocations depend on the specific provisions of collective agreements.

Essentially, the provinces may be divided into three categories for teacher allocations:

1. Allocations based directly on global student/teacher ratios or other formulas related to teaching units, with actual teaching units being allocated to school districts.

2. Allocations of blocks of funds based on formulas derived from student/teacher ratios, approved classes or other units originating in teaching units.

3. Allocations of global blocks of funds based on enrolments or other factors that are not directly tied to teaching units. In this situation there is no direct link between funds and teaching units.

Only Newfoundland and Labrador and Prince Edward Island allocate teaching units according to a provincial formula. Several provinces, particularly Manitoba, New Brunswick and Quebec, appear to have funding formulas based on teaching units. The larger provinces generally tend to make greater use of global block funding with few restrictions on school boards as to how they use their funds.

No jurisdiction could be found which identifies a program approach to allocations. Whatever the details, and whether or not the formulas yield teaching units or funding blocks, the basis for allocations is almost always enrolment, with various adjustments for grade level, school size, specialization, administration and other components that are similar to the formula used in this province. No assumptions about core programming, equal programming or any other variation on a program-based formula could be found in any of the jurisdictions reviewed.

5.1.7 Alternate Teacher Allocation Models

The simplest teacher allocation model is one based strictly on enrolments. Except for the provision for small necessarily existent schools and for anomalies such as add-back, this is essentially the model currently in place in this province. Even though the formula appears much more complex than this, most of the individual components are enrolment-based.

The current model is commonly understood as the 23 to 1 formula. In reality, the combination of the SNE allocations, special provisions for guidance, learning resources and administration, add-back and other features, such as the use of previous year's enrolment and headcounts rather than full-time equivalents, yield substantially more educators than implied by the basic 23 to1 allocation. The effects of these features, geography and school size, and decisions made by districts on assignment of teachers to schools, create large variations in student/teacher ratios and class size from school to

school, with small schools having more favourable ratios than large ones. Indeed, the consensus is that small schools need greater resource levels to offer an essential program.

Considering other jurisdictions and publically funded post-secondary institutions in this province, it is clear that the main alternative to the current model is a block funding approach. The Panel heard little support for moving to a block funding framework. There were concerns that this approach could result in the movement of funds from teachers' salaries to other budget areas, for hiring non-teaching staff to replace teachers or for seeking out less qualified teachers who command lower salaries. There was also the belief that this approach would merely shift the controversy over teacher allocations to one over the size of the funding block without addressing underlying program issues.

Based on study of the present system and the many presentations and briefs received, the Panel concluded the current model is not functioning properly. The Panel proposes a new approach to the allocation of teachers based on grade/level-specific ratios, school size, geography and the provision of an essential program of studies to all students. The Panel notes also that this framework could serve as a basis for a future block funding arrangement should the department wish to pilot such a model in one or more district.

5.2 A Program-Based Model

5.2.1 Fundamental Principles

The proposed model is based on a fundamental principle of access to an essential program. All schools should be able to offer a program sufficient to ensure specific student outcomes under all categories of the Essential Graduation Learnings. Inequalities in program access among schools must be minimized.

The principle of access to an essential program has important implications for educational delivery in all schools, including the smallest. The principle requires a match of programs to the Essential Graduation Learnings at all levels, rather than to existing models of teacher allocation, school staffing or school organization. In particular, it will require thinking beyond the concept that a school is a self-contained unit within which all programming must originate or be conducted. This principle has different implications for primary/elementary and secondary schools and for schools of different sizes as follows:

Fundamental Principles

1. *For Grades K-6, all schools must offer the complete program outlined in the program of studies and all program areas must be taught to all students (with appropriate modifications for those with special needs) in the time proportions given.*

2. *The same principle applies to Grades 7-9, with the specific requirement that technology education and Newfoundland and Labrador history be components of the program for all students.*

3. *At the senior high school level (Grades 10-12), all schools must offer a program sufficient for students to graduate and to meet college and university entrance requirements. The program must be designed to:*

   (a) make available at least one course in each subject area identified in the program of studies at least once every three years;

   (b) include courses in art and music;

   (c) permit choice in the core areas of language, mathematics and science to allow for variations in student capabilities and post-secondary aspirations; and

   (d) reduce the degree of inequality among schools in the scope of the program available.

4. *Schools may enhance their programs by offering further course choices, if this can be accomplished given sufficient student numbers or by taking advantage of distance education or other delivery modes.*

5.2.2 Subsidiary Principles

In practice, it is not possible to develop an allocation system directly from these principles alone as they do not address the issues of setting general grade/level-specific ratios, multi-level grouping, program disparity and support for areas such as music, art and French. Furthermore, a new system must avoid disparities in programming among smaller schools that are fairly similar to one another. For example, the current formula provides a greater allocation to SNE schools than to others that are much the same size but not in the SNE category.

The following subsidiary principles form the basis of the Panel's recommended approach to the allocation of teacher resources:

Subsidiary Principles

1. *A precondition of all teacher allocations is that districts will organize their schools in the most efficient manner through consolidation and through creative use of human resources such as itinerant and itinerant block teaching. While there has been substantial consolidation in recent years, there remain situations where further consolidation could be carried out. Beyond the 2000-01 school year, there should be no provision for additional staff allocations to schools where consolidation is a reasonable alternative. The Department*

of Education and school boards should identify schools for consolidation so that the allocation framework can be appropriately applied.

2. *The program delivery system should be made less sensitive to teacher losses, with alternate delivery modes being available to ensure that schools can maintain the essential program.*

3. *Resource levels will be mainly determined using school-based grade/level-specific ratios differentiated on school size but allocated to the school district as a block. The school district will approve and resource the program of studies offered in schools and will monitor school, student and teacher schedules to ensure the most effective and efficient operation of the school.*

4. *Emphasis should be placed on using teacher resources to keep class sizes as small as possible and, within single-grade classrooms and core subject areas, as equal in size as possible. Variations in class size should be justified on programming grounds.*

5. *The curriculum should be designed to facilitate teaching in multi-level settings.*

6. *In general, schools should be staffed to provide a full range of teacher competencies across all subject areas. This is facilitated through appropriate teacher assignments, including itinerant and block assignments.*

7. *The curriculum should be designed so that all areas can be taught by non-specialists up to Grade 6. Where necessary, technologically-based programming, including distance education, will be developed to provide subject expertise support for teachers in such schools.*

8. *Multi-level classes should be smaller than single grade classes. The more grades in a class, the smaller the class should be. More generally, in terms of teacher workload, any additional load imposed by multi-level and multi-course teaching is considered to be offset by the principle of smaller classes in such situations.*

9. *A fundamental tenet of the allocation framework is that grade/level-specific ratios not be equated with class size. The allocation of teachers under the Panel's model is intended to enable schools and school districts to accommodate their own unique needs in program delivery and school organization.*

5.2.3 Program Considerations

These principles have implications for program design. First, given that multi-level and multi-course teaching is inevitable in many schools, and the method of choice in others, the curriculum must be designed to reduce the burden placed on teachers of having to treat a class as if it were several classes, each working independently. Whatever the merits of individualized instruction or within-class grouping, the Panel finds it difficult to support a system in which a teacher must prepare multiple content and materials for every class session in a multi-level situation. Indeed, the Panel saw many

examples in which students at different grade levels are taught as a single group. At the senior high school level, for example, many of the courses, though labeled as 1000, 2000 or 3000 level, are non-sequential and allow students at any level to enrol. What is needed is more explicit recognition of this below the senior high school level so that teachers are made to feel more comfortable with such an arrangement.

There are many programming challenges in schools with small numbers of high school students, one of which is the high degree of differentiation of the mathematics program. Mathematics has three separate streams, each with a set of three sequential courses. In order for students to take advantage of the differentiation, a school, no matter how small, should offer all of these courses every year. The consequence is that mathematics can occupy upwards of half the total program in small schools. While this is facilitated by the availability of advanced mathematics through distance education, and some schools do indeed teach more than one of the courses simultaneously, it is clear that mathematics creates a demand for many small class groups that would not otherwise occur.

The Panel notes that the number of streams in the new APEF mathematics curriculum beyond Level I (Grade 10) has been reduced to two. By taking a modular approach, the academic and advanced streams can be taught to the same group, being differentiated mainly by depth of treatment. In addition, the new courses are non-sequential and can thus be taken in any order. In a small school it will now be possible to stagger the mathematics offerings, thus substantially enhancing a school's capacity to offer an essential program.

To develop an essential program model, it is necessary to identify a specific set of courses. As a starting point, the Panel examined all courses that had enrolments greater than 1000 for the past several years. While the selection of the cutoff point was arbitrary, the principle is that courses with historically low enrolment are not a part of the essential program. Using the criterion of enrolment greater than 1000, all subject areas except music are represented in the grouping. Low enrolments in music likely reflect a combination of low demand as well as restricted availability. One of the Panel's principles is that at least one course should be available in all subject areas. The highest enrolment music course, Applied Music 2206, was therefore added to the list.

The list, presented in Table 5.2.1, includes 68 separate courses with just over 100 credits. It represents all subject areas and is intended to delineate courses that lead to graduation and parallel the Essential Graduation Learnings. Given that graduation requirements would be met, any one course could be replaced with another within the same subject cluster because enrolments would then essentially be directed to the new course. It is important to note that the essential program model does not prevent schools from offering a broader program by replacing multiple sections of one course with fewer sections of a variety of courses using similar sized class groups, a practice that is already occurring in larger schools.

In small schools it is not necessary to offer this complete suite of courses every year. Indeed, the principle of at least one course in each subject area over three years implies that some selection can

be made among these courses as long as graduation and post-secondary admission requirements are met.

The allocation of teachers at the high school level, coupled with an appropriate distance learning program, would allow an essential program of studies to be accessible to all students over a three-year period. The non-graded nature of many courses affords the ability to stagger course offerings from year to year. High school programs must therefore be thought of in a three-year sequence, during which the essential program must be made available.

Table 5.2.1 Senior High School Courses with More than 1000 Students

Art	Mathematics	Religious Education
1201	1201	1104
2200	1206	3104
	1300	
Enterprise Education	2200	Science
1100	2201	1200
1202	2202	2201
3205	3104	2202
	3105	2204
Language	3200	2206
1101	3201	3201
1102	3202	3202
2101		3204
2102	Technology	3205
3101	1100	3209
3102	1101	
	1107	Social Studies
Literature	1109	1201
1200	2100	1202
2200	2101	1209
2201	2104	2103
2204	2109	2104
3201	3104	3201
3202		3202
	Music	3205
Family Studies	2206[1]	
1100		Guidance
2200	Physical Education	1101
3100	1100	
	2100	Cooperative Education
French	3100	1100
2200		
3200		

[1] Less than 1000 but included for completeness

Tables 5.2.2 and 5.2.3 present an essential program using currently available courses (Table 5.2.2) and proposed new courses (Table 5.2.3) with a three-year sequence considered by the Panel to be required for a viable high school program. For this model, sufficient resources are required to offer a package of about 25 courses having a total of approximately 42 credits annually. Department of Education databases suggest that this number of credits can now be offered in schools having as few as 20 students in the high school grades, using a combination of school and distance education courses along with some multi-course teaching.

The challenge is how to deliver an essential program in the smallest schools. The most viable alternative available is more extensive use of distance learning. A review of distance education in other jurisdictions and of the use of computer-based technologies, in particular, has convinced the Panel that models of distance education do exist and can be cost-effective under appropriate circumstances. It is proposed that a new group of distance education courses be developed, with the goal of increasing program breadth and ensuring an essential program for all students.

Table 5.2.2: Essential Program[1]: Presently Developed Courses

Year 1	Year 2	Year 3
Art 2 credits (once over three-year period)		
Enterprise 2 credits (over three-year period)		
Language 1101 2101 3101	Language 1101 2101 3101	Language 1101 2101 3101
Literature 4 credits per year (level 3 course must be offered in at least 2 of the 3 years)		
Family Studies 2 credits (over three-year period)		
French 2200	French 3200	French 2200
Math[2] 1204/1206 2200/2201/2206 3200/3201/3105/3202	Math[2] 1204/1206 2200/2201/2206 3200/3201/3105/3202	Math[2] 1204/1206 2200/2201/2206 3200/3201/3105/3202
Technology 4 credits (over three-year period)		
Music 2 credits (over three-year period)		
Physical Education 2 credits (over three-year period)		
Religious Education 1 credit per year		
Science 6 credits per year		
Social Studies 2 credits per year		
Guidance/Cooperative Education 1 career education credit (over three-year period)		

[1] Assumes distance education options will be available to schools requiring such access

[2] Subject to change based on the implementation of the new program

Table 5.2.3: Essential Program[1]: After Implementation of Newly Developed Courses

Year 1	Year 2	Year 3
Art 2 credits (once over three-year period)		
Enterprise 2 credits (over three-year period)		
English 1201/1202 2201/2202 3201/3202	English 1201/1202 2201/2202 3201/3202	English 1201/1202 2201/2202 3201/3202
Optional Language Reading 1200[2] + 2 other credits	Optional Language Reading 1200[2] + 2 other credits	Optional Language Reading 1200[2] + 2 other credits
Family Studies 2 credits (once over three-year period)		
French 2200	French 3200	French 2200
Technology 4 credits (over three-year period)		
Math[3] 1206/1204 2206/2204/2205 3207	Math[3] 1206/1204 3206/3204/3205/3207	Math[3] 1206/1204 2206/2204/2205 3207
Music 2 credits (once over three-year period)		
Physical Education 2 credits (over three-year period)		
Religious Education 1 credit per year		
Science 6 credits per year including 1206 if required		
Social Studies[4] 2 credits per year		
Guidance/Cooperative Education 1 career education credit (over three-year period)		

[1] Assumes distance education options will be available to schools requiring such access

[2] Simultaneously offered with other optional language

[3] The new mathematics program offers the potential for multi-course delivery

[4] These credits should be offered in a manner that allows students to attain two credits in Canadian studies and two credits in world studies

5.2.4 Components of a Proposed Allocation Model

The starting point for the proposed model is the concept of a basic teacher allocation determined by grade or level-specific ratios and school size. This concept is different from the current system in that the school, rather than the district, is the basic reference point. The number of teachers that would be allocated is determined by enrolment levels within grades or grade levels with a sliding scale by grade level and by extent of multi-level grouping. The basic allocation is supplemented by a teaching, guidance, learning resource, special education and administrative support allocation which is enrolment-based at the school level. The allocation model also recognizes the unique challenges of rural schools and provides an adjustment to the basic allocation for schools classified as rural.

Two points relating to the model must be clearly made. First, allocations are determined at the school level for the purpose of building a block of teachers. The allocation is then provided to the school district which has within its mandate the task of allocating staff to schools. Second, the grade or level-specific ratios are used as determinants of teacher numbers only and should not be equated with class size. Schools and school districts must be afforded the flexibility to utilize teachers efficiently and in accordance with the needs of the schools, taking into account a range of requirements including different approaches to program delivery, local needs, school organization and teacher preparation and supervision.

For the purpose of teacher allocations, the Panel identified three different categories of schools based on average grade enrolment –"small", "mid-sized" and "large".

The Panel therefore recommends:

Recommendation 56
that the following guidelines be used for determining the framework for the allocation of teachers to school districts:

A. District Offices:

Reading and Early Literacy Program Specialists	*1 per district*
Other Program Specialists	*5 per district*
Assistant Directors	*2 per district*
Directors	*1 per district*

B. Small Schools (Schools with an average grade enrolment of less than 30):

Grade Level	*Ratio of Students to Teachers*
K	*16:1*
1-6	*20:1*
7-12	*21:1*

C. Multi-level instructional groups:

Grade Combinations	*Ratio of Students to Teachers*
K with any one other	*15:1*
K with any two others	*12:1*
K with any 3 others (e.g. K-3)	*10:1*
Any two primary	*17:1*
Three or more primary	*14:1*
Any two primary/elementary (e.g. 3-4)	*18:1*
Three or more primary/elementary	*15:1*
Any two elementary/intermediate	*18:1*
Three or more elementary/intermediate	*15:1*

Teachers will be allocated for high school based on the framework for small, mid-sized and large schools with a minimum number of teachers assigned as follows:

- *In small schools 1.5 teacher units will be allocated to each school with 21 or fewer high school students.*

- *Schools with 22 to 31 and 32 to 42 high school students (inclusive) will be allocated 1.75 and 2 teacher units, respectively.*

- *High schools with enrolments greater than 42 will be allocated teachers based on a divisor of 21 for small schools, 24 for medium schools and 27 for large schools.*

For schools with total enrolment less than 10 – 1 teacher; for schools with total enrolment greater than or equal to 10 but less than 15 – 2 teachers. When high school enrolment drops below 5, options for student bursaries to study in a larger school should be considered.

D. Mid-Sized Schools (Schools with an average grade enrolment greater than or equal to 30 but less than 100):

Grade Level	*Ratio of Students to Teachers*
K	*20:1*
1-6	*22:1*
7-12	*24:1*

E. Large Schools (Schools with an average grade enrolment of 100 and above):

Grade Level	*Ratio of Students to Teachers*
K	*20:1*
1-3	*24:1*
4-6	*26:1*
7-12	*27:1*

F. Administration:

School Enrolment	*Allocation*
1-74	*0.25 unit(s)*
75-149	*0.50*
150-249	*0.75*
250-399	*1.0*
400-549	*1.25*
550-699	*1.5*
700-849	*1.75*
850 +	*2.0*

G. Rural Adjustment:

For rural[1] schools the teacher multiplier for grade/level-specific ratios shall be set at 1.05.

H. Additional Allocations:

Non-categorical Special Education	*7 per 1000 students*
Categorical Special Education	*Documented cases*
Learning Resource Teachers	*1 per 1000 students*
Guidance Counsellors	*1 per 500 students*
Teachers to support program areas (eg. music, art, French)	*1 per 250 students (allocated on the basis of enrolment in Grades 7-12)*
Francophone schools	*At level for small schools*
Aboriginal schools	*Present allocation (with enhanced guidance and administrator allocation from new model)*

The number of students above the grade level criterion is pooled in a "bank" with fractional teaching units assigned proportional to the overall ratio for that grade level, with the multiplier set at one for both urban and rural schools. Recognizing also that it is not reasonable for all schools to employ teachers for small fractions of time, these basic allocations can be combined with special education, administration or other supplementary units to create full-time or large fractional positions.

[1] Schools in communities with census agglomerations less than 5000 as defined in the Department of Education's *Education Statistics 1998-99.*

Recommendation 57
that teacher allocations for the 2000-2001 school year for each school district be as presented in Table 5.2.4.

Table 5.2.4: District Allocations Comparing the Former Model with the Recommended Panel Model, School Year 1999-2000 and 2000-01.

School District	1999-2000 Allocation	2000-01 Enrolment Base	Former Model 2000-01 Allocation	2000-01 Panel Model Allocation	Change from 1999-00
District 1 - Labrador	390	5,391	377	389	-1
District 2 - Northern Peninsula/Southern Labrador	288	3,565	267	294	6
District 3 - Deer Lake/Corner Brook/St. Barbe	542	8,314	505	526	-16
District 4 - Cormack Trail	420	6,183	375	410	-10
District 5 - Baie Verte/Central/Connaigre	628	9,064	571	617	-11
District 6 - Lewisporte/Gander	586	8,897	534	579	-7
District 7 - Burin Peninsula	324	4,675	285	315	-9
District 8 - Vista	326	4,714	310	325	-1
District 9 - Avalon West	693	10,966	624	687	-6
District 10 - Avalon East	1,824	31,930	1,763	1,811	-13
District 11 - Conseil Scolaire Francophone Provincial	28	258	26	28	0
Grand Total	**6,049**	**93,957**	**5,637**	**5,981**	**-68**

NOTES:

1. This table shows school district teacher allocations generated by the former model for 1999-20000 and 2000-01 and by the new Ministerial Panel model for 2000-01.
2. District staff allocation is 90 which includes the establishment of 10 new reading specialist positions.
3. The model counts fourth year enrolments as a full enrolment.
4. This table does not include Categorical Special Education teachers.

6.0 Distance Education

6.1 Background

Distance education has been widely advocated as a means of equalizing educational opportunity, providing wide access to programs and learning resources and responding to varying learning styles and life styles. The terms of reference for this Panel explicitly called for an examination of alternate delivery strategies. Furthermore, it is clear that there is a need to refine and redevelop the province's distance education program to enable the essential program as defined by this Panel to be available in all schools.

Distance education and various other near-synonymous terms, such as open learning, tele-learning, distributed learning and virtual schooling, may be defined as any form of teaching and learning in which instructor and students are separated in time or location. In effect, any form of instruction other than that conducted in conventional classroom settings may be considered a form of distance education. It is important to recognize that distance education is not a new idea and the current resurgence of interest in the medium is only the latest in a long series of efforts to make education more accessible and to rethink the notion that formal education must be conducted on-site in a classroom-based environment.

In elementary and secondary education, distance education had its origins in the need to provide basic educational services to children in remote areas. The emphasis was on the concept of access and the service grew out of the desire to provide universal basic education to children in their home communities. More recently, especially at the post-secondary level, this has evolved to a broader notion of convenience, or the idea of ensuring that persons should be able to participate in educational programs at convenient times and locations. At the secondary level this idea has resulted in the provision of courses that, while not strictly necessary, have been judged desirable for program breadth, post-secondary preparation and other purposes.

6.2 Evolution of Distance Education Technology

The simplest and longest standing mode of distance education is the correspondence course. Typically, such a course consists of a package of print material which is sent to students by mail. Course content is studied from this package and assignments, exams and other work mailed between instructor and students. Correspondence courses have long been used in many jurisdictions to provide programs to students in rural or remote areas, or for purposes of adult upgrading. In this province, while correspondence remains the most common approach to distance delivery at the university level, it has never been a feature of the K-12 system.

Correspondence courses may be contrasted to various forms of distance education which rely on the "new" electronic technologies. Whether the medium is telephone (including audio-teleconferencing), film (slides, filmstrips, motion pictures), radio or television (either live or recorded) or the most recent computer-based technologies, the principle relates to the use of media other than printed text as the basis for teaching and learning. Some formats, such as audio-teleconferencing, attempt to emulate conventional live classroom instruction using real-time (synchronous) communication. For other formats, such as televison or videotape, there is the ability to use graphics material to enhance learning. In many situations, the emphasis is on freeing the course from the constraints of scheduling.

Over the years, attempts have been made to combine various media. For example, correspondence courses have been supplemented by teleconference or videotaped sessions. This idea has been extended, in principle, by the emergence of computer-based technology with its multimedia capabilities. There are still many constraints on the design and development of multimedia course material because of limitations of present technologies. For example, full two-way interactive video courses are not presently feasible because of the inability of the telephone system to carry the required signals. Furthermore, the more elaborate the technology, the more complex the access problems become.

In summary, a variety of technologies exist, each with various strengths and limitations, each evolving to successfully combine all of the desired features needed to optimize access, cost and quality of learning.

6.3 Distance Education in This Province

Although distance education has a long history at Memorial University, it has only recently played a formal role at the elementary/secondary level. Unlike some other jurisdictions with large numbers of students in rural and isolated areas, this province did not develop a system of correspondence courses or programs using broadcast media. Early radio programs, referred to as the Canada and Newfoundland school broadcasts, did exist as far back as the 1950s. However, these were considered as supplementary to classroom instruction and not as the primary vehicle for course delivery.

Distance education was first used as a course delivery mechanism in 1988 with the introduction of a course in advanced mathematics using the audio-teleconference format and network that had been developed by Memorial University. The primary reason for this innovation was to provide access for students in small schools to high school courses that were considered important for graduation and for post-secondary admission but that were difficult to offer in such schools.

The system expanded from one course with 36 enrolments in 1988 to 11 courses in 70 schools with approximately 1000 course enrolments in 1999. While providing an important level of access, the enrolments still represent well under one percent of all high school course enrolments in approximately one-third of all high schools. The courses offered are mainly core and advanced courses in mathematics, sciences and French, which would generally not be available in small schools.

Although teleconference remains the main format, the system has expanded to include a limited number of Web-based courses offered by one school district. Department of Education policy has limited these courses to schools below a certain size. In recent years school boards have assumed responsibility for teacher assignments to these courses and have begun to open the courses to students in other schools.

The second somewhat parallel development which deserves mention is STEM~Net. This computer communications network was developed in the early 1990s as a service to teachers in the province. Support from the Human Resources Development (HRD) Agreement in place at the time permitted the development of a province-wide service which linked teachers in virtually all schools to a local network and to the Internet. Complementing the provincial effort, the HRD Agreement and other external funding sources have also allowed schools to upgrade their computing and communications facilities to the point where this province is widely seen as having one of the most advanced approaches in the country to the use of computer technology in schools. STEM~Net provides some support for individual schools in setting up their communications systems, for example, for the installation of satellite downlinks to provide high speed communications. Unlike the telemedicine network, however, STEM~Net does not assume responsibility for school-based installations.

Although communications costs remain high, STEM~Net provides comprehensive access to schools and possesses the features needed to deliver courses in digital formats using Internet communications. The core operation of STEM~Net is now supported solely by the Department of Education and has the potential to provide the communications and technical capability for any new direction in distance education in Newfoundland and Labrador.

6.4 Distance Education in Other Provinces

As part of its examination of distance education, the Panel conducted a literature review, searched Internet sites and interviewed individuals responsible for distance education in other parts of Canada. The British Columbia Open School was examined fairly closely because it was judged to have one of the most comprehensive approaches to distance education in Canada. These activities have led to the following general conclusions:

1. Several jurisdictions in Canada have much more highly developed distance education programs than exist in this province. In most cases these have emerged from long experience with correspondence courses, with several departments of education having well established correspondence schools or branches that are being transformed to learning technology entities.

2. Most programming is still based on conventional print-based correspondence courses. In many cases new technologies are being used to enhance such programming. An obvious example is the use of e-mail to facilitate teacher/student correspondence.

3. Programming using new media, particularly the Internet and other computer-based technologies, is being developed fairly rapidly but appears not yet to be a prominent part of the offerings in many jurisdictions.

4. The audio-teleconference approach being used in this province is not in wide use elsewhere, and its use is diminishing in favour of Internet and other computer-based models. Other jurisdictions rely less on synchronous delivery than is the case in this province.

5. Distance education in other jurisdictions is used for a variety of reasons other than to provide programs to students in small schools. Some examples are: home schooling, adult basic education, travel difficulties and students in hospital or otherwise not in regular schools.

In several jurisdictions, comprehensive distance education organizations, encompassing both K-12 and post-secondary education as well as research and development, have evolved. An example is British Columbia's Open Learning Agency. This agency operates what is known as an Open School, dedicated to providing distance education services to schools and teachers both within and outside the province. Among the programs offered is a list of high school courses in Web-based format that are available to school districts and students on a fee-for-service basis. These courses are designed to serve both a school-age and an adult population, with no restriction as to who can use the courses. The Open School is primarily responsible for developing courses, particularly in electronic format. However, delivery of both these and traditional correspondence courses is the responsibility of nine regional distance education schools.

The Learning Technologies Branch of the Alberta Department of Education is the agency responsible for K-12 distance education in that province. A large number of courses have been made available in a variety of formats ranging from conventional print correspondence to multimedia. Unlike most other jurisdictions which confine their courses to the senior high school level, Alberta's distance education program extends to Grade 7.

The Distance Delivery Unit of the Manitoba Department of Education offers two types of programs at the high school level referred to as the independent study and the teacher-mediated programs. The independent study program is aimed at students both in and out of school. Those attending school may take independent study courses if they have timetable conflicts, if the courses are not available in their school or if they need additional credits. Independent study is also designed for those not in school due to illness, remote location or lack of bus transportation to school. The teacher-mediated program supports the delivery of distance education courses in partnership with school districts. Teleconference and other technologies are used to provide access to teachers. Specific reference is made in this program to its availability to students in rural and northern schools that are unable to offer the courses due to low enrolment.

The main distance education network in Ontario is known as Contact North. This network operates as an independent non-profit organization with both public and private partners. The network is specifically dedicated to making courses and programs available to students in Northern Ontario and

includes both K-12 and post-secondary levels. A wider range of secondary courses are available using audio-teleconferencing, audio-graphic, video and Internet technologies.

Distance Education in the Atlantic region uses audio-graphics technology and, to some degree, an on-line format through Web-sites and e-mail communications. Audio-graphics courses are targeted primarily at students in small rural schools. Generally the Department of Education is responsible for course development with teachers in local schools actually delivering the courses.

Although in some jurisdictions distance education functions on a fairly large scale with a wide variety of courses, this remains a supplementary approach which has not replaced traditional classroom-based instruction. The emphasis is clearly on access, with students in small schools and adults being the primary target groups. There is little evidence of distance education courses being offered as part of regular programs in schools large enough to maintain classroom-based instruction. Nevertheless, there is a clear distinction between those jurisdictions offering programs only for small schools and those that assume a mandate to make programming available to anyone who wishes to avail of the service.

6.5 What the Panel Heard

Prevailing opinion in the field seems to be that distance education should continue but should be treated as supplementary to mainstream programming. There is a strong view that this approach is most suitable for advanced students who are capable of independent learning and that a substantial synchronous component is required.[1] The Panel heard the view that this area was still experimental and there is much uncertainty about which technologies will ultimately be sustainable.

There were, however, many distance education innovators who promoted various forms of technology as options for program delivery. The Panel heard a great deal from these sources about the relative merits of teleconference and Web-based formats and about communications requirements, courseware, hardware and software within each of the main programming formats.
There is strong agreement among high schools taking advantage of the current distance education courses that a program should continue. The current audio-teleconference approach to distance education has served students well for a decade. Many students have had access to important high school courses that would not have been available to the same students by any other means. The model has demonstrated that distance learning is feasible and that many students are capable of functioning with the degree of independence required by this system. The direct teacher-student contact offered by the teleconference system is appreciated by many and can be seen as providing a reasonable compromise between classroom instruction and correspondence learning. However, there

[1] Synchronous delivery refers to simultaneous direct contact between teacher and students. Such a course operates on a schedule in which all participants are expected to be available during a scheduled time. Teleconferencing is an example of a synchronous approach. In contrast, traditional correspondence, as well as most courses offered through the Internet, are referred to as asynchronous in that they are not dependent on any particular schedule. A given course may operate in both modes.

was little enthusiasm among students and teachers for substantial expansion of the present approach to distance education. Still, students appreciated the opportunity to complete their high school programs in their own settings through these alternate delivery means.

6.6 Limitations of the Current Distance Education Model

The Panel notes a number of limitations with the present model. The most serious is that it is dependent on centralized scheduling which imposes severe limitations on school schedules and effectively prevents larger scale use. The main advantage of the system, that of permitting real time communications, is also problematic in that it is built around high cost audio telephone communications.

The current system is now approaching a scheduling saturation point. Because of the requirement for synchronous delivery, the Panel notes the extreme difficulty in scaling up the system to handle the distribution of many simultaneous programs. Advances in technology now make it possible to take a different approach, based on the Internet, and many jurisdictions and institutions now seem to be abandoning teleconferencing in favour of Internet communications.

Finally, the Panel was struck by the relative isolation of distance education from the mainstream of school operation. The telemedicine communications system is separate from the computer network. Fax communications typically must be done through the school office. Students doing distance education are physically separated from others, with little direct supervision and no direct role for teachers. Other than during on-line time and the use of fax, there is no mechanism for communication with the distance education instructor. A high degree of dedication is required on the part of students taking the courses, distance education teachers and school staff to make the program successful. These factors may account for some of the lack of enthusiasm for expanding distance offerings and for the concern of many that this approach is appropriate only for a select group of students.

6.7 Technology in Learning: Some General Comments

Without downplaying the major improvements in the availability of computers, networks, Internet connections and the like, and the growth of expertise in technology in the schools, the Panel remains concerned that the school system is not technologically advanced in the sense of technology having created a major shift in the way that schools function. Despite broad support for developing technological literacy and for using computers as supplementary tools for teaching, there is little sign of the fundamental shifts that have occurred in other sectors, where technology has both dramatically improved efficiency and allowed previously impossible tasks to be performed with ease. In reality, the computer and communications revolution has as yet had only minimal impact on most schools and has not yet led to any fundamental rethinking of how schools function or indeed of the very concept of what constitutes a school.

The model proposed in this report is a departure from conventional conceptions of schooling and is aimed at moving technology into the mainstream of schooling. The Panel is convinced that technology must be embraced in schools for a variety of reasons. Technology can be viewed as a liberating force capable of placing more resources at the hands of students than could ever be accomplished by conventional means.

One of the most important and lasting outcomes of schooling is learning how to learn. Students need to capitalize on the vast resources available via the Internet. Learning to use such resources can be seen as the essence of learning how to learn. No longer need students be wholly dependent upon the teacher as the main source of information or upon the limited array of information available through the textbook or the school resource centre. At the same time, students need to learn to make decisions on what information to retrieve, how to interpret this information, how to distinguish knowledge from propaganda, how to recognize potentially harmful material and how to organize raw information into coherent form for further use.

Some have argued that many students are incapable of exhibiting the degree of independence required for technology-based learning. The reality is that students are best served by opportunities which promote independence in learning. Our goal must be to break the cycle of dependence rather than to continue to design programs based on the assumption that most students will learn only when under strong teacher control. The distance education system proposed here offers a first step in learning to do things differently.

Beyond this, it is clear that the future belongs to those who are comfortable and competent with the new technologies. Those without proper technological skills or the ability to access information through technology will be at a great disadvantage. Our traditional notions of literacy must be expanded to accommodate the need for competence in common computer applications and communications systems. The Panel would go as far as to say that there is great risk of creating a new cycle of illiteracy if students are allowed to graduate without these essential capabilities.

This raises the question of the potential gap between children who have access to the tools of information technology at home and those who do not. Such tools remain out of the reach of those who cannot afford the hardware, software and network connections. The Panel notes an obligation for the education system to bridge that gap if we are to avoid ever widening disparities in possession of essential skills based on whether or not families can afford the necessary tools. This province has made good progress in equipping our schools with computers; however, the effort required to sustain technology in schools is substantial.

A further concern raised about the expansion of distance education is the state of teacher preparation for a new era of technologically-driven learning. Although the Panel has been impressed by how much has been learned about information technology by many teachers without much in the way of formal professional development, there is a concern that this area remains the domain of a relatively small number of teachers who have developed expertise in this area. Unless all teachers are comfortable with new technology, its use in learning is likely to be restricted.

All of this has profound implications for teacher professional development. Although STEM~Net has increased teacher access to and use of information technology, the Panel believes STEM~Net has the potential to be a significant professional development tool. At the same time, traditional approaches to professional development continue to present major problems of time, cost and logistics. The Panel heard that professional development activity has declined in recent years, just as the need has increased. Information technology can become an essential tool for teacher professional development and, in the process, can bring this mode of learning into the mainstream. The proposed distance education model therefore incorporates a teacher professional development component.

6.8 A Distance Education Model and Its Implementation

6.8.1 Basic Model

The Panel is sufficiently encouraged by developments elsewhere and by the scope of the technologies available to recommend a significant expansion of distance education offerings. The province must remain a leader in the development and use of distance education as technology shifts towards a computer and Internet-based approach. Internet-based distance learning offers the opportunity to move away from the scheduling constraints of synchronous programming and to help students become accustomed to new ways of learning and to the technologies that are becoming all-pervasive in daily life. The approach promotes independence and enhances technological transfer and capacity.

Notwithstanding these advantages, the concerns expressed to the Panel during consultations are too significant to ignore in designing a distance education system. For example, the question of direct interaction of teachers and students must be addressed. Similarly, the question in the minds of teachers about the suitability of distance education for students who are not independent learners must be addressed if schools are to embrace broader access to distance education courses.

The essential proposal of this Panel is for a “Centre for Distance Learning and Innovation” consisting of a centrally administered development unit and a group of specialist teachers in the subjects to be offered under the distance program. Although the Panel is not prescribing the specific approach to distance education that should be adopted by the province, a workable delivery system must be developed that is free from serious hardware, software and communications problems. The system should not be fully dependent on real-time graphics or video because the technology to deliver such material is not broadly available, especially in the schools most in need of program enhancement. A reasonable model incorporates elements of the British Columbia Open School model, along with the “teacher mediated” approach used in some distance courses in Manitoba. Most communications would be computer-based using services available through the Internet. An important mediating role for school-based teachers is also identified. This role would involve facilitating student learning but not direct responsibility for course preparation or instruction.

The Panel therefore recommends:

Recommendation 58
that the province embark on a program to substantially increase the scope of distance education offerings in the schools through the establishment of a "Centre for Distance Learning and Innovation".

Recommendation 59
that the Centre for Distance Learning and Innovation consist of a number of teachers, who may be termed Electronic Teachers or E-teachers, with primary responsibility for course delivery and evaluation and that, at the school level, teachers be assigned from the regular school allocation as mediating teachers to ensure appropriate interaction between students and E-teachers.

Recommendation 60
that an approach be taken to content packaging and delivery that is not totally dependent on high bandwidth technologies.

Recommendation 61
that most communications be through an Internet-based system incorporating e-mail, conference forums, Internet fax and similar devices, with minimal reliance on synchronous communications, fixed schedules or other constraining elements.

The remainder of this chapter is concerned with outlining this model in sufficient detail to form a basis for a start on the necessary developmental work and on implementation of a basic suite of courses by September 2001. The purpose here is not to be fully prescriptive about the details of such a model. Indeed, it is impossible to be highly prescriptive in light of rapidly changing technology. The point in detailing a particular approach is to establish that a workable model does exist and to give a basis for estimating its cost. It is also recognized that some transitional details will have to be worked out, particularly as the model involves the transformation of existing distance education courses to a new format.

6.8.2 A Phased Approach

It is proposed that the system be developed in three phases, of increasing scope, as follows:

1. In the first phase, the Centre for Distance Learning and Innovation would be established, with emphasis on ensuring all high schools, no matter how small, can offer the essential program outlined in this report. Planning would also begin for the integration of distance education services.

2. The second phase would involve the development of supplementary resources for teachers at the primary and elementary levels in program areas such as art, French and music and an in-service program for teachers that would include activities related to implementing new programs.

3. The third phase would overlap with the other phases and would involve the integration of all distance education activity in the province, incorporating long-term program development and delivery, research and development, technology transfer and other activities, with a view to eliminating duplication of infrastructure, expertise and services and ensuring that students in all schools will be able to access distance education opportunities.

6.8.3 Virtual Learning

Virtual learning involves a group of teachers and learners who are free from the constraints of space and time but bound together by common program structures and are in contact through new communications technologies. In most cases, virtual learning centres reside on the Internet and most of the teaching and learning is done through this medium. Some form of administrative structure is required to develop programs, maintain the communications system, employ teachers, register and track students and keep the appropriate records. There are no major restrictions on the location of teachers and students, course scheduling or the start and end dates of programs.

The Panel envisions a Centre for Distance Learning and Innovation consisting initially of all students in schools using distance education and all teachers responsible for the distance education courses, along with the development and administrative unit and the requisite communications technology infrastructure. The significant departure from the current teleconference system is that most communication would occur through the Internet, with the main communications tool being a conference forum. Other Internet-based communications modes, including fax and voice could also be used as required by the design of courses.

A conference forum is essentially a sophisticated Web-based e-mail system that permits an organized flow of information between instructor and students and among students. A forum can be organized by discussion topics and anyone can contribute to a topic at any time. The forum is available to anyone at any time, but there is no expectation of real-time conversations. The E-teacher's role would be to monitor the forum, responding to queries as needed, and to use the forum to create a dynamic element to the course, which permits elaboration or modification of content, posting instructions, giving feedback on assigned work and other activities typical of teacher-student interaction.

6.8.4 E-Teachers (Electronic Teachers)

The E-teacher's role is that of a long distance teacher and course manager. The E-teacher would have primary responsibility for course delivery and would be in regular communication with students and their school-based teachers. The E-teacher would be available on a regular basis and, in addition to communications, the E-teacher would be responsible for marking assignments and exams and for keeping the course up to date. E-teachers would be assigned to courses on a full-time basis, in

sufficient numbers to allow for adequate course monitoring and rapid response to queries. These teachers would be free from the supervisory functions of classroom teachers and, for the most part, would confine their work to one or two courses in which most of the content and learning resources would have been planned in advance.

In British Columbia's model of distance learning, the role of teachers is primarily marking so there is no comparable measure of the number of course registrations for which an E-teacher would be responsible. However, elementary distance education teachers are employed full time and are assigned approximately 45 full-time equivalent students. Since the E-teacher is free from most of the day to day constraints of preparation, supervision and class schedules, it is reasonable that such a teacher could be responsible for more than the number of students in an on-site class.

The determination of exact student registration "load" assigned an E-teacher would be an early organizational task of the Centre for Distance Learning and Innovation. It is clear, however, that instructional economies can be achieved. For small schools this approach creates a manageable system in terms of teacher requirements while allowing all schools to offer the essential high school program.

Because of the schedule-free nature of the distance courses, E-teachers would have a much more flexible work schedule than regular teachers. It would be reasonable to expect E-teachers to maintain communications outside of regular class hours. Responding to e-mail, conference forums or even telephone communications could occur at any time. While it is not possible at this point to estimate the demand on the E-teachers, the Panel notes that such teachers would function best if not subjected to the constraints of normal school hours. E-teachers would be expected to take a proactive role in establishing and maintaining communications with students and school-based teachers. Additionally, it is expected that E-teachers would assume some responsibility for keeping courses up to date and for professional development activities for other teachers.

On a final point, it is important to note that, in principle, E-teachers can be located anywhere and there are arguments for and against locating these teachers centrally. A group of E-teachers operating out of one location could be deployed more efficiently, could avail of centralized computer facilities, technical staff, communications systems and could have their activities more effectively monitored. On the other hand, decentralization would obviate the need for teachers to relocate and reduce the demand for a central facility to house these teachers. It might be reasonable for these teachers to be located at school district offices for convenience of access to communications facilities, support staff and other services. However, location at a local school would also be plausible. Bearing these points in mind, a decision on location would have to be part of the detailed planning for the Centre for Distance Learning and Innovation. The Panel cautions, however, that E-teaching should not, in general, be combined with regular classroom teaching, because this would reduce flexibility.

6.8.5 Classroom Teachers: A Mediating Role

The current distance education program envisages no direct role for regular school-based teachers. Distance education courses are separated from others and students are expected to operate relatively independently of the teachers in the school. It is mainly for this reason that numbers have to be limited and students are selected who are most likely to be able to function independently. While the school principal has a role in scheduling and other teachers do assist with supervision, technical problems and content, this is not an inherent feature of the system.

The Panel wishes to remove the restrictions of the current system by eliminating or substantially reducing the synchronous component. It is proposed that teachers within the schools be given direct responsibility for facilitating distance education courses, including liaison with the E-teacher and attending to matters of attendance, discipline, homework, assignments and other normal aspects of classroom life. While there would be nothing to preclude these teachers from assisting students with matters of content, this would not be the primary role because teachers would not be expected to prepare for each course under their supervision. This is an important point because one of the main concerns of teachers in small schools is the large number of different courses for which they must prepare.

Freed from much of the preparation burden, it would be reasonable to expect classroom teachers to facilitate groups larger than the regular high school class, with these groups having several courses in progress simultaneously. It should be recognized, however, that groups would be smaller in some cases because of low total enrolments in the distance courses. The underlying principle is that multiple courses would be in progress in a single class. Since the schedule for distance education courses would be entirely in the hands of the school, mediating teachers would be assigned to distance education classes as part of their normal teaching assignments.

Educators have long advocated a shift in teacher role from “purveyor of knowledge” to “facilitator.” This is becoming increasingly accepted as more and more knowledge can be conveyed through electronic media, and students now have at their fingertips far more knowledge than was ever conveyed by teachers and traditional print resources. Facilitating student access to knowledge, encouraging student independence in learning, encouraging students to excel, guiding students to make good decisions and other similar activities need to become more important teacher roles than merely conveying the teacher’s own knowledge. The Panel believes that, properly organized, the model envisaged here can be effective in achieving high levels of student learning along with greater independence in learning.

6.8.6 Course Formats

While the Panel does not wish to prescribe precise course formats, especially in view of rapidly changing technology, it is necessary to outline at least one format that can meet the requirements set out in the proposed model. The focus here is on the initial group of high school courses designed to ensure that all students have access to the essential program as defined. At a minimum, this would entail a continuation of existing courses under the new format and development of courses in music,

fine arts, technology education, sciences, language arts and social studies designed to broaden the scope of choice in these areas. In addition, most of the existing courses would require redevelopment in a new format.

The Panel considers it essential to have a course format that is free from centralized scheduling and that is not dependent on high-bandwidth communications technologies. At the same time, some means of communication between teachers and students is required. Additionally, it would be desirable to have a system that permits the use of audio, video and graphics material, though not necessarily the transmission of such material in real time.

Since the World Wide Web and its associated graphical format has become a familiar tool for information storage and retrieval, it is proposed that all future courses be developed using a Web component. A continuum can be envisaged here from courses that are carried entirely on the Web to those for which the Web is used to enhance more traditional formats. Web-based courses are now commonplace in many jurisdictions and are becoming increasingly widely available to the larger world. Thus, the use of this format might obviate the need to develop new courses. Instead, it should be possible to adopt or adapt material that has already been produced.

Although Web courses are designed to be schedule-free (students can access the Web at any time and the material is always available), they are not free of the need for Internet connections. In addition, graphical and video material is slow to download using standard telephone connections. For this reason, the Centre for Distance Learning and Innovation may consider placing the main body of course material on CD-ROM as well as on the Web. This medium can convey a large amount of material in a compact format which is familiar, convenient, permanent and inexpensive. CD-ROMs can run on most computers on a stand-alone basis and CD-ROM content can be installed on local network servers for use within a school and are easily updated. This makes this medium less expensive and easier to manage than conventional print material. Even if used only for backup purposes, the availability of CD-ROM would essentially eliminate time lost due to telecommunications and other technical problems.

The obvious disadvantage of CD-ROM compared to print material is that it requires computer access. In fact, the system proposed here would require that each student have access to a computer. Most schools in the province, especially smaller ones, are now reasonably well equipped with computers and the process of enhancing computer facilities and equipment is ongoing in any case. Recent surveys indicate that schools with fewer than 78 high school students have an average of 26 computers with 486 or higher processors. This should be sufficient to establish the necessary facility for distance education in most cases. There is, however, considerable variation in computer availability, and there is little question that some schools would require enhancement of their computer capabilities.

It is useful to note that computer hardware has now stabilized to the point that obsolescence is much less of a problem than it was even a few years ago, thus reducing the need for a continual chase after more powerful equipment. Indeed, with the increased prevalence of local networks in schools, there

is less need for large numbers of high powered computers. It should also be pointed out that, while students should be free to access courses at home, it would not be reasonable to build the system around a requirement for students to have computers for home study.

Experience has indicated that it is possible to develop courses for Web-presentation in a few months using a teacher and an "instructional designer." The latter person would be required to have expertise in Web-site design and in the use of media in teaching. Once developed such courses are relatively easily updated, especially for direct use on the Web, because teachers can simply change part of the course at any time without need for major repackaging. CD-ROMs tend to be more static but, even here, annual updates are quite feasible.

6.8.7 Program Development

One of the main components of the Centre for Distance Learning and Innovation would be a course development unit. The purpose of establishing such a unit would be to assemble sufficient teaching and technical expertise, equipment and software to be able to carry out the developmental work competently and efficiently. This point leads us to consider the much broader role that might be played by distance education in the future and to examine the prospect of integrating all distance education development, including the substantial activity that currently exists at the post-secondary level, under a single unit.

The Panel is of the opinion that full integration is most appropriate in the long term. Distance education at the K-12 level should not be isolated from the post-secondary level for a variety of professional and technological reasons. First, much of the technological infrastructure and expertise needed to develop a comprehensive distance education system resides in the post-secondary system. Groups within the university have already been engaged in distance education development at the K-12 level. Second, duplication of effort and resources could be avoided if all of the required expertise and infrastructure could be housed within a single unit. Third, substantial resources are already devoted to distance education at the post-secondary level; there may be some opportunity for achieving economies by integrating operations to the extent possible. Finally, the post-secondary distance education system is closely linked with technology transfer and export initiatives of the province and with distance education networks throughout the world. It is therefore well placed to find appropriate products from outside sources and market its own products elsewhere.

Since it is not within the mandate of the Panel to address distance education at the post-secondary level, an interim measure is proposed that would allow initial developmental work to proceed without delay. This entails establishing a new interim unit within the Department of Education charged with managing the first and second phases of development. Once established, such an agency could serve a number of functions beyond the immediate requirement for high school distance education development. An obvious example is teacher professional development. The Panel heard many calls for renewing a commitment to professional development. The geographical distribution of the teaching force and the varied nature of professional development needs suggests that a distributed

approach to such activities might be more successful than past efforts. It is clearly not feasible to rely on workshops, summer programs and other conventional devices to cover the full scope of professional development.

The Panel envisions a significant role for STEM~Net in the new system. STEM~Net was established at least partly with teacher professional development in mind, but this has not become a core part of its operation. Instead, STEM~Net serves a more loosely defined function involving teacher communications, Internet access, support for schools in establishing Internet communications, research and development and similar activities. It would be logical to make STEM~Net the technical and communications branch of the Centre for Distance Learning and Innovation. STEM~Net is now core funded by the Department of Education and is exclusively mandated to serve the K-12 system. Its location within the university is not a matter of crucial importance, even while recognizing the contribution made by the university to its initial development and nurturing.

The Panel therefore recommends:

Recommendation 62
that the Department of Education develop the Centre for Distance Learning and Innovation, in cooperation with the other agencies currently involved in distance education, as an interim measure to ensure that Phases I and II of the proposed model be implemented without delay.

Recommendation 63
that the Centre for Distance Learning and Innovation be mandated to proceed with implementing Phase I of the model beginning in 2000 and Phase II beginning in 2001.

Recommendation 64
that planning begin immediately for the integration of all distance education infrastructure and developmental activities under a single open learning agency, of which the Centre for Distance Learning and Innovation would be one component.

6.8.8 Access to the Distance Education Program

The initial goal is to implement a program sufficient to ensure that the minimum high school program can be brought to all schools. The starting point would be schools with Grade 10-12 enrolment below the cutoff point for one class per grade. Once courses become available on the Web or on CD-ROM, it is fully expected that other schools will take advantage of the opportunity to participate.

Nevertheless, it is important to recognize that use by large schools could place immense pressures on the system. For example, this could substantially increase the demand for E-teachers unless some limits are set. In the short term, this problem could be solved by encouraging large schools or school districts to pool resources to create their own corps of E-teachers. This might help districts make better use of teachers in some areas of specialization. In the longer term, pooling some teaching units

provincially and placing these at the disposal of the Centre for Distance Learning and Innovation is another possibility.

Taking an even broader perspective, there is no need to confine access to individuals in the regular school system. Such courses are available to parents who choose to home-school their children, to adults who have not completed high school, to students in institutions or to recent students who are short a few credits or who need to upgrade their marks. In fact, the latter group encompasses those who are now labeled Level IV students. Students in this category might welcome having access to the courses they need without being subject to the constraints of returning to school for a year. The system could benefit by not having the students counted as part of school enrolments, thus saving some teaching units who could be more efficiently deployed as E-teachers.

6.8.9 Phase I Implementation

The Panel believes that development of the proposed suite of high school courses is of the highest priority and should constitute Phase I of the proposed model. Implementation of this phase is described in some detail in order to ensure that the system can be in place by September 2001. Any delay beyond this date will have an impact on the ability to deliver the proposed essential program.

A suite of approximately 30 high school credits is judged to give an adequate starting point, leaving a minimum of about 18 in-school credits for schools taking maximum advantage of the distance program. This is not expected to happen in all cases since schools at the higher end of this range can likely offer close to the full program on-site. An initial target of about 20,000 credit enrolments is projected as a basis for planning.

It is important to note that the target schools correspond roughly to the schools that are now using the current distance program. The difference is that the proposed system will make a much larger proportion of the program available, with credit enrolments of about ten times the current level. While this may seem like a high level of reliance on distance, the Panel reiterates that the support system being put in place is designed to offset any initial disadvantage of the new approach.

Table 6.8.1 gives a tentative outline of the steps in this implementation.

Table 6.8.1: Phase I Implementation

Activity	Time	Comments
Determine courses to be developed		Suggest initial suite of 30 credits; 18 courses. 2 art, 2 music, 4 technology, 6 math, 4 chemistry, 4 physics, 4 French, 2 general science, 2 others.
Establish Centre for Distance Learning and Innovation and recruit director	May 2000	Director employed by department.
Course development	June-December 2000	Development teachers employed full time summer 2000, part time over next school year. 2 instructional designers, 1 manager required.
Establish communications system		Integrate with STEM~Net. Discontinue teleconference system.
Hire E-teachers	July 2001	Training, summer 2001; courses start, September 2001. Estimated 30-35 FTE E-teachers required to deliver approximately 20,000 credit enrolments.
In-service for school-based teachers	July 2001	Initial one-day meeting; further activities through Web.
Initial course offerings	September 2001	Note that no pilot phase is proposed. Sufficient experience exists locally and elsewhere to justify start. A conservative approach would see pilot project in September 2000, with reformatting of some existing distance courses.
Monitoring and evaluation	September 2001 to June 2002	

7.0 Organizing the System for Learning

7.1 Governance and School Board Operations

Under the provincial structure initiated in 1996-97, there are ten regional school boards and a province-wide Francophone school board. These boards manage education under the provisions of the Schools Act and ancillary legislation through full funding by the province. School boards have the power to determine school locations, attendance zones, transportation routes and other structural matters. School boards also employ and assign teachers subject to a provincial collective agreement, salary scale and provincial allocation framework. Curriculum development is a provincial responsibility, although decisions on the specific programs to be offered in schools are within the jurisdiction of the boards. The province is ultimately accountable and, through its legislative authority, can change any of the structural, programming or accountability elements of the system.

Although governance was not part of the direct mandate of the Panel, several governance issues arose during consultations. School boards underwent a major reorganization only three years ago; nevertheless, enrolment has fallen sharply since that time – as much as 17% in one board. Projected enrolments forecast no significant attenuation in this pattern for at least the next ten years. Indeed, several school districts presently have enrolments in the range of 5000 or fewer students.

Table 7.1.1: Enrolment by School District–Actual and Percentage Change 1996-97 to 1999-2000

School District	1996-97	1999-2000	Change from 1996-97	
			Actual	%
Labrador	5,898	5,391	-507	-8.6
Northern Peninsula/Labrador South	4,141	3,565	-576	-13.9
Corner Brook/Deer Lake/St. Barbe	9,512	8,314	-1,198	-12.6
Cormack Trail	7,449	6,183	-1,266	-17.0
Baie Verte/Central/Connaigre	10,623	9,064	-1,559	-14.7
Lewisporte/Gander	10,402	8,897	-1,505	-14.5
Burin	5,636	4,675	-961	-17.1
Vista	5,463	4,714	-749	-13.7
Avalon West	12,733	10,966	-1,767	-13.9
Avalon East	34,348	31,930	-2,418	-7.0
Conseil Scolaire Francophone Provincial[1]		258		
Total	106,205	93,957	-12,248	-11.5

Source: Department of Education

[1] School board was established in 1997-98.

The Panel considered several options for school board reorganization but opted not to make any formal recommendations for major changes in governance structures at this time. It should be noted, however, that some $13.8 million is dedicated to the operation of school board offices, and efforts to achieve efficiencies through future board consolidation would seem achievable and necessary within the next several years.

It is clear that opportunities exist for partnering among school boards and/or with other government-appointed boards and agencies to provide shared support services in a range of areas common to service and operational needs. The department may wish to promote piloting of a service consolidation model between a school district and another public agency while maintaining the matters of executive leadership, policy governance and planning within the present school board structure.

What is also clear is that the current system of governance and board administration is not fully compatible with the constructs of responsibility and accountability that rest ultimately with the provincial government. As a funding body, government, through taxpayer and other revenue, provides 100% of funding for K-12 public education, yet elected boards and executive staff hired by the boards are not functionally linked to government in ways that promote and ensure the necessary measures of dual responsibility and accountability.

The Panel believes that the relationship between the Department of Education and its school boards and directors must be a collaborative one in which all parties are advocates for the optimal development of the education system. One way to enhance the development of such a relationship is to adopt the approach to Chief Executive Officer (CEO) appointment as stated in the Colleges Act, 1996, in which the CEO is a Lieutenant-Governor in Council appointment. The Colleges Act and historical practice has allowed conventional personnel selection procedures such as public advertising and the involvement of the Board of Governors in the process. However, government also performs a role in selection, reappointment, and severance. Under this model the CEO is charged with dual responsibility, in that the individual is accountable to the school board for the operation of the district, while fostering cooperation between the board and the department.

The Panel heard concerns about the current structure and operation of school councils. The councils play an important directional role for schools and provide a forum for parents to have meaningful involvement in the education of their children. School councils are not, however, governing bodies. The Panel heard of situations where there were differing views on the roles of school councils, school administrators and district offices and this dissonance is resulting in ineffective partnerships. While the ultimate responsibility for the day-to-day operation of a school rests with the school districts and their principals, an active school council can provide a vital support to the school, promoting a healthy environment for learning and high achievement. In this regard, the Panel notes that the involvement of teachers and principals in councils should be in a capacity that promotes quality learning experiences for students and also ensures the absence of conflict of interest.

The Panel believes that a concerted effort is required to clarify and focus the role of school councils. It is important that the respective governance and guidance roles of school boards and school councils be complementary and focused on ensuring the achievement of Essential Graduation Learnings for all students.

The Panel therefore recommends:

Recommendation 65
that the Schools Act (1997) be amended to accommodate a change to the legislative procedures for the appointment, termination and accountability of school district directors to parallel that of the model in place under the Colleges Act (1996).

Recommendation 66
that the Department of Education liaise with other departments of government to develop and institute a shared support services arrangement, on a pilot basis, between one or more school boards and other government agencies.

Recommendation 67
that the protocol for school board and Department of Education executive communication be reviewed in a meeting of school board directors and the executive of the Department of Education.

7.2 Department of Education Structural Issues

The Panel had no direct mandate to deal with Department of Education structure, yet, because the role of the department is so central to schooling, it was impossible to focus on delivery at the classroom level without examining, albeit in an incidental manner, the operations of the department.

The Panel believes that the work of the Department of Education has been affected by structural and communication barriers and an aggressive program agenda that exceeds the department's fiscal means. Through its meetings and document review process, the Panel detected a need to improve the functional relationships and philosophical differences among the divisions of Program Development, Student Support Services and Evaluation, Testing and Certification. There is a pressing need for a more integrated approach to operations within these divisions – one which ensures a seamless and efficient attainment of their collective goals.

There are several important examples of programs and initiatives which have mushroomed to a point where the department has had difficulty finding the financial resources for their maintenance. The Pathways framework, led by the Student Support Services Division, has led to a significant resource debate. The APEF initiative, which has moved far beyond its original intention to create economies of scale in curriculum development and the acquisition of educational resources, has been restrained by financial limitations. Additionally, the financial implications of developing, administering and

marking end-of-level examinations, combined with the provincial commitment to the APEF assessment agenda has greatly increased the demands in the area of testing and evaluation.

The Panel therefore recommends:

Recommendation 68
that the Department of Education examine the structure of its Primary, Elementary, Secondary Branch with a goal to substantially linking departmental functions and improving cooperation and communication among staff, thereby achieving a more integrated approach to its planning and operations.

7.3 School Construction and Maintenance

As curriculum and the nature of schooling changes, teaching methods continue to evolve. The physical requirements associated with group work, learning centres and the use of technology to enable learning, therefore, must also evolve. Living and working space has a profound influence on attitude and productivity. Schools would do well to look to the successes of flexible learning environments which incorporate a variety of student needs and learning mediums. Even though the administrative and planning processes associated with school construction in the province has changed, there is little evidence that the guidelines for construction have kept pace with the evolution of learning environments.

The Panel also heard numerous concerns related to the maintenance of schools. Government is to be commended for the substantial investment to upgrade facilities in terms of air quality and other improvements. However, the Panel heard repeatedly that there was disparity in the cleaning and maintenance resource allocation between schools and other public buildings.

The Panel therefore recommends:

Recommendation 69
that the Department of Education review and revise all policies and procedures associated with school construction to ensure maximum flexibility and innovation in school design.

Recommendation 70
that the Department of Education's Grant Review Committee examine the area of school maintenance to determine whether grants are adequate to ensure a clean and healthy environment for learning.

8.0 Assessment and Accountability

8.1 Background

The need for accountability in the education system is driven by two main factors. First, education is a vast enterprise which demands a large share of public resources. It is reasonable for the public to ask whether resources are being well utilized. Second, the increased importance of education as a basis for social and economic development and for competitiveness in a global economy creates a demand for indicators of individual and system performance to ensure students can function at the levels required for individual well-being and for the growth of society. The first is essentially a matter of financial accountability while the second is a matter of performance accountability.

There has long been a tendency to describe the status of education systems using resource or input measures. Indicators such as per-student expenditures and student-teacher ratios provide evidence of educational commitment but do not provide information on the extent to which the system is meeting public expectations or educational goals.

Over the past decade, in most jurisdictions there has been a shift to include more extensive measurements of outcomes such as participation, achievement and attainment. Substantial research has been conducted on the relationship between resource inputs, teaching and learning processes and desired outcomes. In this province, the 1992 Royal Commission placed considerable emphasis on developing an appropriate accountability system. In the aftermath of the Commission, considerable work was done on performance indicators, school improvement, school assessment and other accountability programs. However, in the last two or three years, efforts in this direction have been overshadowed by the restructuring of the system. It is now time for a shift in emphasis back to issues of teaching and learning and specifically to the improvement of educational performance.

8.2 Trends in Assessment

There is a worldwide movement toward increased accountability at both the student and the system level. Many jurisdictions, including most in Canada, have introduced elaborate testing programs, in some cases extending to comprehensive annual assessments in core subject areas at key stages of schooling (such as the end of primary, elementary, intermediate and senior high). Most jurisdictions in the developed world, the United States being the notable exception, have some form of national testing at the high school graduation level. After abandoning public examinations in the 1970s, several provinces in Canada have reinstated such systems either in core areas or in a more comprehensive manner. This province retained public examinations throughout the 70s, 80s and early 90s but discontinued them in 1996.

Aside from public examinations, most national or provincial assessments are used to develop system indicators rather than indicators of individual student performance. Indeed, many such assessments are based on a sample of students and therefore cannot be used for individual accountability purposes. In some cases, for example the School Achievement Indicators Program (SAIP), results are reported in a manner which provides comparisons at the provincial level. Some provincial assessment systems allow school by school comparisons of results, a practice which has become more prevalent in the past several years.

The most commonly used and most efficient assessment device, the multiple choice test, has come under criticism for being unable to measure higher order thinking. Consequently, many of the newly-developed assessment systems employ a variety of testing formats designed to be more authentic and comprehensive in measuring students' abilities There is evidence, however, that multiple choice formats can be improved to measure the higher order thinking processes believed to be among the most important outcomes of schooling. Advances in the theory and technology of testing open the possibility of improving the scope, quality and efficiency of measurement instruments.

One of the more widespread trends in educational indicator development has been school-level reporting. Although controversial, this has now become commonplace in many jurisdictions, including in some Canadian provinces. Several important ideas underlie this trend. The first is that the school is the fundamental educational unit and that the local school must be accountable to parents and the public who have a right to know how local schools are performing relative to others or to some set of established standards. There is also the belief that attempts to improve education are likely to be most effective if applied at the local school level and that such attempts can be driven by making information on school performance and other indicators available to the public. The controversy surrounds the problem of whether comparisons between schools can be fair and what to do if schools are found not to be performing at expected levels. This is where the link to school improvement can be made and where a starting point can be found for addressing problems of school performance.

8.3 Performance of Newfoundland and Labrador Students

Several international achievement studies have included at least some Canadian provinces as separate populations, allowing provincial performance to be assessed in relation to international levels. The 1995 Third International Mathematics and Science Study sponsored by IEA, for example, placed Newfoundland and Labrador at or near the Canadian and international averages in science and mathematics at the Grades 4 and 8 levels, generally lower than Alberta or British Columbia but ahead of Ontario and New Brunswick, the only other provinces with sufficient sample sizes to permit comparison. This performance was an improvement over the results of Newfoundland and Labrador students on some earlier assessments.

Since 1993 the SAIP has provided a comprehensive comparative assessment of the performance of students in all provinces in mathematics, reading and writing and science. In general, fewer

Newfoundland and Labrador students have performed at the higher levels of the SAIP five point scale than is the case nationally. In some cases, performance has been comparable to national levels, although the differences between provinces on SAIP have tended not to be very large.

Newfoundland and Labrador has long used the Canadian Test of Basic Skills (CTBS) as an indicator of student performance. Use of this commercial test battery has permitted comparison of the performance of local students against a set of national norms established by applying the test to a representative sample of Canadian students. Historically, it was unusual to see the provincial average on this test approach the 50th percentile rank, the level at which half the students in Canada perform. More recently, however, a substantial improvement in results has become evident, especially for students at the primary and at the senior high school level. There is a concern, however, at the end of intermediate school, where scores have remained below the national norm.

For several years the province has operated a small program using its own locally constructed curriculum-based tests. Expectations or standards for performance on these tests have been established. At the Grade 3 and 6 levels in mathematics and writing, performance has been generally in accordance with expectations. However, scores on mathematics and science at Grade 9 have not met expectations.

In general, therefore, while there are clear indications of improvement in recent years, there is a need to refocus efforts to meet the province's goal of having students reach achievement levels comparable to the best in Canada.

8.4 System Indicators

Within Canada, the Pan-Canadian Education Indicators Program, a project of the provincial ministries through the Council of Ministers of Education and Statistics Canada's Centre for Education Statistics, has published two reports comparing provincial educational systems, the second being released just weeks before the work of this Panel concluded. This report documents the substantial improvement in participation and attainment rated both nationally and in Newfoundland and Labrador over the past decade. The report also shows that Newfoundland and Labrador's educational expenditures were the highest in the Atlantic region but were below those of some other provinces. The province's educational effort, however, as measured by expenditures as a proportion of per capita Gross Domestic Product, has remained at its historical level as the highest in the country.

The Department of Education in this province has published educational indicators reports since the late 1980s, but these were generally limited in scope, using any available data sources. A comprehensive educational indicators program was initiated in the early 1990s, with financial support from the Federal/Provincial Human Resources Development Agreement in place at the time. This culminated in publication of a substantial report in 1996 that went well beyond earlier attempts to document the health of the education system. The province has also participated in an Atlantic Canada indicators project, and has continued to produce post-secondary indicators reports.

Considerable effort has also been put into a "school profile system" which makes it possible for schools to obtain comprehensive reports on their own performance based on all of the data compiled by the Department of Education. Unlike in some other provinces, the department itself has not made a decision to publish comparative school level information, although it has established a "School Report Card" initiative now operating in many schools.

8.5 Public Examinations

The only area of assessment and accountability that was drawn repeatedly to the attention of the Panel was public examinations. Almost universally, those who addressed the issue called for the restoration of some form of provincial examination system as a means of assessing students for high school graduation. Adding to this, Memorial University has recently issued a call for restoration of public examinations, arising out of concerns related to the performance of first-year students and the award of scholarships. Public examinations were discontinued in 1996 to be eventually replaced by a system of examinations linked to the broader APEF curriculum initiatives. This has occurred in only one subject, chemistry, and under a substantially different system for marking and for use of the results.

Aside from the general function of certification of high school graduates, it is clear that the primary use of grades awarded at the end of high school is for post-secondary admission purposes. While high school graduation may be important for a wide variety of reasons, including entry level employment, high school grades are used in a definitive way to determine who is admitted to universities and colleges. All public post-secondary institutions have definitive cut-off points below which a student cannot be admitted. Thus the stakes are very high for the 80 percent of graduates who aspire to post-secondary education. This is especially true considering the clear relationship between post-secondary studies and individual economic outcomes. For these reasons, it is important to ensure that the grades awarded at the end of high school are the most valid and reliable of any grades given in school.

The Panel also notes that since the discontinuation of public examinations, differences in grading practices among teachers and among schools have a greater influence on final grades. This has its greatest impact for the marginal student. If marks vary, even by a few points, from school to school, because of grading practices rather than achievement levels, students near the cutoff point will be either advantaged or disadvantaged depending on the school they attend.

The impact of a school-based certification system is also felt in the awarding of scholarships, where an uncommon measure of fairness needs to be applied in decisions on such awards. When stakes are high, as in the case of scholarships, there is a risk of pressure being placed on individual teachers and schools to give high grades.

Finally, under the present system, there is no mechanism to query and adjust school-based marks if these are found to be anomalous. A public examination system also serves to prevent such anomalies

because schools and teachers have an external reference point against which to judge their own grades.

In the past, one of the arguments against public examinations is that they were capable of measuring only a small range of the important outcomes of schooling. Recent developments in measurement theory and practice make this argument less valid than before. Properly constructed public examinations would be capable of measuring a broad range of outcomes. Even under the previous shared evaluation system, public examination grades proved to be a better predictor of subsequent academic performance than teacher grades, while the combined grade was a better predictor of university achievement than either teacher or public examination grades. Again, since post-secondary entrance is the primary use of high school grades, predictive power for this purpose is a key indicator of the validity of these grades.

The Panel heard of a gap between the proficiency of graduating high school students and expectations at the post-secondary level. The area of mathematics has received considerable public attention. The Panel feels steps being taken by the Council on Higher Education to ensure greater co-ordination between secondary and post-secondary programming will assist in identifying disparities and actions to alleviate the concerns.

In summary, there are compelling reasons to restore a system of public examinations. There is also good reason to continue to use teacher assessments as part of the final grades. Given that the primary value of such grades is for post-secondary admission, public examinations can be confined to the core set of subjects that are used for this purpose.

The Panel therefore recommends:

Recommendation 71
that a public examinations system be implemented as of June 2001 and that examinations be conducted in academic English, academic and advanced mathematics, biology, chemistry, geology and physics, core French, world geography and world history.

Recommendation 72
that final grades in public examination subjects be made up of a 50% contribution of public and teacher grades.

While the Panel has no desire to be overly prescriptive in proposing how the public examinations system be developed, administered and marked, several important points need to be made to ensure that the system is compatible with ongoing curriculum developments, that the examinations are valid and reliable and that the system is operated as efficiently as possible.

The Panel is proposing a much more streamlined public examination system than was in place prior to 1996. Studies of the earlier public examinations revealed that many items presented in essay format could easily be converted to multiple choice format. While the Panel would not advocate the

exclusive use of multiple choice items, there are advantages to making more extensive use of this format. Not only is it more efficient to use more multiple choice items, it generally contributes to increased test reliability because of greater objectivity in marking. Properly constructed multiple choice items can also improve validity by yielding better sampling of course content. The systems in use in Alberta and British Columbia can serve as useful guides in this respect.

The cost of marking is an important consideration in the operation of any large scale system of examinations. Under the proposed system, the reduced number of subjects combined with more extensive use of multiple choice items would substantially reduce the marking task relative to the previous system of examinations. The cost of the system may also be reduced given lower high school enrolments. The Panel therefore believes that the system should operate with a central marking panel, which would function at a reduced level of cost than the previous marking board.

The Panel therefore recommends:

Recommendation 73
that the public examinations be developed in accordance with currently modern standards of test development, including the use of item banks keyed to the curriculum, field testing of items, a standards-setting procedure and the use of item statistics to monitor and improve item quality.

Recommendation 74
that, for improved reliability and greater efficiency in marking, greater use be made of multiple choice items, including the use of such items to test higher order thinking. While other forms of items should be used where necessary, the principle should be that other forms would only be used to measure outcomes that cannot be captured by the multiple choice format.

Recommendation 75
that to ensure proper control of marking standards, the examinations be marked by a teacher panel employed specifically for this task and overseen by professional staff of the Department of Education.

Recommendation 76
that the examinations system make maximum use of assessment material prepared under the APEF assessment program but that it not be made contingent on such developments. In particular, examinations in all of the identified subjects should be in place by June 2001, regardless of the pace of development within the APEF.

8.6 System Accountability

It is the Panel's view that the large investment of public resources in education gives the public a right to know how the system is performing. Furthermore, it believes that the system should be continually striving for improvement. There is no way to find out if improvement is needed or if improvement

initiatives are having any impact without appropriate measures of system performance. While programs such as SAIP and the Pan-Canadian Education Indicators Program can provide provincial indicators relative to other jurisdictions, they are not capable of providing data at the district or school levels. The province's improvement efforts must be focused at these levels, especially within individual schools, in order to bring about significant improvement of the overall system.

Following the 1992 Royal Commission report, several initiatives were undertaken to improve the extent and quality of provincial educational indicators. As already noted, a comprehensive educational indicators project was initiated, but because of its dependence on external funding, a project of this scope could not be sustained. Nevertheless, the developmental effort should not be lost. Most of the groundwork for a comprehensive educational indicators system has been laid, and much less effort should be required to prepare periodic reports comparable to *Profile '96.* Much of the basic data required are already available, and other data will become available if other recommendations in this chapter are followed.

The Panel therefore recommends:

Recommendation 77
that an educational indicators report, comparable to the "Profile '96" document, be produced every three years and that the Department of Education allocate sufficient resources to ensure that this can be accomplished.

As has been stated previously, the school should be the focal point for educational improvement. This leads to the question of what form a school level indicator system should take. The two main possibilities are an accreditation or assessment system and a public reporting system in which many of the provincial level indicators would be reported at the school level. Under an assessment system, the performance of individual schools would be assessed periodically and coupled with specific procedures for identifying problems and for bringing about improvements. Under a public reporting system, indicators of how well the school is doing would be made public and reliance would be placed on those with an interest in the school, most probably districts and school councils, to carry out the necessary follow-up.

In the work that followed publication of the Royal Commission report, substantial effort was put into the development of an accreditation or school assessment system. Detailed procedures for internal and external reviews of a school were developed. However, the system was not implemented in a systematic manner.

An accreditation or school assessment system is not the only alternative available. Some provinces are moving to a school reporting system that would also involve compiling and reporting comprehensive school performance indicators but would stop short of full accreditation reviews. The main mechanism for doing this is already in place in the form of a "school profile" database maintained by the Department of Education. What would be required to produce periodic school

reports is the means to maintain and enhance that database and a policy decision to implement reporting at the school level.

One of the criticisms of school level reporting is that indicators may be used selectively and the results may be misinterpreted. There is also the question of how resources should be used to improve schools whose performance fall below expectations. Finally, it is difficult to convey in such a report some of the subtle characteristics of a school and its community, leading to a risk of holding a school accountable for shortcomings that are beyond its control. Although these are legitimate concerns, the Panel does not believe they override the need for school-level accountability to the public and to parents. A school-level report, however, must provide more than simple outputs. The inclusion of contextual indicators can serve to overcome some of the risk of misinterpretation of results. The focal point for improvement efforts should be on schools which fall below an established set of performance standards, for whatever reasons, with the Department of Education taking a proactive approach to ensuring that school districts address the problems of such schools.

The Panel therefore recommends:

Recommendation 78
that the Department of Education implement a school reporting system, involving public reports at two-year intervals giving comparative data on all schools in the province.

Recommendation 79
that the reporting system be based primarily on the Department of Education's School Profile System.

Recommendation 80
that schools continue to produce their own reports incorporating data for both the school and the province and providing appropriate information about the school context and any mitigating circumstance that might account for the published comparative results.

Recommendation 81
that schools that are underperforming as compared to provincial expectations be specifically targeted for improvement and that school districts be responsible for follow-up with schools and school councils in addressing the problems of such schools.

8.7 Enhancing the Basis for Accountability

An accountability system, whatever form it takes, is only as good as the basic data used to formulate the necessary indicators. Because of efforts within the Department of Education over the past two decades, the information now available for tracking system performance is comprehensive. Several extensive databases are maintained, including a student information system, the Teacher Payroll System, the High School Certification System, and student level databases incorporating a variety of

assessment information. A comprehensive survey of teachers is also conducted periodically, the last occasion being in the fall of 1999. Periodic follow-ups of graduates have also been conducted, giving a picture of where students go after leaving school. Much of the available data have been incorporated into the school profile system, making it available at the school level.

The current system is nevertheless limited in that it does not include a comprehensive program of student assessment other than the CTBS, which is not specifically curriculum-based, and a limited set of locally developed tests that are insufficient to yield tracking information. In the absence of public examinations, there is now no provincial indicator of how well students are achieving at the end of high school. Compared to many other provinces, the provincial assessment system is quite limited.

It must be recognized, however, that the cost of developing a comprehensive assessment system is just as great in a small jurisdiction as in a large one. The CTBS has been an inexpensive system to operate and has yielded valuable information over the years. The availability of national norms for the CTBS has been valuable in interpreting the results relative to the performance of a representative external group. As far as can be determined, however, the CTBS is used nowhere else as a provincial assessment system, although it is widely used by schools and districts throughout the country. The advent of SAIP has now obviated the need for national norms, as appropriate comparative information is available from that assessment.

Previous studies, including the 1992 Royal Commission, have recommended replacing the CTBS with a comprehensive provincial assessment system, similar to those found in other provinces. The main difficulty in implementing these recommendations appears to have been cost. In light of developments elsewhere and of the increased need for indicators grounded in the Essential Graduation Learnings and the provincial curriculum, the time has now come to make this move. It is useful to note that New Brunswick, a province only slightly larger than Newfoundland and Labrador, has developed such systems for both of its language groups. Larger provinces, notably Alberta and British Columbia, have long had provincial assessment systems and Ontario is in the process of developing a highly elaborated version of such a system.

Given the generic and cross-curricular nature of the Essential Graduation Learnings, the Panel believes that a comprehensive test would be better than a set of separate subject-based tests as the province has attempted to develop in the past. Nevertheless, it must be acknowledged that it is still extremely difficult to develop valid and easily administered tests in some areas of the graduation learnings. A compromise that would make the task of developing, administering and scoring the tests much simpler, while coming close to a comprehensive test, would be a single test battery made up of subject-based sub-tests keyed both to the curriculum and to the Essential Graduation Learnings. A single test development group, rather than a larger group of subject specialists, could be responsible for developing such a test. While broader and with greater curricular validity than the CTBS, such a test could incorporate some of the advantages in ease of administration and scoring of the CTBS, although the Panel would not recommend exclusive use of multiple choice items.

Finally, a comment is necessary about the information available on special needs students. Given the high level of concern expressed about special education, there is a need for better information on whether the considerable effort yields results in terms of student learning. The progress of special needs students clearly needs to be tracked more closely, particularly in relation to linking efforts made early in a student's school career to student outcomes.

The Panel therefore recommends:

Recommendation 82
that the province recommit to the development of a provincial assessment program incorporating a comprehensive test with sub-tests in at least the subject areas of language, mathematics, science and social studies.

Recommendation 83
that such a test be administered annually on an alternating basis to all students at the end of the primary, elementary and intermediate levels.

Recommendation 84
that individual student results on such tests be reported to parents and that school-level results be reported as part of the overall accountability system.

Recommendation 85
that final marks consisting of public examination results and school results be aggregated to the school level and used as measures of school performance at the end of high school.

Recommendation 86
that the Department of Education initiate research on the effectiveness of particular approaches to serving special needs students and especially on the effectiveness of alternate ways of allocating resources to such students.

9.0 Cost Analysis

9.1 Background

The Panel is acutely aware of the tension that exists between the demand for adequate resources to maintain and improve the delivery of programs and the view that declining enrolment ought to relieve some of the pressures on resources and yield reductions in total expenditures on education. Many of the new initiatives proposed by the Panel designed to improve the quality of education have costs attached. The Panel considered whether these added costs could be offset by reductions elsewhere within the system or whether new funds would be required. There is also the question of cost-effectiveness, that is, whether the benefits of new initiatives justify the cost and whether there are alternate ways of achieving the same outcomes.

Available enrolment projections indicate that savings will accrue over the next decade. All of the Panel's proposals can be resourced through the application of a proportion of these savings. The Panel has noted that any loss of teachers is felt at the school and community level. At the same time, it is difficult to support the view that the size of the teaching force must remain constant no matter how far enrolment declines. Once the proposed recommendations are implemented, particularly to distance learning, the ability to deliver programs should be less dependent on school size and the loss of teachers due to declining enrolment should be less traumatic than it has been in the past.

There should be no debate over the value of education and over reasoned educational expenditures as an investment in the future of the province. It is clear that attaining higher levels of education has great individual benefit in terms of future success for the individual. By extension, this translates into economic and social benefits for the whole of society.

9.2 Staffing Initiatives

The main initiatives involving personnel costs are the proposals to add three days to the teacher year for professional development and five days to the principal's year for administration. Three teacher days would cost approximately $4 million annually. Part of this cost could be offset by a reduction in the number of substitute teacher days used for professional development. Allowing for about half the current professional development substitute days would yield offsetting savings of about $2 million, giving a net cost of approximately $2 million annually for this initiative. The additional administrative time for principals is estimated to cost approximately $500,000 annually.

9.3 Curriculum Development and Implementation

The annual budget of the Division of Program Development is in the order of $4.5 million, of which about $3 million is required to maintain the existing curriculum, leaving $1.5 million for new initiatives. The requirements for 2000-01 have been met through a special allocation. Requirements for new curriculum development and implementation projects in the following four years have been estimated by the department at approximately $12.2 million, largely because of a number of APEF initiatives. If the province is to continue to participate and to keep pace with other Atlantic provinces, the APEF commitment must be met. In addition, some provincial initiatives must be carried out each year. Taking account of the $1.5 million available annually from the current allocation and the special allocation for 2000-01, new requirements in this area are estimated at $6.2 million over the four year period 2001-02 to 2004-05.

This does not include the proposed new Newfoundland and Labrador history course at the Grade 8 level and the ongoing development of a religious education program. Development and implementation of the history course is estimated to cost approximately $800,000, with developmental costs of $250,000 in 2000-01 and implementation costs of $550,000 in 2001-02. It is understood that commitments have already been made to continuing development of the religious education program so this is not included in the totals given here.

Some of these initiatives are one-time requirements and costs can be reduced once the new programs are implemented. The reality is, however, that curriculum development is an ongoing process. By the time all current initiatives are complete, other areas of the curriculum will inevitably require updating.

9.4 Centre for Distance Learning and Innovation

It should be recognized that it is not possible to anticipate all of the developmental costs or to estimate exactly how many students would use a new distance education system in the first couple of years. The Panel does not believe that costs will be inordinate, especially in light of the alternatives available for accomplishing the same goals. The system is designed to maintain and enhance programs in the face of continued enrolment decline.

Table 9.4.1 gives projected start-up and first year operating costs based on the implementation steps given earlier for Phase I. Table 9.4.2 provides estimated annual operational costs for the Centre for Distance Learning and Innovation following initial start-up and course development.

Table 9.4.1: Projected Start-up Costs of Distance Education Initiative

Item	Comments	Estimated Cost
Administration	Director's salary and benefits, 1 manager, administrative support and office overhead	$220,000
Course development	Course developers (up to18 courses), stipends in lieu of salary 2 instructional designers	$180,000 $90,000
Materials and supplies	Production of course materials, course development and communications software	$180,000
In-service for school-based teachers	Teacher travel expenses, instructor stipend, etc.	$30,000
Capital costs (computers, servers, etc.)	One computer required per student in distance education plus equipment for E-teachers. Accounting for existing equipment, an estimated 1,250 new computers are required at an average cost of $1,600. Lease or purchase options should be investigated.	$2,000,000
Total startup		$2,700,000

Table 9.4.2: Projected Annual Ongoing Costs of Distance Education Initiative

Item	Comments	Estimated Cost
Administration	Director's salary and benefits, 1 manager, administrative support and office overhead	$220,000
Communications	Difficult to estimate. Some costs may be absorbed in STEM~Net fixed cost communications arrangement. Intended to be less reliant on communications technologies than current system	$500,000
In-service for school-based teachers	Teacher travel expenses, instructor stipend, etc.	$30,000
E-teachers	35 full-time @ $55,000	$1,925,000
Ongoing course development and updating		$80,000
Materials and supplies		$100,000
Total ongoing		$2,855,000
Less cost of current system		$1,400,000

Item	Comments	Estimated Cost
Net additional annual cost		$1,455,000

Aside from teachers' salaries and developmental costs, it is projected that the annual communications cost of the new system would be lower than that of the existing teleconference system, while permitting much larger scale operation. While it is likely that there would be some added STEM~Net communications costs, this would be offset by a savings of some $750,000 annually in telecommunications costs. It is understood that STEM~Net has adequate server capacity to accommodate much more material than at present and that substantial course development and communications software is already available.

9.5 Assessment

The proposed assessment and accountability system has several components that have costs attached. The main ones are: reinstatement of public examinations, an indicators report, maintenance of the school profile system and school level reporting, further development of the provincial assessment system and school effectiveness auditors.

The previous public examinations cost approximately $1 million annually. The major component of the cost was the marking board, which absorbed some $600,000 in its last years. Further resources were required for test development, production, administration and data management. The Panel envisages a system that would be substantially less costly at the marking stage because of fewer subjects, fewer students and more extensive use of electronic scoring and data handling. The core administrative unit for public examinations still exists at the Department of Education. The estimated cost of the new system is given in Table 9.5.1.

Development and maintenance of the provincial assessment system to the level proposed would be a substantial undertaking. It was partly to keep costs manageable that a comprehensive test was proposed rather than a large number of separate subject tests. Rather than employ a corps of consultants, each responsible for a subject area, it is proposed that a two-person developmental/operational team be formed consisting of a test development specialist and a program specialist, the latter from existing staff. This team could draw on other subject-area consultants within the department and on teacher committees for item writing and validation. To a substantial extent, test material could be drawn from assessment systems in other provinces, with appropriate keying to the local curriculum. Administration would be streamlined by having the entire package administered at the same time, much as the CTBS is now done. Marking could be streamlined by making more extensive use of electronic scoring. Equipment and expertise for electronic scoring already exists in the department and could be shared with public examinations.

Table 9.5.1: Estimated Annual Assessment Costs

Item	Cost	Comment
Public Examinations:		
Personnel	$175,000	- 2 test development specialists ½ time analyst (shared with Provincial Assessment)
Test preparation	50,000	- Committee work, item writing, validation
Production & Mailing Costs	80,000	- 10 tests, average 3,000 students/test @ $2.00 per booklet and answer sheets
Administration, Invigilation	80,000	- 1,600 test sessions @ $50.00 per session plus mailing costs
Marking	200,000	
Total	**$585,000**	
Provincial Assessment System:		
Personnel	$100,000	- 1 test development specialist 1 program specialist (from existing staff) ½ time analyst (shared with Public Examinations)
Test Preparation	30,000	- Committee work, item writing, validation
Production & Mailing Costs	30,000	- 1 test, average 7,500 students @ $3.00 per booklet and answer sheets
Marking	80,000	
Total	**$240,000**	
Less present CTBS costs	$30,000	
Total	**$795,000**	

Development of the indicators system which formed the basis for the *Profile '96* report cost in the vicinity of $1 million, mostly in external funding. However, now that the basic system is in place and the necessary databases are available, ongoing production of an indicators report should be manageable with one indicators consultant being assigned to prepare the report. Maintenance of the school profile system is currently the responsibility of one planning and research analyst in the Department of Education. Production of school level reports would add to this workload to the extent of about a half-time position. School effectiveness audits have been described earlier and would involve two full-time auditors with an appropriate budget for travel and operations. It would be appropriate to place these three areas of accountability within the department's Division of Corporate Planning and Research. Table 9.5.2 provides estimated costs for these areas.

Table 9.5.2: Estimated Annual Indicators Development and School Profile Costs

Item	Cost	Comment
Indicators Report:		
Personnel	$75,000	- Indicators specialist
Production	10,000	
Total	**$85,000**	
School Profile System:		
Personnel	$25,000	- ½ time analyst
Maintenance and reporting	10,000	
costs	**$35,000**	
Total		
School effectiveness audits:		
Personnel	$150,000	- 2 auditors
Travel and operations	50,000	
Total	**$200,000**	
Total	**$320,000**	

As already indicated, management capacity and some professional staff and technical support already exists in the department; however, the staffing requirements identified in Table 9.5.1 and Table 9.5.2 are intended to be in addition to current staff.

9.6 Professional Development

In addition to the teacher time allocated for professional development, it has been proposed that the Department of Education employ a music specialist. This position would cost approximately $75,000 annually.

The proposed reading initiative for primary teachers would involve approximately 1,200 teachers. While the details of such a program would have to be developed, it is reasonable to assume at least a three-day program, conducted at the district level, with continuing activity through a professional development mandate for the Centre for Distance Learning and Innovation. It is also reasonable to propose that the in-service on language and reading be the initial activity conducted under the three-day professional development initiative. Considering that travel and accommodations, instructor stipends and other costs would be involved, this would require a one-time outlay estimated at $150,000 for 2001-02.

The proposed Professional Development Alliance would require resources including the assignment of one person from the department's present staff to coordinate responsibilities, funding for committee work and some program funding. An estimate of $100,000 annually is made for the

professional development alliance, recognizing that this should provide leverage to attract additional support from other budget sources within and outside the Department of Education.

9.7 Monitoring and Evaluation Activities

A number of ongoing and one-time monitoring and evaluation activities have been proposed in this report. These include monitoring and reporting on changes in the use of time, an inventory of pre-kindergarten orientation programs and an evaluation of the distance education initiative. While each activity entails a one-time expenditure, such work is an ongoing part of the monitoring and accountability function of the Department of Education and needs to be supported on a continual basis. Whether done in-house or through external contracts, resources are required to carry out such activities. It is understood that some funds for professional services contracts are already available in the department. A further block fund of about $225,000 over the next three years is needed to carry out the specific initiatives proposed here.

9.8 Overall Cost Analysis

Table 9.8.1 gives a summary of the estimated new costs for the initiatives proposed in this report.

Table 9.8.1: Estimated Costs of Major New Initiatives, 2000-01 to 2002-03

ITEM	FISCAL YEAR		
	2000-01	2001-02	2002-03
Added teacher and principal days[1]	$1,460,000	$2,500,000	$2,500,000
Curriculum[2]	$250,000	$2,100,000	$2,000,000
Distance Education	$ 670,000	$3,455,000	$1,455,000
Assessment	$355,000[3]	$ 795,000	$ 795,000
Indicators/Reporting	$237,000	$320,000	$320,000
Professional Development	$144,000	$325,000	$175,000
Monitoring and Evaluation	$ 75,000	$ 75,000	$ 75,000

[1] Beginning in the 2000-01 school year.

[2] An additional $2.65 million will be required for curriculum development and implementation initiatives over the two years 2003-04 and 2004-05.

[3] Costs for public examination production, marking and invigilation would not be incurred in the 2000-01 fiscal year.

ITEM	FISCAL YEAR		
	2000-01	2001-02	2002-03
Total	$3,191,000	$ 9,570,000	$ 7,320,000

List of Recommendations

Chapter 3

Recommendation 1
that the Department of Education continue to cooperate in the Atlantic Provinces Education Foundation (APEF) curriculum initiatives and that a three-year curriculum development and assessment plan be developed.

Recommendation 2
that the Department of Education, in collaboration with school boards, develop a shared vision for the implementation and assessment of curriculum; that this vision be formalized in a multi-year plan and that the Department of Education manage the pace of curriculum change to ensure a steady, incremental approach to revision.

Recommendation 3
that the Department of Education's budget for learning resources and curriculum implementation be increased by a total of $9.2 million and that government make a five-year budgetary commitment to provide these resources.

Recommendation 4
that the practice of piloting programs, course textbooks, and other learning resources be extended to include one or more schools in each district.

Recommendation 5
that the Department of Education provide supplementary teacher reference materials in areas where there are significant gaps between specific curriculum outcomes and the prescribed learning resources.

Recommendation 6
that all curriculum documents and necessary textual and visual teacher supports be made available in a Web-based format to ensure availability to all teachers.

Recommendation 7
that, when new curricula are initiated, appropriate materials be piloted, teachers in-serviced and materials made available to teachers for preview prior to introduction into the classroom.

Recommendation 8
that a concerted effort be made by schools to have students complete 42 credits in their high school program.

Recommendation 9
that schools establish clear expectations with respect to the nature of student programs and that they monitor and adjust, where necessary, the schedules of students to ensure a full course load appropriate to a student's interests and abilities.

Recommendation 10
that schools ensure their timetables are constructed to ensure that all courses receive the recommended allocation of instructional time.

Recommendation 11
that the personal development component be amended to include additional courses, including French and theatre arts.

Recommendation 12
that the Department of Education review local courses to consolidate and reduce the number approved annually, designating some as provincial courses, and that the Department of Education and school boards cooperate to develop a multi-year approval process.

Recommendation 13
that as a result of the review process, where local courses are not designated as provincial courses, the Department of Education explore opportunities to infuse local course content from such courses into existing provincial courses or programs.

Recommendation 14
that the Department of Education undertake the development of a program in Newfoundland and Labrador history at the Grade 8 level.

Recommendation 15
that the Department of Education establish the position of a program development specialist in music.

Recommendation 16
that, in accordance with the Panel's recommended teacher allocation framework, the Department of Education allocate teachers to be used to support several program areas, including music and art, at a level of 1 per 250 students in Grades 7-12.

Recommendation 17
that, in accordance with the recommendations of the Panel related to the establishment of a Centre for Distance Learning and Innovation, the Department of Education and school districts employ distance learning technologies to the fullest extent to ensure courses in music and art are available to all students.

Recommendation 18
that to address the program needs of less academically able students, the essential program offered in all schools include:

- *a general English course at Grades 10, 11 and 12 in each year of a three-year program*
- *Reading 1200 every year*
- *practical mathematics courses to enable access to a different course in each year of a three-year program*
- *an introductory science and a technology course in each year of a three-year program.*

Recommendation 19
that the Department of Education and school districts ensure that policies and procedures are in place to guide the planning and delivery of multi-level classes.

Recommendation 20
that in all future curriculum development projects, specific suggestions and concrete illustrations be provided which clearly indicate how the program objectives and requirements can be accommodated in those classrooms with two or more grades.

Recommendation 21
that the Department of Education and school boards make special provision to ensure a variety of resources are readily available to teachers and students in multi-level settings.

Recommendation 22
that a teacher resource handbook be developed, as outlined by the provincial Working Group on Multi-Grading, and that this handbook be developed by individuals who have had experience teaching in multi-level classrooms.

Recommendation 23
that the Department of Education co-operate with the NLTA and Memorial University to make available appropriate pre-service and in-service education for teachers, including institutes on multi-level teaching.

Recommendation 24
that the Faculty of Education at Memorial University recognize, in all its courses, the unique challenges of planning and teaching in a multi-level classroom and that all curriculum and methods courses examine strategies and approaches appropriate for multi-level teaching.

Recommendation 25
that Department of Education and school board officials reassess the province's approach to the delivery of special education services with particular attention to the responsibilities of parents, teachers, support staff and specialists in an effort to rationalize programming and support.

Recommendation 26
that, through this process, directions be set for the overall delivery of special education services and that these directions recognize the need for a balance between district flexibility and resource limitations.

Recommendation 27
that the role of student assistants be reviewed with a view to redefining a number of these positions as school-based teacher assistants with educational training and qualifications who can serve a range of educational and individual needs.

Recommendation 28
that the Department of Education and school districts cooperate to ensure that all educational personnel be fully in-serviced in the application of the Pathways model and that this in-service take place before any school district further advances the Pathways framework.

Recommendation 29
that this in-service include clear definitions of roles of educators and support personnel in the Pathways approach.

Recommendation 30
that the Department of Education, school boards and the NLTA monitor the implementation of Pathways and respond appropriately to issues identified through this process.

Recommendation 31
that the Department of Education produce policy guidelines which simplify, in a substantial way, the documentation process involved in ISSP preparation and that these policy guidelines identify expectations for the involvement of those individuals other than the classroom teachers and the special education teacher in the ISSP process.

Recommendation 32
that the Department of Education develop a strategy for informing parents and the public about assessment procedures, resources and supports for students with special needs.

Recommendation 33
that the Department of Education ensure that the personnel who are responsible for program development, assessment and student support services are involved in all curriculum development initiatives.

Recommendation 34
that the Department of Education and school boards regularly monitor assigned instructional time, classroom interruptions and absenteeism (on a school-by-school basis) and report on time lost from instruction through the proposed school reporting system.

Recommendation 35
that the Department of Education and school boards monitor the number of examination days with the goal of reducing the length of examination schedules by one-third.

Recommendation 36
that a new position be created at the district level with overall responsibility for reading and early childhood literacy development.

Recommendation 37
that the Department of Education and school boards implement a plan to in-service primary teachers and special education teachers on language and reading.

Recommendation 38
that departments of government examine ways to more fully integrate early intervention and prevention programs into a comprehensive service structure.

Recommendation 39
that education officials strengthen links with agencies which focus on the early childhood years, such as the Family Resource Centres and the Healthy Beginnings program.

Recommendation 40
that the length of the primary school day be prescribed in the Schools Act as five hours.

Recommendation 41
that the Department of Education and school boards undertake an inventory of pre-Kindergarten orientation programs and a review of best practices in the area.

Recommendation 42
that, wherever possible, schools be staffed with full-time teachers.

Recommendation 43
that the Department of Education publish an analysis of the results from its recent survey of teachers.

Recommendation 44
that the Department of Education establish an advisory group comprised of representatives of Memorial University's Faculty of Education, the Newfoundland and Labrador School Boards Association and the NLTA to review teacher training initiatives and examine teacher supply and demand.

Recommendation 45
that Department of Education ensure that program consultants spend up to 40% of their time in the field with teachers engaged in direct professional development activities and that financial resources be allocated to facilitate this work.

Recommendation 46
that three paid teacher days be added to the school year and be dedicated for teacher in-service.

Recommendation 47
that the Department of Education, school boards and the NLTA establish a Professional Development Alliance under a consortium model with the following goals:

- *to develop a shared annual professional development agenda;*
- *to develop a new model of professional development institutes for teachers;*
- *to establish a system of recognizing participation in professional development activities, giving consideration to incentives, awards and certification; and*
- *to develop alternate approaches to professional development delivery.*

Recommendation 48
that in order to respond to the needs identified for guidance services, the allocation of guidance counsellors be increased to 1 per 500 students.

Recommendation 49
that the Department of Education establish policies to enable the development of alternate education programs.

Recommendation 50
that each school board develop policies and programs which ensure that disruptive and violent students are accommodated in appropriate settings in order to provide them with a sound educational course of study designed to modify disruptive behaviour and meet their educational needs.

Recommendation 51
that there be a five-day extension of the work year for principals and that this extension be matched by a commensurate increase in salary.

Recommendation 52
that a Grant Review Committee of the Department of Education and school boards:

- *review the formula for the allotment of secretarial hours to ensure an appropriate level of secretarial support, and*
- *establish a grant for technical support appropriate to the needs of schools.*

Recommendation 53
that the Department of Education and school districts ensure that all principals, and in particular new principals, are trained in effective school scheduling.

Recommendation 54
that the Department of Education, school districts and the NLTA include institutes on school scheduling in professional development offerings.

Recommendation 55
that the Department of Education appoint an educational effectiveness audit team consisting of two field auditors to ensure best educational and administrative practices are followed at the district and school level in the use of resources. Specifically, the audit team would:

- *examine school schedules to ensure the appropriate number of instructional hours are provided;*
- *monitor and provide feedback on the use of school time;*
- *examine the use of school facilities;*
- *develop and implement a process for monitoring the coverage of curriculum content by teachers;*
- *assist districts and schools in implementing structures to become more effective; and*
- *assist administrators in organizing schools which have similar program and demographic characteristics.*

Chapter 5

Recommendation 56
that the following guidelines be used for determining the framework for the allocation of teachers to school districts:

A. District Offices:

Reading and Early Literacy Program Specialists	*1 per district*
Other Program Specialists	*5 per district*
Assistant Directors	*2 per district*
Directors	*1 per district*

B. Small Schools (Schools with an average grade enrolment of less than 30):

Grade Level	*Ratio of Students to Teachers*
K	*16:1*
1-6	*20:1*
7-12	*21:1*

C. Multi-level instructional groups:

Grade Combinations	*Ratio of Students to Teachers*
K with any one other	*15:1*
K with any two others	*12:1*
K with any 3 others (e.g. K-3)	*10:1*
Any two primary	*17:1*
Three or more primary	*14:1*
Any two primary/elementary (e.g. 3-4)	*18:1*
Three or more primary/elementary	*15:1*
Any two elementary/intermediate	*18:1*
Three or more elementary/intermediate	*15:1*

Teachers will be allocated for high school based on the framework for small, mid-sized and large schools with a minimum number of teachers assigned as follows:

- *In small schools 1.5 teacher units will be allocated to each school with 21 or fewer high school students.*

- *Schools with 22 to 31 and 32 to 42 high school students (inclusive) will be allocated 1.75 and 2 teacher units, respectively.*

- *High schools with enrolments greater than 42 will be allocated teachers based on a divisor of 21 for small schools, 24 for medium schools and 27 for large schools.*

For schools with total enrolment less than 10 – 1 teacher; for schools with total enrolment greater than or equal to 10 but less than 15 – 2 teachers. When high school enrolment drops below 5, options for student bursaries to study in a larger school should be considered.

D. Mid-Sized Schools (Schools with an average grade enrolment greater than or equal to 30 but less than 100):

Grade Level	*Ratio of Students to Teachers*
K	*20:1*
1-6	*22:1*

7-12	*24:1*

E. Large Schools (Schools with an average grade enrolment of 100 and above):

Grade Level	*Ratio of Students to Teachers*
K	*20:1*
1-3	*24:1*
4-6	*26:1*
7-12	*27:1*

F. Administration:

School Enrolment	*Allocation*
1-74	*0.25 unit(s)*
75-149	*0.50*
150-249	*0.75*
250-399	*1.0*
400-549	*1.25*
550-699	*1.5*
700-849	*1.75*
850 +	*2.0*

G. Rural Adjustment:

For rural[1] schools the teacher multiplier for grade/level-specific ratios shall be set at 1.05.

H. Additional Allocations:

Non-categorical Special Education	*7 per 1000 students*
Categorical Special Education	*Documented cases*
Learning Resource Teachers	*1 per 1000 students*
Guidance Counsellors	*1 per 500 students*
Teachers to support program areas (eg. music, art, French)	*1 per 250 students (allocated on the basis of enrolment in Grades 7-12)*
Francophone schools	*At level for small schools*

[1] Schools in communities with census agglomerations less than 5000 as defined in the Department of Education's *Education Statistics 1998-99.*

Aboriginal schools	*Present allocation (with enhanced guidance and administrator allocation from new model)*

The number of students above the grade level criterion is pooled in a "bank" with fractional teaching units assigned proportional to the overall ratio for that grade level, with the multiplier set at one for both urban and rural schools. Recognizing also that it is not reasonable for all schools to employ teachers for small fractions of time, these basic allocations can be combined with special education, administration or other supplementary units to create full-time or large fractional positions.

Recommendation 57
that teacher allocations for the 2000-2001 school year for each school district be as presented in Table 5.2.4.

Chapter 6

Recommendation 58
that the province embark on a program to substantially increase the scope of distance education offerings in the schools through the establishment of a "Centre for Distance Learning and Innovation".

Recommendation 59
that the Centre for Distance Learning and Innovation consist of a number of teachers, who may be termed Electronic Teachers or E-teachers, with primary responsibility for course delivery and evaluation and that, at the school level, teachers be assigned from the regular school allocation as mediating teachers to ensure appropriate interaction between students and E-teachers.

Recommendation 60
that an approach be taken to content packaging and delivery that is not totally dependent on high bandwidth technologies.

Recommendation 61
that most communications be through an Internet-based system incorporating e-mail, conference forums, Internet fax and similar devices, with minimal reliance on synchronous communications, fixed schedules or other constraining elements.

Recommendation 62
that the Department of Education develop the Centre for Distance Learning and Innovation, in cooperation with the other agencies currently involved in distance education, as an interim measure to ensure that Phases I and II of the proposed model be implemented without delay.

Recommendation 63

that the Centre for Distance Learning and Innovation be mandated to proceed with implementing Phase I of the model beginning in 2000 and Phase II beginning in 2001.

Recommendation 64
that planning begin immediately for the integration of all distance education infrastructure and developmental activities under a single open learning agency, of which the Centre for Distance Learning and Innovation would be one component.

Chapter 7

Recommendation 65
that the Schools Act (1997) be amended to accommodate a change to the legislative procedures for the appointment, termination and accountability of school district directors to parallel that of the model in place under the Colleges Act (1996).

Recommendation 66
that the Department of Education liaise with other departments of government to develop and institute a shared support services arrangement, on a pilot basis, between one or more school boards and other government agencies.

Recommendation 67
that the protocol for school board and Department of Education executive communication be reviewed in a meeting of school board directors and the executive of the Department of Education.

Recommendation 68
that the Department of Education examine the structure of its Primary, Elementary, Secondary Branch with a goal to substantially linking departmental functions and improving cooperation and communication among staff thereby achieving a more integrated approach to its planning and operations.

Recommendation 69
that the Department of Education review and revise all policies and procedures associated with school construction to ensure maximum flexibility and innovation in school design.

Recommendation 70
that the Department of Education's Grant Review Committee examine the area of school maintenance to determine whether grants are adequate to ensure a clean and healthy environment for learning.

Chapter 8

Recommendation 71

that a public examinations system be implemented as of June 2001 and that examinations be conducted in academic English, academic and advanced mathematics, biology, chemistry, geology and physics, core French, world geography and world history.

Recommendation 72
that final grades in public examination subjects be made up of a 50% contribution of public and teacher grades.

Recommendation 73
that the public examinations be developed in accordance with currently modern standards of test development, including the use of item banks keyed to the curriculum, field testing of items, a standards-setting procedure and the use of item statistics to monitor and improve item quality.

Recommendation 74
that, for improved reliability and greater efficiency in marking, greater use be made of multiple choice items, including the use of such items to test higher order thinking. While other forms of items should be used where necessary, the principle should be that other forms would only be used to measure outcomes that cannot be captured by the multiple choice format.

Recommendation 75
that to ensure proper control of marking standards, the examinations be marked by a teacher panel employed specifically for this task and overseen by professional staff of the Department of Education.

Recommendation 76
that the examinations system make maximum use of assessment material prepared under the APEF assessment program but that it not be made contingent on such developments. In particular, examinations in all of the identified subjects should be in place by June 2001, regardless of the pace of development within the APEF.

Recommendation 77
that an educational indicators report, comparable to the "Profile '96" document, be produced every three years and that the Department of Education allocate sufficient resources to ensure that this can be accomplished.

Recommendation 78
that the Department of Education implement a school reporting system, involving public reports at two-year intervals giving comparative data on all schools in the province.

Recommendation 79
that the reporting system be based primarily on the Department of Education's School Profile System.

Recommendation 80
that schools continue to produce their own reports incorporating data for both the school and the province and providing appropriate information about the school context and any mitigating circumstance that might account for the published comparative results.

Recommendation 81
that schools that are underperforming as compared to provincial expectations be specifically targeted for improvement and that school districts be responsible for follow-up with schools and school councils in addressing the problems of such schools.

Recommendation 82
that the province recommit to the development of a provincial assessment program incorporating a comprehensive test with sub-tests in at least the subject areas of language, mathematics, science and social studies.

Recommendation 83
that such a test be administered annually on an alternating basis to all students at the end of the primary, elementary and intermediate levels.

Recommendation 84
that individual student results on such tests be reported to parents and that school-level results be reported as part of the overall accountability system.

Recommendation 85
that final marks consisting of public examination results and school results be aggregated to the school level and used as measures of school performance at the end of high school.

Recommendation 86
that the Department of Education initiate research on the effectiveness of particular approaches to serving special needs students and especially on the effectiveness of alternate ways of allocating resources to such students.

References

Atlantic Provinces Education Foundation. (1996). *Education indicators for Atlantic Canada*. Halifax: Author.

Canadian Education Statistics Council (CESC). (1999). *Report on the Pan-Canadian education research agenda symposium*. Toronto: Author.

Canadian Education Statistics Council (CESC) & Council of Ministers of Education, Canada (CMEC). (2000). *Report of the Pan-Canadian education indicators program 1999*. Ottawa: Author.

Canning, Patricia M. (1996). *Special matters*: *The report of the review of special education*. St. John's: Government of Newfoundland and Labrador.

Casey, J. & Hickey, A. (1996). *Intermediate program issues in necessarily existing schools: Site visit report*. St. John's: Government of Newfoundland and Labrador.

Council of Ministers of Education. (1993). *SAIP report on mathematics assessment 1993.* Toronto: Author.

Council of Ministers of Education. (1994). *SAIP reading and writing assessment 1994.* Toronto: Author.

Council of Ministers of Education. (1996). *SAIP report on science assessment 1996.* Toronto: Author.

Council of Ministers of Education. (1997). *SAIP mathematics assessment 1997.* Toronto: Author.

Council of Ministers of Education. (1998). *SAIP report on reading and writing assessment 1994.* Toronto: Author.

Crocker, R. (1989). *Towards an achieving society*: *Final report of the Task Force on Mathematics and Science Education*. St. John's: Government of Newfoundland and Labrador.

Department of Education. (1990). *The student at the centre, challenge for excellence*. *The report of the School Improvement/Effectiveness Committee.* St. John's: Government of Newfoundland and Labrador.

Department of Education. (1990). *The next step: Towards an achieving society*: *An action plan in response to the Task Force on Mathematics and Science Education.* St. John's: Government of Newfoundland and Labrador.

Department of Education. (1992). *Report of the graduation requirements committee for senior high school*. St. John's: Government of Newfoundland and Labrador.

Department of Education. (1992). *Future directions for the evaluation of French immersion programs in the Province of Newfoundland and Labrador*: *Report of the French Immersion Evaluation Review Committee*. St. John's: Government of Newfoundland and Labrador.

Department of Education. (1993). *Adjusting the course: Restructuring the school system for education excellence*. St. John's: Government of Newfoundland and Labrador.

Department of Education. (1994). *Adjusting the course part II: Improving the conditions for learning*. St. John's: Government of Newfoundland and Labrador.

Department of Education. (1996). *Directions for change*. *Recommendations of the Review of Submissions Committee*. St. John's: Government of Newfoundland and Labrador.

Department of Education. (1997). *Profile '96: educational indicators, primary, elementary, secondary*. St. John's: Government of Newfoundland and Labrador.

Department of Education. (1997). *Elementary-secondary educational financing in Canada: an interprovincial comparison and discussion of block funding*. St. John's: Government of Newfoundland and Labrador.

Department of Education. (1998). *Primary writing assessment: A report of the 1995 administration*. St. John's: Government of Newfoundland and Labrador.

Department of Education. (1998). *Postsecondary indicators '98: university, public colleges, private colleges*. St. John's: Government of Newfoundland and Labrador.

Department of Education. (1998). *Pathways to programming and graduation*: *A handbook for all teachers and administrators*. St. John's: Government of Newfoundland and Labrador.

Department of Education. (1998). *Primary matters*. *Report of the Provincial Strategy for Early Literacy Committee*. St. John's: Government of Newfoundland and Labrador.

Department of Education. (1996-1998). *Testing standards*. St. John's: Government of Newfoundland and Labrador.

Department of Education. (1999). *Intermediate writing assessment: 1996 administration*. St. John's: Government of Newfoundland and Labrador.

Department of Education. (1991-1999). *Education statistics, elementary-secondary*. St. John's: Government of Newfoundland and Labrador.

Department of Education. *School level reporting* (*draft report)*. St. John's: Government of Newfoundland and Labrador.

Department of Education. *Learning for all students: A foundation for education K-12 in Newfoundland and Labrador*. St. John's: Government of Newfoundland and Labrador.

Department of Education. *The senior high school program: New directions for the 21st century*. St. John's: Government of Newfoundland and Labrador.

Education Improvement Commission. (1999). *Second interim report on the progress review of Ontario's new district school boards.* Toronto: Author.

Government of Newfoundland and Labrador. *Model for the coordination of services to children and youth with special needs in Newfoundland and Labrador*. St. John's: Author.

Hickey, Alex. (1997). Innovations in the Curriculum Development Process. *Prospects, 4*(1), 6-7 & 17.

Hickey, Alex. (1998). Publishing Web-based Curriculum Documents. *Prospects, 4*(4), 11-12.

Independent Learning Centre. *Course guide 1999-2000*. Toronto: Ontario Ministry of Education.

Innovaction International Incorporated. (1997). *External evaluation of the school improvement program in the Province of Newfoundland and Labrador*. St. John's: Author.

Newfoundland Historical Society. (1998). *Newfoundland and Labrador history in our high school curriculum*. St. John's: Author.

Newfoundland House of Assembly Select Committee on Children's Interests. (1996). *LISTENing & ACTing: A plan for child, youth and community empowerment. Report of the Select Committee on Children's Interests*. St. John's: Government of Newfoundland and Labrador.

Newfoundland Teachers' Association. (1994). *Length of kindergarten day*. St. John's: Author.

Norrie-McCain, M. & Mustard J.F. (1999). *Reversing the real brain drain: Early years study*. Toronto: The Canadian Institute for Advanced Research.

Organisation for Economic Co-operation and Development (OECD). (1999). *Classifying educational programmes, manual for ISCED-97 implementation in OECD countries*. Paris: Author.

O'Sullivan, J. & Howe, M.L. (1999). *Overcoming poverty: Promoting literacy in children from low-income families*. Thunder Bay: Lakehead University.

Press, H. (1997). *Teacher demand in Canada. A report on the teacher labour market*. Toronto: Author.

Robitaille, D.F., Taylor, A.R. & Orpwood, G. (1996-97). *The third international mathematics and science study (TIMSS) Canada report, Volume 2: Grade 4 (Volume 1: Grade 8)*. Vancouver: Pacific Educational Press.

Royal Commission of Inquiry into the Delivery of Programs and Services in Primary, Elementary, Secondary School. (1992). *Our children, our future*. St. John's: Government of Newfoundland and Labrador.

Royal Commission of Inquiry into the Delivery of Programs and Services in Primary, Elementary, Secondary School. (1992). *Our children, our future. Commissioned studies.* St. John's: Government of Newfoundland and Labrador.

Royal Commission Implementation Secretariat, Department of Education and Training. (1995). *Directions for change: A consultation paper on the senior high school program*. St. John's: Government of Newfoundland and Labrador.

Royal Commission Implementation Secretariat, Department of Education and Training. (1995). *Ensuring quality in education: A consultation paper on school assessment*. St. John's: Government of Newfoundland and Labrador.

Royal Commission Implementation Secretariat, Department of Education and Training. (1995). *Working together for educational excellence: Policy statement on school councils in Newfoundland and Labrador*. St. John's: Government of Newfoundland and Labrador.

Royal Commission Implementation Secretariat, Department of Education and Training. (1995). *A consultation paper on teacher certification and professional development*. St. John's: Government of Newfoundland and Labrador.

Royal Commission Implementation Secretariat, Department of Education and Training. (1995). *Realizing the intended curriculum: A consultation paper on curriculum management*. St. John's: Government of Newfoundland and Labrador.

Sharpe, Dennis B. & White, G. (1993). *Youth transition into the labour market: Educational pathways and experiences of Newfoundland youth*. St. John's: Memorial University of Newfoundland.

Appendices

Appendix A: Regional Consultations, Community Forum Groups, Student Focus Groups, School Visits and Meetings

Burin:	Community Forum Group
(October 7, 1999)	Meeting with Burin Board Office Staff
	Meeting with Christ the King School Staff - Rushoon
	Meeting with Student Focus Group, Christ the King School
Clarenville:	Community Forum Group
(October 8, 1999)	Meeting with Vista Board Office Staff
	Meeting with Student Focus Group, Vista School Board
Gander:	Community Forum Group
(October 18, 1999)	Meeting with School Administrators, Riverwood Academy, Gander Bay
	Meeting with Lewisporte/Gander School Board Program Staff
	Meeting with Student Focus Group, Riverwood Academy, Gander Bay
Grand Falls:	Community Forum Group
(October 19, 1999)	Meeting with Baie Verte/Central/Connaigre Board Office Staff
Labrador:	Community Forum Group
(October 28-29, 1999)	Meeting and School Visit to Lake Melville School, Northwest River
	Meeting and School Visit to Peenamin MacKenzie School, Sheshashit
	Meeting with Student Focus Group, Goose High, Goose Bay
	Meeting with Principal of Goose High, Goose Bay
	Meeting with Aboriginal Leaders
	Meeting with District Office Program Staff
St. John's:	Community Forum Group
(November 1, 1999)	Meeting with Avalon East District Staff
	Meeting with Principals' Focus Group, Avalon East School District
Spaniard's Bay:	Community Forum Group
(November 2, 1999)	Meeting with Avalon West District Staff
	Meeting with Student Focus Group, Avalon West School District
	Meeting with Principals' Focus Group, Avalon West School District
Northern Peninsula:	Community Forum Group
(November 9, 1999)	Meeting with Northern Peninsula/Labrador South District Office Staff
	Meeting with Student Focus Group
	Meeting with Teachers, Sacred Heart School, Conche

Corner Brook:	Community Forum Group
(November 25, 1999)	Meeting with Corner Brook/Deer Lake/St. Barbe District Staff
	Meeting with Student Focus Group, Humber Elementary
	Meeting with School Staff, Humber Elementary
Stephenville:	Community Forum Group
(November 26, 1999)	Meeting with Cormack Trails School District Staff
	Meeting with School Staff, St. Thomas Aquinas
Cottrell's Cove:	Meeting with School Community, Cottrell's Cove Academy
(December 2, 1999)	Meeting with Student Focus Group, Cottrell's Cove Academy

Consultation Group (2 meetings)

Other Meetings and Presentations:

1. NLTA Staff and Executive (2 meetings)
2. Curriculum Expert Group (4 meetings)
3. Wilbert Boone: Distance Learning
4. Jean Brown: Iceland Research
5. Directors of Education and School Board Chairpersons
6. Gary Hatcher: Department of Education (2 meetings)
7. Distance Education Expert Group
8. Consultation Coordinators
9. Newfoundland and Labrador Federation of School Councils
10. Expert Group on School Board Financing
11. Stephen Boland and Michael Mooney: Telemedicine
12. Tim Turner and Ann McCann: T. I. Murphy Center
13. Alex Hickey and Leon Cooper: Education Forum (3 meetings)
14. Kevin and Cheryl Hynes: Manuels
15. Assistant Directors of Programs
16. Newfoundland and Labrador School Boards Association/Newfoundland and Labrador Association of Directors of Education
17. Division of Student Support Services (2 meetings)
18. IBM Canada
19. Employers Council of Newfoundland and Labrador
20. Association of Cultural Industries of Newfoundland & Labrador
21. Evaluation, Testing and Certification Division
22. Lewisporte/Gander School District Staff
23. Program Development Division
24. Literacy Development Council
25. Community Based Assessment and Remedial Centre (C-BARC)
26. School Administrators' Council

27. Provincial Music Council
28. Spell-Read Canada
29. Andy Butt: Cormack Trail School District
30. Erin Keough: Open Learning and Information Network and Nellie Burke: Department of Education
31. Don Hayes: Department of Education
32. Brenda Kelleher Flight: Department of Education
33. Wayne Oakley and Patrick Balsam: Department of Education
34. Patricia Canning: Faculty of Education
35. Assistant Directors of Personnel (2 meetings)
36. Thelma Whalen and Mary Tucker (2 meetings)
37. Charlotte Strong: Department of Education
38. Evan Simpson, Vice-President (Academic), Memorial University of Newfoundland
39. Newfoundland and Labrador Council on Higher Education

Appendix B: List of Submissions

1. Denise Pike, Parent and 2nd Vice-President, Newfoundland and Labrador Federation of School Councils, New Harbour
2. June Warr, Retired Teacher, Springdale
3. Debbie Toope, Principal, Perlwin Elementary, Winterton
4. Royle Normore, Parent, Lanse au Loup
5. Melissa Saunders, Grade 9 Student, St. Francis School, Harbour Grace
6. Viola Peach, Parent, Arnold's Cove
7. Lynn Green, Parent, St. John's
8. Stephen Jones, Parent, St. John's
9. Kevin and Cheryl Hynes, Parents, Manuels
10. Renee Ryan, Music Education Student, Memorial University of Newfoundland
11. Bruce Sheppard, Faculty of Education, Memorial University of Newfoundland
12. Linda Doody, Program Specialist, Vista School District, Clarenville
13. Francesca Snow, Principal of Peenamin McKenzie School, Sheshatshit
14. Laura Kendall, Chairperson, St. Boniface All Grade School Council, Ramea
15. Aubrey Goulding, Principal, Brian Peckford Elementary, Triton
16. Charmaine Ballard, Upper Gullies Elementary School Council, Upper Gullies
17. Eva Whitmore, Executive Director, Newfoundland and Labrador Federation of School Councils, St. John's
18. E. Dianne Squarey, Principal, and Bruce White, School Council Chair, Humber Elementary School, Corner Brook
19. Roger Gillingham, North Shore Collegiate, Avalon West School District, Northern Bay
20. Percy Manuel, Assistant Director, Northern Peninsula/Labrador South, School District 2, Flower's Cove
21. Dorrie Brown, Goose High School, Goose Bay
22. Loretta Bartlett, Glovertown Academy School Council, Glovertown
23. Donald Martin, Dept. Head Special Services, St. George's High School, New Harbour, Trinity Bay
24. Melvin Mercer, Principal, Woodland Elementary, Dildo
25. John Way, Principal, St. George's High School, New Harbour
26. Joan Pynn, Chair, Millcrest Academy School Council, Grand Falls-Windsor
27. Margaret Moyles, Chairperson, Menihek High School Council, Labrador City
28. Karen Mercer, Newfoundland and Labrador Federation of School Councils, Avalon West School District
29. Coley's Point Primary School, Coley's Point
30. Cottrell's Cove Academy, Cotrell's Cove
31. St. Joseph's School Council, Harbour Breton
32. Program Staff, School District #3 - Corner Brook-Deer Lake-St. Barbe, Corner Brook
33. School Administrators of Cormack Trail, School District No. 4
34. Christ the King School, Rushoon
35. St. Joseph's Junior High, Carbonear

36. Lewisporte-Gander School District #6, Gander
37. School District # 5 - Baie Verte, Central, Connaigre, Grand Falls-Windsor
38. Newfoundland and Labrador Teachers' Association, St. John's
39. Appalachia Branch of the Newfoundland and Labrador Teachers' Association, Stephenville Crossing
40. Avalon East School Board, St. John's
41. Avalon West School Board, Bay Roberts
42. Brenda FitzGerald, St. John's Regional Health and Community Services Board, St. John's
43. Martin Lockyer, President, St. John's Board of Trade
44. Newfoundland and Labrador School Boards Association and the Newfoundland and Labrador Association of Directors of Education (joint submission)
45. Newfoundland and Labrador Association for Community Living
46. Newfoundland and Labrador Association for Gifted Children
47. Newfoundland and Labrador Band Association, St. John's
48. Canadian Parents for French, Marystown Chapter
49. Barbara Crosbie and Hope Squires, Newfoundland Historical Society - Joint Committee on History in the High Schools, St. John's
50. Le Conseil scolaire francophone provincial (CSFP), St. John's
51. Advisory Committee on the Coordination of Professional Development
52. Emerald Zone Youth Council, Zone 11, Springdale
53. Katherine Rowsell, President, Learning Resources Special Interest Council of the Newfoundland and Labrador Teachers' Association, Corner Brook
54. Canadian Evaluation Society - Newfoundland and Labrador Chapter, Newfoundland and Labrador Teachers' Association
55. Baccalieu Board of Economic Development
56. The Newfoundland and Labrador Employers' Council and The Avalon West School District (joint submission)
57. Pam Hall, President, Association of Cultural Industries of Newfoundland and Labrador, St. John's
58. Regional Economic Development Board - Zone 19
59. Capital Coast Development Alliance, St. John's
60. Calvin Butt, Conception Bay North Literacy Council, Bay Roberts
61. Peter Llewellyn, Managing Director, Spell Read Canada, St. John's
62. Sandra Wiscombe, Provincial Program Director, Girl Guides of Canada, St. John's
63. North Shore Elementary Parent Teachers Association, Corner Brook
64. Clar Doyle, Faculty of Education, Memorial University of Newfoundland
65. Provincial Music Council, Newfoundland and Labrador Teachers' Association
66. Ruby Paddock-Colbourne, Principal, Long Island Academy, Beaumont
67. Lorne Roach, Principal, Point Leamington Academy, Point Leamington
68. Dennis Mulcahy, Faculty of Education, Memorial University of Newfoundland
69. Robin Cooper, Memorial Academy School Council, Botwood
70. Andrew Butt, District #4 - Stephenville/Port aux Basques
71. Len White, Principal, Gonzaga High School, St. John's

72. Geri O'Dea, Chairperson, St. Patrick's School Council, Bay Bulls
73. John Hickey, Mayor, Happy Valley-Goose Bay
74. Lori Clarke, Interagency Committee Against Violence
75. Bill Fagan, Literacy Development Council
76. Gordon Brockerville, Burin-Marystown Branch, Newfoundland and Labrador Teachers' Association
77. School Districts Assistant Directors of Personnel
78. Anonymous Submission

Appendix C: Essential Graduation Learnings

Graduates from the public schools of Atlantic Canada will be able to demonstrate knowledge, skills and attitudes in the following Essential Graduation Learnings:

Aesthetic Expression	Graduates will be able to respond with critical awareness to various forms of the arts and be able to express themselves through the arts.
Citizenship	Graduates will be able to assess social, cultural, economic and environmental interdependence in a local and global context.
Communication	Graduates will be able to use the listening, viewing, speaking, reading and writing modes of language(s) as well as mathematical and scientific concepts and symbols to think, learn and communicate effectively.
Personal Development	Graduates will be able to continue to learn and to pursue an active, healthy lifestyle.
Problem Solving	Graduates will be able to use the strategies and processes needed to solve a wide variety of problems, including those requiring language, mathematical and scientific concepts.
Technological Competence	Graduates will be able to use a variety of technologies, demonstrate an understanding of technological applications and apply appropriate technologies for solving problems.
Spiritual and Moral Development	Graduates will demonstrate understanding and appreciation for the place of belief systems in shaping the development of moral values and ethical conduct.

Appendix D: Department of Education Curriculum Development and Implementation Projects and Estimated Costs (to be completed over the five-year period 2000-01 to 2004-05)

PROGRAM/COURSE	ESTIMATED COSTS	COURSE	ESTIMATED COSTS	COURSE	ESTIMATED COSTS
Math - Gd. 1	$165,000	Healthy Living 1200	$80,000	Math - Gd. 3	$430,000
Math - 1204	307,000	Integ. Tech. Systems 1205	300,000	Mathematics - Gd. 7	400,000
Math - 2206	104,000	Physical Education K-6	150,000	Mathematics - Gd. 4 (E & FI)	430,000
Math - 2205	46,000	Technology Ed. - Gd. 7	300,000	Science - Gd. 1	400,000
ELA - Gd. 3	605,000	Science 1206	280,000	Science - Gd. 4	400,000
ELA - Gd. 6	530,000	Social Studies K (E & FI)	100,000	Physics - 2204	300,000
ELA - Gd. 9	370,000	Art - Gd. 7	150,000	Chemistry-2202 & Biology 2201	NIL
ELA - 1201/02	373,000	Art and Design 2200	50,000	Social Studies - Gd. 1	350,000
Mathematiques 2231(FFL)	NIL	Career Prep. 2101	100,000	Art - Gd. 8	200,000
Francais 4-6 (FFL)	10,000	Consumerism 1101	150,000	Art and Design 3200	70,000
Canada Atlantique - Gd. 9(FFL)	5,000	Core French - Gd. 4	350,000	Core French - Gd. 5	400,000
Physique 2234 (FFL)	2,000	Geographie Mondiale 3233 (FI)	10,000	Integrated Systems 3205	120,000
Sante - Gd. 9 (FFL)	10,000	Human Dynamics	250,000	Music - Gd. 1	75,000
Histoire Canadienne 1236(FFL)	NIL	Music - K	60,000	Nutrition 3200	150,000
Reading 1200	7,000	Physical Education 7-9	75,000	Physical Education 2100/01	200,000
Math 2204/05	275,000	Science 2200	180,000	Science 3200	200,000
Math 3206	104,000	Science Humaines - Gd. 7	40,000	Science Humaines K-2 (FI)	50,000
Math 3205	130,000	Social Studies - Gd. 7	450,000	Science Humaines-Gd. 8 (FI)	40,000
ELA 1201/02	532,640	Technology Ed. - Gd. 8	50,000	Social Studies - Gd. 8	450,000
ELA 2101/02	375,000	Mathematiques 3231 (FFL)	NIL	Technology 2108/2109	400,000
Writing 2203	50,000	Mathematiques K-9 (FFL)	30,000	Technology Ed. - Gd. 9	50,000
Math - Gd. 2	165,000	Sciences 7- 9 (FFL)	6,000	Theatre Arts 2205	150,000
Canadian Economy 2103	110,000	Physique 3234 (FFL)	2,000	Mathematiques Advance (FFL)	–
Language 3204	50,000	Chimie 3239 (FFL)	2,000	Education en Tech. K-9 (FFL)	12,000
World Geography 3202(Both or	320,000	Math 3204/05	243,000		
World Studies 3206 Neither)	180,000	Math 3207	78,000	Total Cost	$14,757,140
Mathematiques - K (FI)	3,000	ELA 2201/02	785,500	Existing Budget	$5,534,000
Francais 2202 (Novel)	5,000	ELA 3201/02	375,000	Additional Funds Required	$9,223,140

Source: Program Development Division, Department of Education.

Appendix E: Local Courses, 1999-2000

Art and Textiles 2126
Art and Society 3222
Studio Art 4220
Art History 4222
Enterprise 1125
Entrepreneurship 2124
Enterprise 2125
Hospitality 3120
Cultural Tourism 3127
Tourism 3128
Accounting 4125
Accounting 4126
Language 1225
Language Study 3124
Communication and Leadership 3220
English Second Language 3225
Literary Heritage 2223
English Second Language (Lit) 2226
Theatre Arts 3220
Literature and Composition 4222
Food Services 2125
French 4220
First Aid/Outdoor Survival 3124
Workplace Safety 3220
Computer Business Accounting 1123
Manufacturing Technology 1220
Business Education Desktop Pub. 2121
Media Acquisition Digitizing 2123
Construction Technology 2124
Marine Technology 2128
Housing and Interior Design 2222
Flexible Manufacturing Systems 3220
Robotics 3221
Webmaster 3224
Computer Science 4220
Mathematics 3127
Mathematics 4225
Musical Theatre 3221
Music Theory 4227
Wellness 1223
Physical Education 3220
Active Christian Leadership 3224
Aquaculture 2120
Topography 2127
Topography 2128
Aquaculture 2220
Earth Science 2223
Planetary Science 2229
Fish/Wildlife Biology 4120
Fish/Wildlife Biology 4122
Biology 4221
Chemistry 4222
Physics 4224
Mi'kmaq Studies 1220
Deaf Studies 1225
European History 4225
Peer Tutoring 1222
Social Thinking 2123
Affective Development 3120
Student Leadership 3220
Peer Counselling 3221
Independent Living 3226
Spanish 2221
German 2226
German 3226
Inuktitut 1120
Inuktitut 2120
Audiovisual Production 2121
Multimedia 2122
Media Acquisition Digitizing 2123
Media and Society 3122
Video/Film Arts 3220
Media Technology 3221
Broadcast Journalism and Media Production 3223
Cooperative Education 1120
Cooperative Education 1121
Cooperative Education 1122
Cooperative Education 2220
Apprenticeship Training 3120
Career Pathways 3122
Future Pathways 3126
Cooperative Education 3220
Cooperative Education 3221
Career Pathways 3222
Work Study 3223
Future Pathways 3226
Cooperative Education 3227
Learning Strategies 1120
Learning Strategies 1220
Psychology 4220

Appendix F: Presence of Newfoundland and Labrador Content in the Social Studies Curriculum

Level	Content
Primary	Students examine the local history of their neighbourhood and community. In Grade 3, students examine selected communities in the province including Lethbridge, Labrador City, Fogo, Corner Brook and Placentia.
Elementary	Students study, in part, the community of Nain as a pre-contact and subsequently modern community. Students in Grade 5 study in-depth a full survey of history of Newfoundland and Labrador to the present time. In Grade 6, learning outcomes on Canada include the early explorations and settlement of Newfoundland and Labrador, the delegation to the Charlottetown Conference in 1864 and the entry into Confederation in 1949.
Intermediate	Students study North America in Grade 7, including the Viking settlement, the fishery in the 1500s, trading routes in the 1600s, French-English land claims in the 1700s and Confederation in 1949. There is significant opportunity to study the cultural heritage of Newfoundland and Labrador in the Grade 9 course, Atlantic Canada in the Global Community.
Senior High	Students are required to complete two credits in Canadian Studies, two credits in Economic/Enterprise Education and two credits in World Studies for high school graduation. Authorized courses relating to Newfoundland and Labrador are Canadian History 1201, Canadian Issues 1209, Canadian Geography 1202, Canadian Economy 2103, and Canadian Law 2104. For example, in Canadian History 1201, students examine aspects of Newfoundland and Labrador history such as home front and western front involvement in the two world wars, Newfoundland and Labrador's role in the Paris Peace Conference in 1918, the Labrador Boundary Dispute in 1927, Commission of Government in 1933 and entry into Confederation in 1949. World History 3201 also examines the war effort and its impact on Newfoundland and Labrador society.

Appendix G: Infusion of Newfoundland and Labrador Related Curriculum Material into the Language Arts Curriculum

Level	Area of Infusion
Elementary	**Grade 4** - *Wind in My Pocket*, a collection of poetry by Ellen Bryan Obed and illustrated by Shawn Steffler that reflects aspects of the culture and heritage of Newfoundland and Labrador; *Gaddy's Story: The First Weeks in the Life of an Atlantic Cod*, by Sally V. Goddard, with illustrations by Nadine Osmond. **Grade 5** - A Photo Essay depicting the landscape and heritage of Newfoundland and Labrador by local photographer Dennis Minty. **Grade 6** - The new learning resources to be introduced in September 2000 will include: A section on John Cabot as well as coverage of the Matthew ceremonies at Bonavista, 1997 (Discovering Links anthology); *That Fine Summer*, a novel by Newfoundland and Labrador author Ella Manual that focuses on a young female growing up along the Northeast coast in the 1950s; *Bound Down for Newfoundland: The Log of a Young Seaman on Board the Matthew*, a journal kept by Chris LeGrow, the youngest crew member of the Matthew replica that sailed from Bristol to Newfoundland and Labrador and around our province during the summer of 1997**.**
Intermediate	Grades 7 through 9 are presented with a collection of Newfoundland and Labrador writings and visuals, *Literature of Newfoundland and Labrador*: Book I, *Openings*, for Grade 7; Book 2, *Stages*, for Grade 8; and Book 3, *Passages*, for Grade 9. **Grade 7** - *Diana, My Autobiography*, a novel by local author Kevin Major; *Catch Me Once, Catch Me Twice*, a novel by local author Janet McNaughton that reflects life and times in St. John's during World War II, the clash of cultures between rural Newfoundland and Labrador and St. John's, and a belief in fairies. **Grade 8** - *Make or Break Spring*, a sequel novel by Janet McNaughton that reflects life and times in St. John's immediately following World War II. **Grade 9** - *Blood Red Ochre*, a novel by local author Kevin Major that reflects our heritage and our relationship with the Beothucks.
Senior High	Grades 10 through 12 will have new learning resources scheduled for introduction by September 2000. Included are new anthologies *Land, Sea and Time* (Books 1, 2 and 3 for the respective grades) which include prose, poetry and visuals by Newfoundlanders and Labradorians from every region of the province. **Grade 10** - *The Newfoundland Character: An Anthology of Newfoundland and Labrador Writings*, a collection of poetry, short prose and visuals that examines the "Newfoundland character" through the eyes of Newfoundlanders and Labradorians themselves and through the eyes of individuals from outside Newfoundland and Labrador who have spent time in the province; *Death on the Ice*, a well-known account of the sealing disaster of 1914 by Cassie Brown; *The Holdin' Ground* and *Groundswell*, two well-known plays by celebrated Newfoundland and Labrador playwright and storyteller, Ted Russell. *Dream Carvers*, a novel by Joan Clark depicting the relationship between the Vikings and the Beothucks in the early days of settlement in the province; *SightLines 10* and *Crossroads 10*, new anthologies of world literature, both contain several print and visual selections by Newfoundland and Labrador artists. **Grade 11** - *The Still Hearth*, Edwin R. Procunier's play depicting life in rural Newfoundland and Labrador and some of the issues faced by the youth of decades past; *A Winter's Tale*, another well-known book by Cassie Brown about a Newfoundland shipwreck **Grade 12** - *Random Passage*, the award winning novel by Bernice Morgan that reflects the life and culture of the early settlement period in the province; *Landings*, a collection of Newfoundland and Labrador poetry and prose. New resources, September 2002: Novels/biographies by Newfoundlanders and Labradorians, or about people or aspects unique to this province, will be added to the Grade 12 English Language Arts curriculum following the pilot process.